Site # 2016

ENGINEERING INVESTIGATIONS AT INACTIVE HAZARDOUS WASTE SITES

PHASE II INVESTIGATION

Emerson Street Landfill Site No. 828023
City of Rochester Monroe County

DATE: February 1990

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ADDENDUM

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Prepared for:

New York State Department of Environmental Conservation

50 Wolf Road, Albany, New York 12233
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By:

Lawler, Matusky & Skelly Engineers

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ADDENDUM TO
ENGINEERING INVESTIGATIONS AT
INACTIVE HAZARDOUS WASTE SITES
IN THE STATE OF NEW YORK
PHASE II INVESTIGATIONS

EMERSON STREET LANDFILL
City of Rochester
Monroe County
Site No. 828023

Prepared For:

DIVISION OF HAZARDOUS WASTE REMEDIATION
NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION
50 Wolf Road
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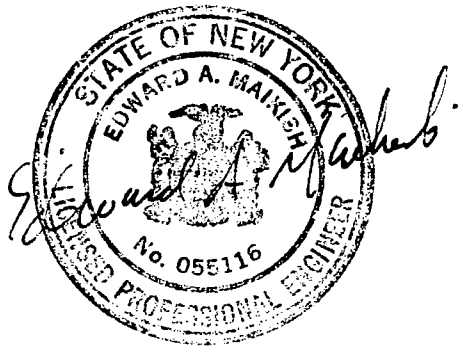

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February 1990

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CHAPTER 1

OBJECTIVES

Based on the draft Phase II report on the Emerson Street Landfill site by Recra Environmental as well as additional information obtained by the involved agencies, the New York State Department of Environmental Conservation (NYSDEC) requested Lawler, Matusky & Skelly Engineers (LMS) to further investigate several areas.

The additional work consisted of:

- Analysis of storm sewer invert elevations in an effort to determine their possible influence on local groundwater flow
- Installation of three additional groundwater monitoring wells
- Installation of five piezometers to provide water table reference points
- Resampling of all previously existing monitoring wells in addition to the newly installed wells
- Sampling along an expanding grid pattern in the area of the landfill known to contain a mildly radioactive blue-gray sludge to delineate the extent of the radioactive material and to facilitate the collection of sludge and fill material samples
- Collection and analysis of samples of incinerator ash from under the City of Rochester impoundment lot
- Collection of samples of ash from piles still present within the old City of Rochester incinerator building
- Surveying of new wells and piezometers, and recalculation of elevations of previous wells to known datum

All field activities were conducted between 26 July and 8 August 1989. A drill rig and crew were provided by American Auger and Ditching Co. Inc. of West Monroe, New York. LMS provided a geologist, a health and safety officer, and sampling crew. All work was conducted under NYSDEC supervision.

CHAPTER 2

MONITORING WELL/PIEZOMETER INSTALLATIONS

2.1 GENERAL MONITORING WELL/BORING/PIEZOMETER DETAILS

Three monitoring wells and five piezometers were installed at the landfill site during this additional work phase. Although only the monitoring wells were sampled in this study, the piezometers were installed using the same specifications to allow future sampling. Certain areas on the site required special access via a rubber-tire-mounted, all-terrain drilling rig (ATV). Monitoring wells and piezometers located in level graded areas were drilled using a truck-mounted mobile B-57 soil boring rig.

Borings were initially advanced through the fill and unconsolidated material using 4-1/4 in. inside diameter (I.D.) hollow-stem augers. Soil samples were removed from split spoons driven 2 ft into undisturbed material.

Split-spoon samples were taken at 5-ft intervals beginning at ground surface. The standard penetration test method (ASTM-D-1586) was used for compaction and density comparison. Soil identification was reported in boring logs. No split-spoon samples were required by NYSDEC during the piezometer borings unless specifically requested in the field. The holes were logged to bedrock by tailings, and observations were made during drilling. Level D safety protection was used throughout the drilling process. Samples and tailings were also scanned with a dosimeter for radioactivity.

When the augers were advanced to bedrock, the borehole was washed out with potable water and a rock core was taken using an HQ-sized

wire line system. If loose fill material resembling municipal refuse was identified above the bedrock surface where the water level was expected to be, the core was extended 10 ft into the consolidated bedrock. This would allow the entire screened interval to be below the rock surface. To prevent the siltation and turbidity problems normally associated with sampling monitoring wells screened in fill material, the sand pack was extended above the bedrock/overburden interface to allow water from the saturated fill zone to drain into the screen.

When the corehole was opened to a depth adequate to produce a sampleable well, a 2-in. schedule 40 PVC monitoring well was installed. Ten feet of 0.010-in. slot screen was set on the bottom of the corehole. The remaining annulus was backfilled with No. 2 silica sand to at least 1 ft above the top of the screened interval. If the top of the screen stopped below the top of the bedrock surface, more sand was added to a depth that would allow groundwater from the unconsolidated material into the well. No confining clay was noted in any boring at the bedrock/overburden interface. Therefore, the open bedrock coreholes are not seen as conduits, which would allow contaminants in the overburden to travel downward through the fill material.

A layer of bentonite pellets (3/8-in. Acker brand) was set above the silica sand pack. In all but one well (P-3) at least 1 ft of pellets was emplaced on top of the sand pack. Water was added and bentonite pellets were allowed to hydrate for 0.5 hrs. Where depth allowed, a bentonite slurry was then pumped on top of the pellet seal in all wells and piezometers to a depth just below the frost line (4-6 ft below grade). Wells that were not deep enough to add bentonite slurry were given a bentonite pellet seal of 2 ft.

Portland cement was mixed and pumped on top of the previous layer of grout. A locking protective steel cover was set over the PVC standpipe.

2.2 DECONTAMINATION

Drilling equipment, including the rig, auger flights, rods, spoons, hoses, and tools, was decontaminated between each borehole at a central area behind the old waste transfer station and incinerator. Equipment was cleaned using a steam cleaner and potable water source. Well riser, screen, and protective casings were also decontaminated before being set into the borehole.

2.3 SPECIFIC MONITORING WELL DETAILS

The following is an account of the conditions, procedures, and deviations encountered and acted upon during the boring/coring and monitoring well/piezometer installation. The piezometers were labeled with a "P" followed by their I.D. number (1-5); because they were constructed as groundwater monitoring wells, they will be referred to as wells. The monitoring wells are labeled "GW". The well locations are presented in Plate 1 (at back of this report), the test boring logs and monitoring well completion logs in Appendix A, and field calibration data sheets in Appendix B.

2.3.1 Test Boring/Piezometer P-5

Drilling was initiated on 26 July 1989 at P-5, a piezometer located approximately 75 ft east of the sanitation garage building adjacent to the western border of the impound lot. The borehole contained fill consisting of sand, gravel, and cobbles. No municipal waste was identified, although a short distance to the north (30-50 ft) a new building was being set up and postholes indicated municipal

fill material. Bedrock was encountered at 11 ft below grade, and a core was taken to 17 ft. Bedrock was identified as a gray, consolidated silicon dolomite. Cores were broken and weathered at the surface, after which the rock appeared to be well preserved. Small solution pockets, less than 1 cm, were noted. The well screen was set at 16 to 6 ft below the surface, the silica sand pack was brought up to 4 ft below the surface, and the bentonite seal was brought up to 2 ft below grade. The remaining 2-ft annulus was filled with portland cement and a locking protective cover was set over the PVC stickup.

2.3.2 Test Boring/Monitoring Well GW-12

GW-12 was located west of the Canon facility in a relatively low-lying undeveloped area approximately 1500 ft south of Lexington Avenue and 700 ft west of Colfax Street. The all-terrain drilling equipment was used to gain access at this location. Soil sampling began on 27 July 1989. Samples were taken at 5-ft intervals. The material encountered consisted of silty-sand cover material less than 5 ft in depth. Wood with petroleum odors was encountered at 5 ft. Photoionization detector (HNU) deflections were noted between 2 and 5 ppm, with maximum peaks at 20 ppm. Combustible gas indicator (CGI) readings from outside the auger flights were 100%. When the boring was allowed to vent, the CGI readings dropped off. Potable water pumped around the outside of the auger flights moistened the material, which cooled it and prevented sparks. No further CGI readings were noted from the borings.

Incinerator debris consisting of cinders, ash, glass, and semi-burned paper was encountered at 10 ft. No samples were retained as the split-spoon recovery was not adequate for analysis. Wood was again encountered at 15 ft; recovery was too small for an accurate stratigraphic description. No recovery was made from the 20-ft

sample. It was believed that some kind of metal or wire mass was located at that depth. Brown sand and broken rock were encountered just above refusal (24.5 ft). A bedrock core was taken in 5-ft runs from 24.5 to 32 ft. The first 6 in. yielded large pieces of brass and steel that may have been deposited just on top of the bedrock. The core barrel was cleared of the metal debris and the remaining core was cut. Cutting times remained uniform throughout the coring process, between 1.5 and 3.0 min/ft. Examination of the core showed it to be similar to that taken over 2000 ft to the southeast at P-5: a gray dolomite with a reactive deposit on fractures and voids.

The monitoring well screen (0.010-in. slot) was set at 32 to 22 ft. A silica sand pack was placed in the annulus to a depth of 18.3 ft and a 1-ft bentonite pellet seal and 14.3-ft bentonite slurry were added. A final 3 ft of portland cement was added on top of the bentonite slurry and a steel protective cover was installed.

2.3.3 Test Boring/Monitoring Well GW-13

Installation of GW-13 began on 28 July 1989. This monitoring well was originally located directly in front of the football field bleachers at Edison Technical High School; for safety reasons it was moved outside the field area and across the paved road directly south of the bleachers. Drilling was performed again, using the ATV. Material encountered from approximately 2 to 21 ft below grade consisted of plastic, ash, cinders, slag, and glass (incinerator debris). No metal was recovered in sampling. However, when the augers were finally retracted, the final 5-ft section was completely wrapped in a thick layer of wire. Wire strands were 1/16 to 1/4 in. in diameter.

Bedrock was cored from 22 to 29.8 ft. Bedrock was noted to be a uniformly fractured dolomite, and over 95% recovery was measured. The monitoring well screen was set in the bottom of the corehole from 29.8 to 19.8 ft, and a silica sand pack was installed around the well screen and casing to a depth of 17.4 ft. Just over 1 ft of bentonite pellets was then added and hydrated. A 12.3-ft layer of bentonite slurry was pumped onto the pellets and 4 ft of portland cement was added to grade. A locking protective steel cover was then installed.

2.3.4 Test Boring/Piezometer P-3

Piezometer P-3 was drilled and installed on 31 July 1989 at the rear of the DeCarolis Trucking Company yard, approximately 850 ft west of Colfax Street and 750 ft south of Emerson Street. No evidence of municipal waste was identified during the drilling, although some glass was seen in silty tailings that came from between 10 and 12 ft. Augers refused upon a 0.5-ft layer of concrete at 15 ft, right above bedrock. Bedrock was cored from 15.5 to 20.5 ft. Water in the hole was pumped, but no recovery of water was noted. After the rock core was advanced to 24.5 ft, a moderate recovery was noted. The rock core was then extended to 30.5 ft. Rock core sections contained a strong sulphur and possibly a trace hydrocarbon odor that was almost totally masked. Fractures near the bottom of the hole contained clay and fine-to-coarse sand. The well screen was set at 30.5 to 20.5 ft. The remaining corehole annulus was backfilled with No. 2 silica sand to a depth of 13 ft. After a bentonite pellet seal just over 0.5 ft was set and hydrated, 8.4 ft of bentonite slurry was pumped into the borehole using the tremie method. Finally, a 4-ft column of portland cement was installed to grade, and the locking steel protective casing was emplaced.

2.3.5 Test Boring/Piezometer P-1

Piezometer P-1 was installed on 1 August 1989 in an open, high, grassy area directly behind the Rochester Products Plant, approximately 1000 ft south of Lexington Avenue and 900 ft north of Emerson Street. No samples were taken during drilling, but cuttings from the augers consisted of wood, glass, metal, cinders, and silty ash. Bedrock was cored from 24.5 to 33.5 ft. The core sections were composed of a fine-grained fractured dolomite, with solution voids noted occasionally through the core. The well screen was set at 33.5 to 23.3 ft. A No. 2 silica sand pack was set to 21.5 ft, and a 2-ft bentonite seal was set on top and hydrated. A bentonite slurry mix was pumped to a depth of 6 ft, followed by portland cement to the surface, and a locking protective steel standpipe.

2.3.6 Test Boring/Monitoring Well GW-11

Work began on 2 August 1989 at GW-11, located in the back lot of the empty building of Pyramid Brokerage approximately 450 ft east of Colfax Street and 400 ft south of Emerson Street.

Drilling was performed using the truck-mounted mobile unit. Material encountered above bedrock consisted of construction debris, asphalt, metal grating pieces, concrete, and tarmac fragments. The 4-6 ft sample just above bedrock contained fine sand, broken gravel, and concrete, which provided a deflection of 3-5 ppm on the HNU. Readings taken from the auger stem were as high as 25 ppm; however, no distinguishable odor was identified. Bedrock core was taken from 5 to 15 ft. Dolomite in the upper 0.5 ft was very fractured and contained oxidation stains. There was 0.2 ft of concrete on the bedrock surface. The remaining core to 15 ft was fractured and contained solution cavities throughout. The monitoring well screen was installed at 15 to 5 ft, and No. 2 silica sand was

placed around the screen and up to a depth of 4 ft. A 2-ft bentonite pellet seal was then set on top of the sand. Following hydration of the pellets, a portland cement filler was pumped up to the ground surface and the protective steel cover was installed.

2.3.7 Test Boring/Piezometer P-4

Piezometer P-4 was completed on 2 August 1989. The piezometer was located just east of Colfax Street along the side of the Federal Stamping property. Bedrock was found to be at a fairly shallow depth of 6 ft. Several small outcrops were located on the Federal Stamping property and it was not expected that the overburden would be deep. The boring contained unconsolidated material consisting of sand, gravel, and cobbles.

The material did not appear to be municipal waste, but whether or not the material was original could not be determined. Bedrock was cored from 6 to 16 ft. The core consisted of gray dolomite with intermittent fractures and some clay in-fillings. The well screen was set in the corehole at 16 to 6 ft, with a silica sand pack above the screen to a depth of 5 ft. A 2-ft bentonite pellet seal was set on the sand pack. Following hydration, portland cement was added to grade and a steel protective casing was set over the well casing.

2.3.8 Test Boring/Piezometer P-2

Drilling of the test boring to facilitate installation of piezometer P-2 was begun on 3 August 1989. P-2 was located 50 ft south of the intersection of Emerson and McCrackenville streets, off the shoulder of Emerson Street. The area is an undeveloped, densely overgrown field that appears to have been unused since the landfilling ceased. Cuttings brought to the surface by the auger

flights indicated that the first 4 ft consisted of a black, silty sand with numerous small stones. The silty sand had a distinct petroleum odor, and readings of 30 ppm and 0% of LEL (lower exposive limit) were registered on the HNU and CGI, respectively. Between 4 and 12 ft the fill consisted mainly of large, angular, uniformly sized, ballast-type stone with very few fines. Water was encountered at approximately 10 ft. Between 12 and 13.5 ft the intervening material became progressively harder. Bedrock was encountered at 13.5 ft, and the rig was set up to begin coring. Bedrock coring with the HQ wire line corer progressed steadily through the rock at approximately 3 min/ft to a total depth of 23.5 ft. The cored rock seemed consistent with the previously encountered rock: specifically, a gray dolomite with occasional small solutional features.

The well screen was set from 23.5 to 13.5 ft. Solid 2-in. PVC casing extended from the top of the screen to approximately 1.5 ft above grade. The corehole annulus was backfilled with No. 2 silica sand to a depth of 11.5 ft. A seal of bentonite pellets was emplaced from the top of sand, at 11.5 ft up to 10.5 ft. Because of the very high permeability of the ballast-type stone encountered above bedrock, the standard grout mix was not used. Such a mix would have run out of the annulus and into the interstices of the fill. A bentonite slurry was used to fill the remaining annulus up to approximately 2 ft below grade. The bentonite slurry, while still sealing the annulus, is more viscous and therefore plugged the permeable fill better than a cement grout would have. Dry bentonite powder was added above the slurry before the protective casing was cemented up to grade.

2.4 MONITORING WELL DEVELOPMENT

Following monitoring well installation, one of two methods, determined by the depth of the water table, was used to develop the wells.

The first method is used on wells with static water levels no greater than 20 ft below grade. It involves using a Homelite centrifugal pump with dedicated polyethylene tubing and a PVC foot valve. The foot valve is used to prevent water (which may have contacted the internal components of the pump head) from traveling back down the well (should suction be lost) and to increase turbidity when surged. Wells are alternately surged and pumped to free fine-grained material from the sides of the borehole and remove it from the well altogether. This process is continued until sufficient particulate matter is removed to lower the turbidity values in the well to below acceptable limits for sampling. In this case the upper acceptable value was 50 nephelometric units (NTU). Certain overburden components could prevent acceptable levels from being obtained. This could be caused by a lack of water-producing zones within the screened area or by the existence of a large column of mobile, fine-grained material that would be impractical to clear. If acceptable levels were not obtainable, development was discontinued after 4 hrs.

The second method, the airlift method, is used on wells with static water levels greater than 20 ft below grade. The Moyno water/grout pump on the drill rig is used to pump a stream of compressed air down the well casing. The air is pumped to the well bottom through a decontaminated 1-in. tremie pipe. The air displaces the water upward until the column is forced high enough to equalize the pressure. When the air pressure can no longer hold up the water column, the air passes through the water column and the uplifted water

drops back down the well casing. Upon impact with the bottom of the well casing, the increase in pressure jets water through the well screen and into the surrounding sand pack. This in turn agitates and further settles the sand pack. It also helps to remove deposited material from the borehole. Following several minutes of this surging, a small volume of potable water is pumped down the well to displace the silted water in the well. This process is repeated until water being ejected by the well is below the 50 NTU limit.

Well development at GW-13 on 3 August 1989 was attempted with a centrifugal pump, but the depth to water was too great to maintain an adequate yield. Because the rig with the Moyno pump was occupied, development was continued by hand bailing. A total of 70-75 gal was bailed from the well. Development water first appeared jet black and silty, but progressively tended toward a brown-black, less silty fluid with a foul odor and a slight sheen. Turbidity never went below 200 NTU during development.

Development of GW-12, using a centrifugal pump and a foot valve, was carried on at the same time as the bailing of GW-13. As the static water level was at the borderline of the allowable depth for centrifugal pumping, the well was surged, allowed to recover, and surged on and off for 2 hrs. Approximately 55 gal was withdrawn, and while the development water went from black to an iced tea color, turbidity never went below 200 NTU.

On the morning of 4 August 1989 the rig with the Moyno pump was moved onto GW-12 and GW-13 to complete the development. Approximately 40 gal was pumped from GW-12 and approximately 55 gal from GW-13. While both appeared to clear to some degree, they remained

turbid. It was concluded that these wells would not clarify any further, and well development was stopped.

P-3 was developed next, using the Moyno pump. Although the static water level was only 19.38 ft, the well went dry very quickly, so the Moyno pump method was more appropriate. After approximately 3 hrs of pumping, 55 gal had been evacuated and the turbidity was well over 200 NTU. The development water was tan and silty, with no odor, unlike the yield from GW-12 and GW-13.

Piezometer P-4, like P-3, pumped dry very easily. Over the course of 6 hrs, P-4 was pumped dry four times with the centrifugal pump. The development water was tan and heavily laden with silt and sand. After pumping dry the fourth time, the turbidity was 188 NTU. There was no odor or sheen on the water. Approximately 55 gal was withdrawn.

Monitoring well GW-11 was developed using the centrifugal pump. Although less than 400 ft from P-4, GW-11 produced a high yield of turbidity-free water. GW-11 yielded a discharge rate of at least 5 gallons per minute (gpm). After evacuating approximately 110 gal, a turbidity of 13.8 NTU was achieved.

Piezometer P-5 was developed using the centrifugal pump. Approximately 60 gal was pumped out at a rate of 2 gpm. The development water was silty and the turbidity never went below 1000 NTU. Only the wells were scheduled for sampling. For this reason, and because of time constraints, P-1 and P-2 were not developed.

2.5 GROUNDWATER SAMPLING

The three newly installed monitoring wells were sampled from 7 to 9 August 1989, along with 10 of the 12 previously existing monitoring

wells. Of the well pairs GW-8, shallow and deep, and GW-10, shallow and deep, only the deep wells of each were sampled.

General sampling procedures included an initial top-of-static-water-level measurement followed by a bottom-of-well measurement. The volume of water to be purged was calculated based on the diameter of the borehole and the height of the water column. The wells were purged using a gasoline-powered centrifugal pump. Water was first purged from the bottom of the well to remove accumulated silt from the casing. Pumping rates were adjusted to maintain a steady recovery and pumping volume. After a steady state had been reached and any silt had been removed from the bottom of the well, the pump was raised to within a foot or two of the top of the steady water column. Turbidity, specific conductance, temperature, and pH were measured using calibrated instruments (Table 2-1). The pump was surged periodically to remove additional silt trapped in the sand pack.

When an adequate volume of well water was removed, a dedicated Teflon bailer and nylon rope were used to extract a sample for turbidity analysis. When deemed acceptable by turbidity standards, samples for chemical analysis were retrieved by bailer. Water samples to be analyzed for target compound list (TCL) organics were placed in 40-ml Teflon septa vials. Acid/base/neutral samples were placed in three separate 1-liter glass jars. Pesticide/PCB samples were placed in two separate 1-liter glass jars. Total metals and cyanide samples were placed individually into two separate 0.5-liter plastic containers. Each metals sample was preserved in the field with nitric acid; cyanide samples were similarly preserved with sodium hydroxide. All sample containers were then packed with ice in a sealed shipping cooler with the proper chain-of-custody forms.

TABLE 2-1

WET CHEMISTRY and TURBIDITY
EMERSON STREET LANDFILL
AUGUST 1989 SAMPLING

WELL	TURBIDITY (NTU)		TEMPERATURE	pH	SPECIFIC CONDUCTANCE (umhos/cm)
	Before	After	(C)		
GW-1	3.8	84	11.5	7.3	156
GW-2	17	147	11.0	7.9	256
GW-3	41	<200	14.1	7.1	398
GW-4	2	57	14.9	6.6	444
GW-5	3	53	12.9	7.2	223
GW-6	5	<200	13.3	7.5	302
GW-7	4	56	14.7	6.9	118
GW-8D	33.3	139	14.9	7.3	283
GW-9	34.2	458	11.3	7.1	309
GW-10D	116	160	14.9	6.8	340
GW-11	39	66	14.8	7.4	133
GW-12	4.1	13.9	13.2	8.8	337
GW-13	12	49	14.7	9.3	360

While LMS was responsible for sample collection, NYSDEC assumed responsibility for the sample manifest. At the end of each day the samples were shipped via overnight mail to CompuChem Laboratories of North Carolina. All analytical results were delivered to NYSDEC. Field sampling logs and the crew chief's report are presented in Appendix C.

CHAPTER 3

SOIL BORINGS AND SAMPLING

3.1 RADIOLOGICAL SURVEY BORINGS

On 7 August 1989 a series of 14 borings were advanced in the area of concern north of the previously existing GW-1 and south of the newly emplaced P-2 (see Plate 1). The borings were conducted along four lines (A1, A2, B, and C) radiating out from an area of a radioactive source, delineated in an earlier nonintrusive radiological survey conducted by Recra. (See radiological survey borings map, Figure 3-1.) The objective of the borings was to determine the extent of the mildly radioactive material, believed to be industrial sludge. The four boring lines radiated out from a small area containing three individual "hot spots," as flagged by the Recra survey. These beginning points were confirmed by a quick survey conducted by Mr. John I. Mitchell, NYSDEC environmental radiation specialist, using a Micro R meter and a Ludlum count rate meter. Also present during the boring survey were Mr. Todd M. Caffoe, junior engineer from the Region 8 Division of Hazardous Waste Remediation, Messrs. Kevin McGuinness and Mike Snodgrass of LMS, and a drill crew from American Auger and Ditching.

Borings were conducted by advancing a standard split-spoon sampling device, with the 140-lb hammer mounted on the drill rig. Split-spoon samples were collected continuously at 2-ft intervals to a final depth of 6 or 8 ft. Final depth was determined by the presence or absence of white ash or sludge, Micro R radiological readings, HNU readings, and the presence of groundwater. The first boring, C-1, was advanced to a depth of 10 ft to confirm the depth to bedrock. At 10 ft a weathered, gray, fractured bedrock, believed to be a dolomite native to the area, was encountered. The

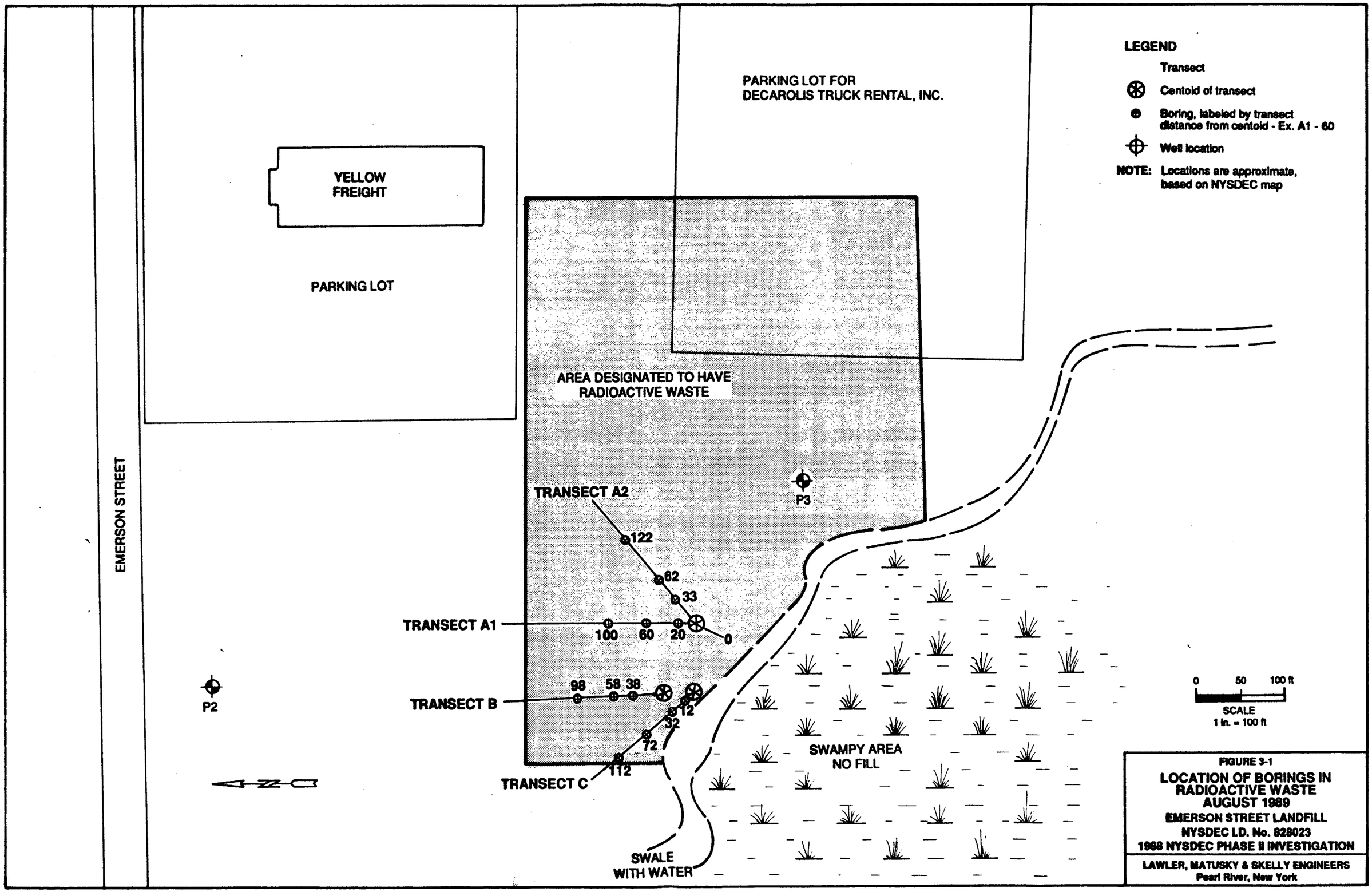


FIGURE 3-1
LOCATION OF BORINGS IN RADIOACTIVE WASTE
AUGUST 1989
EMERSON STREET LANDFILL
NYSDEC I.D. No. 828023
1988 NYSDEC PHASE II INVESTIGATION

LAWLER, MATUSKY & SKELLY ENGINEERS
Pearl River, New York

contents of each split spoon were studied and logged by a geologist and scanned by the HNU and Micro R meters. A complete geological log containing a record of HNU readings appears in Appendix D.

As reported by Mr. Mitchell, background readings on the Micro R meter were 5 to 10 microrems per hour (μrems/hr). In the area of the three source points (A, B, and C) readings were 40 to 50, 150, and 20 to 30 μrems/hr, respectively. Mr. Mitchell scanned each split spoon with the Micro R, and almost no readings above background were registered. At borings along transects A-1 and A-2 Mr. Mitchell reported "very slight detection" and "barely above background" readings.

HNU readings ranged from 0.2 (background) to 650 ppm. Most of the elevated readings originated from the fill in the area of the "A" borings, which seemed unusual because the source material was dry, contained no visible product, and had no apparent odor.

The fill material encountered consisted of black-brown coarse sand commonly containing ash, cinders, glass, and coal. The highest HNU readings tended to come from samples of the ash, which was usually white to gray and silty.

Mr. Caffoe collected three samples for volatile organics analysis and four samples for EP toxicity analysis (see Table 3-1 for sample designations). Samples of the 0- to 2-ft split spoons from borings C-3, A-3, and A-7 were collected for volatile organics analysis. Composites of the split-spoon samples from the surface to a depth of 6 ft were collected from borings C-3, B-1, B-2, and A-5 and submitted for EP toxicity analysis. Samples were sent by overnight mail to Roy F. Weston Inc., Lionville Laboratory at the end of the day. Results of the respective analytical processes were sent to NYSDEC and are presented in Chapter 4.

TABLE 3-1

RADIOACTIVE WASTE SAMPLES

Emerson Street Landfill NYSDEC I.D. No. 828023
7 August 1989

SAMPLES COLLECTED FOR VOA AND EPA TOX METALS

BORING DESIGNATION		SAMPLE DESIGNATION		
TRANSECT/DISTANCE FROM CENTROID	LMS LOG	LMS/NYSDEC	NYSDEC SAMPLE CODE	ANALYSIS
C-12	C-1	NS	NS	
C-32	C-2	NS	NS	
C-72	C-3	C-3, 2-6	SH8890807 828023-101	EP Tox Metals
C-112	C-4	C-4, 0-2	SH8890807 828023-102	VOA
B-38	B-1	B-1, 0-6	SH8890807 828023-103	EP Tox Metals
B-58	B-2	B-2, 0-6	SH8890807 828023-104	EP Tox Metals
B-98	B-3	NS	NS	
A1-0	A-1	NS	NS	
A1-20	A-2	NS	NS	
A1-60	A-3	A-3, 0-2	SH8890807 828023-105	VOA
A1-100	A-4	NS	NS	
A2-33	A-5	A-5, 0-6	SH8890807 828023-106	EP Tox Metals
A2-62	A-6	NS	NS	
A2-122	A-7	A-7, 0-2	SH8890807 828023-107	VOA

SAMPLES COLLECTED FOR RADIOLOGICAL ANALYSIS

BORING DESIGNATION		SAMPLE DESIGNATION		CLEAN HARBOR
TRANSECT/DISTANCE FROM CENTROID	LMS LOG	BORING/SPLIT-SPOON DEPTH	NYSDEC SAMPLE No.	ANALYTICAL SERVICE SAMPLE NUMBER
A1-0	A-1	A-1, 0-2'	1	080789001
A1-0	A-1	A-1, 2-4'	2	080789002
A1-20	A-2	A-2, 2-4'	3	080789003
A1-60	A-3	A-3, 0-2'	4	080789004
A2-33	A-5	A-5, 0-2'	5	080789005
A2-63	A-6	A-6, 2-4'	6	080789006
A2-122	A-7	A-7, 0-2'	7	080789007

Mr. Mitchell also collected seven samples for radiological analysis by Ocean Harbors Analytical Services. The sample locations and designations are presented on Table 3-1, and the sampling procedures and results in Appendix E.

3.2 ASH SAMPLING

Other borings were conducted on 8 August 1989 in an area adjacent to the old City of Rochester's Department of Sanitation Garage. The objective of these borings was to collect samples of buried ash for analysis. While the area is currently the impoundment lot for the city, it was previously used to dispose of ash from the nearby incinerator. Four borings (TB-1 through TB-4) were conducted in the lot by continuously advancing split-spoon samplers using the drill rig. The landfill material was sampled at each of the four boring locations from the surface down to natural material, which occurred between 7 and 8.5 ft below grade. The fill consisted mostly of white, tan, and black silt, sand, ash, cinders, and slag. Each split spoon was scanned with the Micro R radiological meter and the HNU. No readings above background were noted from the Micro R, but the HNU readings were as high as 400 and 650 ppm above background. No elevated readings were registered in the breathing spaces of the sampling personnel, however. Mr. Caffoe collected three samples of the ash for EP toxicity analysis and one sample for volatile organic analysis (see Table 3-2).

From TB-1 a composite from 2.5 to 6.5 ft was collected for EP toxicity metals analysis and a sample from 2.5 to 4.5 ft was collected for volatile organics analysis. Composites over 0.5 to 6.5 ft, 1 to 7 ft, and 0.5 to 4.5 ft were collected for EP toxicity metals analysis from TB-2, TB-3, and TB-4, respectively. Samples were sent via overnight mail to CompuChem at the end of the day.

TABLE 3-2

ASH WASTE SAMPLES

Emerson Street Landfill NYSDEC I.D. No. 828023
8 August 1989

BORING DESIGNATION	SPLIT-SPOON DEPTHS (ft)	SAMPLE DESIGNATION LMS/NYSDEC LOG	SAMPLE DESIGNATION NYSDEC SAMPLE CODE	ANALYSIS
TB-1	2.5-6.5	TB-1, 2.5-6.5	SH889080882 8023-108	EP tox metals
	2.5-3.5	TB-1, 2.5-3.5 (≃3 ft)	SH889080882 8023-109	VOA
TB-2	0.5-6.5	TB-2, 0.5-6.5	SH889080882 8023-110	EP tox metals
TB-3	1-7	TB-3, 1-7	SH889080882 8023-111	EP tox metals
TB-4	0.5-4.5	TB-4, 0.5-4.5	SH889080882 8023-112	EP tox metals
-	-	Incinerator Bldg. Stack	SH889080882 8023-113	EP tox metals
-	-	Incinerator Burn Pit	SH889080882 8023-114	EP tox metals

Test boring logs, complete with stratigraphic descriptions and a record of HNU readings, appear in Appendix F. Boring locations for the ash sampling are shown in Figure 3-2.

3.2.1 Incinerator Ash Pile Sampling

Samples of dry ash still contained within the incinerator building were collected on 8 August 1989. The "Incinerator Burn Pit" sample was collected from ash piled in an area referred to as the east burn pit; the "Incinerator Bldg. Stack" sample was collected from ash piled at the bottom of the incinerator stack for EP toxicity analysis. The Micro R meter registered background readings in the area of around 4 μrems/hr and incinerator stack readings of between 8 and 10 μrems/hr. To avoid the possibility of breathing in stirred-up ash dust, sampling personnel wore air-purifying respirators.

3.3 SOIL SAMPLES

During the drilling of piezometer P-1 and groundwater well GW-13, samples of ash material found in the split spoons were collected by a NYSDEC representative and sent to CompuChem Laboratories for RCRA hazardous waste analyses (EP toxicity leachate analyzed for pesticides, herbicides, metals; ignitability, pH, and reactivity). The sample was designated P-1 (NYSDEC sample code 828023-01) and GW-13 (NYSDEC code 828023-02).

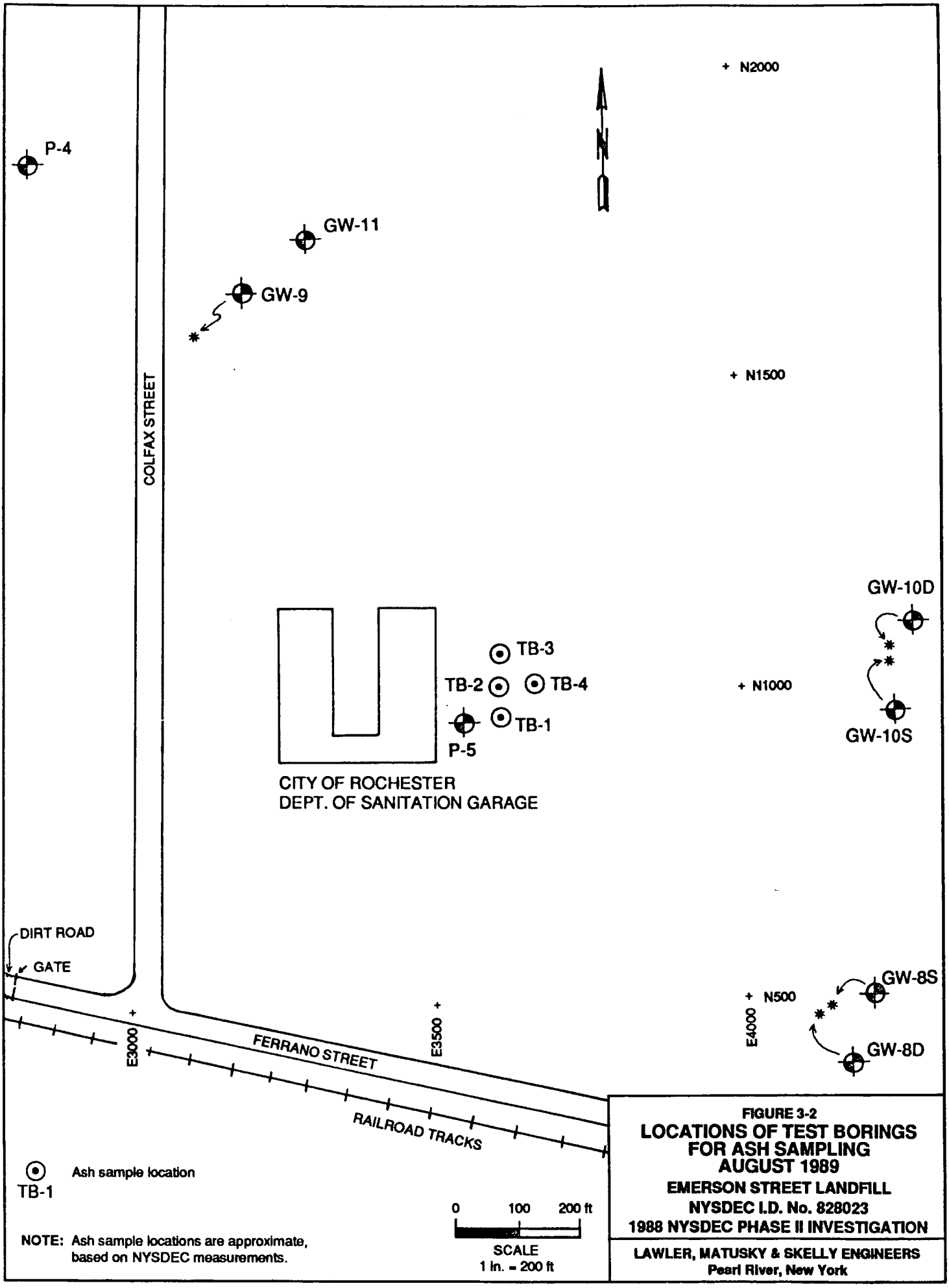


FIGURE 3-2
LOCATIONS OF TEST BORINGS FOR ASH SAMPLING AUGUST 1989
EMERSON STREET LANDFILL
NYSDEC I.D. No. 828023
1988 NYSDEC PHASE II INVESTIGATION

LAWLER, MATUSKY & SKELLY ENGINEERS
Pearl River, New York

CHAPTER 4

RESULTS

4.1 GROUNDWATER CONTOURS

4.1.1 Background

The Phase II study obtained boring and subsurface data on the perimeter of the landfill. Using these data, groundwater contours were calculated without regard to any factors that could affect the contours within the landfill area. However, a fairly continuous system of storm drains running throughout the site, which was likely to influence the groundwater, was noted. These drains are reportedly set directly in bedrock in some locations. Because the wells installed during the Phase II were not referenced to a known datum, the impacts of the drains could not be determined. It also was suspected that there were groundwater highs and lows over the landfill area.

To answer these concerns, the additional work provided the following:

- Invert elevations of storm drains
- Groundwater elevations throughout the landfill determined by the installation of five piezometers (and three additional wells)
- Survey of all wells and piezometers to a known USGS datum

4.1.2 Study Results

Utility construction drawings were obtained from the City of Rochester for the storm drains in the Emerson Street area, and the

invert elevations for key points are mapped in Plate 1 (at back of this report).

Following installation of the new wells and piezometers (see Chapter 3) the elevations were surveyed and the old well elevations were recalculated to the known datum. Groundwater elevations were measured on all wells and piezometers as part of the sampling effort. The water elevations in each well are presented in Plate 1.

Based on the boring logs for the wells and piezometers, a bedrock contour map was calculated (Plate 2).

4.1.3 Groundwater Contours

Based on the water elevations in the wells and piezometers (Table 4-1), the bedrock contours, and invert elevations of the storm drains, a groundwater contour map of the Emerson Street area was developed and is presented in Plate 1. The groundwater contours are divided into several areas as determined by the storm drains. The direction of the slope of the drain and the discharge points appear to be of particular importance.

The area south of Emerson Street, west of Colfax Street and east of Lee Road, is completely surrounded by a drainage system that moves predominantly to the west and then south to discharge into the barge canal on the north and west side, and moves south on the east side. Groundwater in this area was below the bedrock surface. A local bedrock and groundwater high was identified around P-2. Groundwater flows radially outward from the high in the middle to the lows on the sides, dictated by the storm drain invert elevations.

TABLE 4-1

WATER ELEVATIONS IN WELLS AND PIEZOMETERS

Emerson Street Landfill

August, 1989

WELL/ PIEZOMETER	CASING ELEVATIONS (datum)	TOP OF BEDROCK (datum)	WATER LEVEL (from casing) (feet)	WATER ELEVATION (datum)
GW-13	538.68	515.3	23.35	515.33
GW-12	546.16	519.7	24.27	521.89
GW-11	534.73	527.6	8.57	526.16
GW-10D	534.25	524.2	4.76	529.49
GW-9	534.66	528.1	17.59	517.07
GW-8D	531.13	522.4	5.92	525.21
GW-7	533.40	523.5	9.33	524.07
GW-6	533.88	523.2	15.65	518.23
GW-5	530.93	519.1	10.25	520.68
GW-4	542.34	530.8	9.21	533.13
GW-3	544.08	528.9	7.80	536.28
GW-2	531.09	523.6	16.43	514.66
GW-1	537.13	525.6	19.90	517.23
P-1	550.32	523.7	28.00	522.32
P-2	547.79	532.5	15.30	532.49
P-3	544.72	527.6	19.38	525.34
P-4	535.48	527.5	10.39	525.09
P-5	536.72	524.8	8.35	528.37

Datum - Feet above USGS NVGD.

The drainage in the northwest area of the site is isolated from the remainder of the site. This area is surrounded by a storm sewer system that ultimately drains to the south. It is bounded on the west by Lee Road, on the north by the drainage in Lexington Avenue, and on the east by a drainage system that runs from Lexington Avenue south to Emerson Street in the short cul-de-sac. Groundwater flows to the south where two outfalls enter the barge canal. A groundwater high exists near GW-3, and the level varies from above bedrock to just bedrock.

The central portion of the site, east of the cul-de-sac, south of Lexington Avenue, and north of Emerson Street, is also surrounded by storm sewers; however, they drain in two different directions. As can be seen in Plate 1, the drainage is to the barge canal on the southern and western perimeters and to the northeast along the northern and eastern perimeters. This two-directional drainage pattern pulls water from the upper bedrock to the northeast and southwest and therefore causes this area to have the lowest average water elevation.

Information on the southeastern portion of the site is incomplete as there is no information on the eastern boundary; however, groundwater appears to be following stormwater drainage patterns radially outward from the central portion. Storm sewers run westward along Emerson Street, then turn south along Colfax Street and east on Ferrano Street. The water table elevation gets steeper with increasing distance toward the drains along Colfax Street. This can be seen between GW-11 (526.16 ft) and GW-9 (517.07 ft), an area that is within 100 ft of the storm drain. The invert elevation of the drain just south of GW-9 is 513.20 ft. This zone drains radially, in a fairly even pattern, from a high near GW-10D.

The intermittent drainage swale which runs east to west just south of GW-9 further explains the steep water table in that vicinity.

Heavy vegetation on the banks of the canal concealed the storm sewer discharge points, and water movement within the canal was limited. Staining on the rocks indicated that the level fluctuates over several feet, which may affect the lower elevations in the drainage system when the water rises in the canal. The water elevation in the canal should not greatly affect site drainage during average water level elevation; however, it will actually enhance the storm sewers' ability to drain the site during low level periods.

Whether groundwater running into the channels around the storm drains finds its way into the actual conduits is unknown; however, the water will follow the path of least resistance downward, and this is believed to be the fill around the storm sewers. It is recommended that during any additional sampling of the site samples be collected from both upgradient and downgradient canal locations as well as the two discharge pipes above and below the Lee Road bridge.

4.2 ANALYTICAL RESULTS

4.2.1 Groundwater

Groundwater samples were analyzed by CompuChem Laboratories and the data were sent to NYSDEC who reviewed the data for QA/QC. The laboratory data sheets are presented in Appendix G and the data are summarized on Table 4-2.

TABLE 4-2 (Page 1 of 4)

AUGUST 1989 GROUNDWATER DATA SUMMARY

Emerson Street Landfill NYSDEC I.D. No. 828023

PARAMETER	GW-1	GW-1 MS	GW-1 MSD	GW-2	GW-2 MS	GW-2 MSD	GW-3	GW-4	GW-5	GW-5 MS	GW-5 MSD	GW-6	GW-6 MS	GW-6 MSD
VOLATILE ORGANICS														
1,1-Dichloroethane	ND	ND	ND	ND	NR	NR	ND	ND	ND	NR	NR	ND	2 j	2 j
Total xylenes	ND	ND	ND	1 j	NR	NR	ND	ND	ND	NR	NR	ND	ND	ND
Benzene	ND	ND	ND	4 j	NR	NR	ND	ND	ND	NR	NR	ND	ND	ND
Toluene	ND	ND	ND	1 j	NR	NR	ND	ND	ND	NR	NR	ND	ND	ND
Tentatively Identified Compounds														
2-Methyl-butane	ND	NR	NR	10 j	NR	NR	ND	ND	ND	NR	NR	ND	NR	NR
Unknown	ND	NR	NR	17 j (2)	NR	NR	ND	ND	ND	NR	NR	ND	NR	NR
SEMIVOLATILES														
Bis(2-ethylhexyl)phthalate	ND	NR	NR	ND	ND	2 j	ND	ND	ND	NR	NR	ND	NR	NR
Tentatively Identified Compounds														
Unknown	20 j	NR	NR	ND	ND	ND	ND	20 j	182 j (4)	NR	NR	ND	NR	NR
Sulfur, mol. (S8)	ND	NR	NR	2000 j	ND	ND	ND	ND	ND	NR	NR	ND	NR	NR
PESTICIDES/PCBs	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NR	NR

All data in ug/l.

( ) - Number of compounds in group total.
j - Estimated concentration; compound present below method detection limit.
ND - Not detected at analytical detection limit; see Appendix G for detection limit.
NR - Not run.

TABLE 4-2 (Page 2 of 4)

AUGUST 1989 GROUNDWATER DATA SUMMARY

Emerson Street Landfill NYSDEC I.D. No. 828023

PARAMETER	GW-7	GW-7 MS	GW-7 MSD	GW-8	GW-8 MS	GW-8 MSD	GW-9	GW-10	GW-10 MS	GW-10 MSD	GW 11	GW 12	GW 13	TRIP BLANKS 1	TRIP BLANKS 2	FLD. BLNK.
VOLATILE ORGANICS																
Methylene chloride	ND	NR	NR	2 bj	NR	NR	ND	2 bj	2 bj	3 bj	3 bj	ND	ND	6 b	3 j	2 j
Vinyl chloride	ND	NR	NR	ND	NR	NR	32	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1-Dichloroethene	ND	NR	NR	ND	NR	NR	14	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1-Dichloroethane	ND	NR	NR	ND	NR	NR	7 j	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1-Dichloroethene (total)	180	NR	NR	ND	NR	NR	230	ND	1 j	ND	4 j	ND	ND	ND	ND	ND
Chloroform	ND	NR	NR	ND	NR	NR	ND	ND	ND	ND	2 j	ND	ND	ND	ND	ND
Trichloroethene	190	NR	NR	ND	NR	NR	22	ND	ND	ND	ND	ND	ND	ND	ND	ND
4-Methyl-2-pentanone	ND	NR	NR	ND	NR	NR	ND	ND	ND	ND	ND	ND	51	ND	ND	ND
Toluene	ND	NR	NR	ND	NR	NR	ND	ND	ND	ND	ND	ND	2 j	ND	ND	ND
Tentatively Identified Compounds																
Iodomethane	ND	NR	NR	ND	NR	NR	ND	ND	NR	NR	ND	ND	ND	20 j	ND	ND
SEMIVOLATILES																
4-Methylphenol	ND	ND	ND	ND	ND	ND	ND	ND	NR	NR	ND	ND	10	NR	NR	NR
2,4-Dimethylphenol	ND	ND	ND	ND	ND	ND	ND	ND	NR	NR	ND	ND	11	NR	NR	NR
Pentachlorophenol	ND	ND	ND	ND	ND	ND	3 j	ND	NR	NR	ND	ND	ND	NR	NR	NR
Bis(2-ethylhexyl)phthalate	10	2 j	ND	3 j	2 j	4 j	3 j	ND	NR	NR	ND	ND	ND	NR	NR	NR
Tentatively Identified Compounds																
Unknown	910 j (3)	NR	NR	ND	NR	NR	56 j (3)	40 j (2)	NR	NR	ND	100 j (4)	82 j (3)	NR	NR	NR
Sulfur, mol. (S8)	ND	NR	NR	ND	NR	NR	ND	ND	NR	NR	ND	ND	ND	NR	NR	NR
N,N-diethyl-3-methylbenzamide	ND	NR	NR	ND	NR	NR	20 j	14 j	NR	NR	ND	ND	ND	NR	NR	NR
Unknown alkylacid	ND	NR	NR	ND	NR	NR	ND	ND	NR	NR	ND	34 j	ND	NR	NR	NR
Unknown cyclicalkylacid	ND	NR	NR	ND	NR	NR	ND	ND	NR	NR	ND	ND	26 j	NR	NR	NR
Camphor (ACN)	ND	NR	NR	ND	NR	NR	ND	ND	NR	NR	ND	18 j	50 j	NR	NR	NR
2-Methyl-cis-cyclopentanol	ND	NR	NR	ND	NR	NR	ND	ND	NR	NR	ND	ND	12 j	NR	NR	NR
2,5-Dibenzenebutanoic acid	ND	NR	NR	ND	NR	NR	ND	ND	NR	NR	ND	ND	24 j	NR	NR	NR
4-Methyl-benzoic acid	ND	NR	NR	ND	NR	NR	ND	ND	NR	NR	ND	ND	32 j (2)	NR	NR	NR
PESTICIDES/PCBs	ND	NR	NR	ND	ND	ND	ND	ND	NR	NR	ND	ND	ND	NR	NR	NR

All data in ug/l.

( ) - Number of compounds in group total.

b - Found in method blank.

j - Estimated concentration; compound present below method detection limit.

ND - Not detected at analytical detection limit; see Appendix G for detection limit.

NR - Not run.

TABLE 4-2 (Page 3 of 4)

AUGUST 1989 GROUNDWATER DATA SUMMARY

Emerson Street Landfill NYSDEC I.D. No. 828023

PARAMETER	GW-1	GW-2	GW-3	GW-4	GW-5	GW-6
METALS						
Aluminum	30.4 b	55.6 b	427	ND	ND	29.9 b
Antimony	ND	ND	ND	ND	ND	ND
Arsenic	ND N w	ND N	4.7 b	ND	ND	ND
Barium	30.1 b	46.8 b	56.0 b	237	138 b	154 b
Beryllium	ND	ND	ND	ND	ND	ND
Cadmium	ND	ND	ND	ND	ND	ND
Calcium	227000	172000	168000	199000	130000	189000
Chromium	ND	ND	ND	ND	ND	ND
Cobalt	ND	ND	ND	ND	ND	ND
Copper	ND	ND	ND	ND	ND	ND
Iron	51.0 b	635	761	15300	948	131
Lead	ND N w	ND N w	ND w	ND w	ND	1.2 b w
Magnesium	84300	57900	132000	64400	57600	84400
Manganese	226	38.3	26.6	398	26.6	30.8
Mercury	ND N	ND N	ND N	ND N	ND N	ND N
Nickel	ND *	ND *	ND	ND	ND	ND
Potassium	ND	19400	8570	11100	7190	17800
Selenium	ND N w	ND N	ND N w	ND N w	ND N w	ND N w
Silver	ND	ND	ND	ND	ND	ND
Sodium	81900 *	366000 *	557000	588000	223000	312000
Thallium	ND N w	ND N w	ND N w	ND N w	ND N w	ND N w
Vanadium	4.5 b	2.6 b	2.5 b	2.3 b	ND	ND
Zinc	19.7 b	17.9 b	31.1	ND	39.7	34.3
Cyanide	ND	ND	12.4 N *	19.7 N *	49.2 N *	45.0 N *

All data in ug/l.

* - Duplicate analysis not within control limits.

b - Value is less than the contract-required detection limit but greater than the instrument detection limit.

ND - Not detected at analytical detection limit; see Appendix G for detection limit.

w - Post-digestion spike out of control limits; sample absorbance is less than 50% of spike absorbance.

TABLE 4-2 (Page 4 of 4)

AUGUST 1989 GROUNDWATER DATA SUMMARY

Emerson Street Landfill NYSDEC I.D. No. 828023

PARAMETER	GW-7	GW-8	GW-9	GW-10	GW-11	GW-12	GW-13
METALS							
Aluminum	ND	510	117 b	1650	468	68.2 b	670
Antimony	ND	ND	ND	ND	ND	ND	ND
Arsenic	2.3 b	ND	ND	ND	ND	2.7 b N w	23.2 b N
Barium	152 b	350	29.3 b	72.0 b	12.5 b	364	250
Beryllium	ND	ND	ND	ND	ND	ND	ND
Cadmium	ND	ND	ND	ND	ND	ND	ND
Calcium	95700	268000	266000	255000	146000	15500	11200
Chromium	ND	ND	ND	ND	ND	ND	15.4
Cobalt	ND	ND	ND	ND	ND	ND	ND
Copper	ND	ND	12.1 b	ND	ND	28.4	14.2 b
Iron	1990	1170	334	5850	1080	263	886
Lead	ND	ND N w	ND N w	1.7 b N	3.3 b N	3.5 b N	ND N w
Magnesium	35800	94500	83400	99800	74700	23600	6860
Manganese	351	383	39.9	146	53.2	13.3 b	25.0
Mercury	ND N	0.43 *	0.34 *	ND *	ND *	ND N	ND N
Nickel	ND	ND	ND	ND	ND	41.4 *	ND *
Potassium	6860	9340	20800	16300	6550	90100	152000
Selenium	ND N w	ND N w	ND N w	ND e N	ND N w	ND N w	23.9 b N w
Silver	ND	ND	ND	ND	ND	ND	ND
Sodium	76700	230000	314000	452000	19500	3100000 *	3630000 *
Thallium	ND N w	ND N w	ND N w	ND N w	ND N	ND N w	ND e N
Vanadium	ND	ND	ND	5.7 b	ND	7.1 b	36.9 b
Zinc	7.6 b	25.2	47.9	25.2	54.2	35.8	79.6
Cyanide	34.2 N *	ND	ND	98.0	55.9	16.7	15.5

All data in ug/l.

* - Duplicate analysis not within control limits.
b - Value is less than the contract-required detection limit but greater than the instrument detection limit.
e - Value estimated due to interference.
N - Spiked sample recovery is not within control limits.
ND - Not detected at analytical detection limit; see Appendix G for detection limit.
NR - Not run.
w - Post-digestion spike out of control limits; sample absorbance is less than 50% of spike absorbance.

4.2.2 Radiological Samples

Samples collected during the radiological borings were analyzed by Roy F. Weston Inc., Lionville Laboratory and the data were sent to NYSDEC who reviewed the data for QA/QC. The laboratory data sheets are present in Appendix H and the data are summarized in Table 4-3.

The samples collected by NYSDEC for radiological analyses were analyzed by Clean Harbors Analytical Service and results are presented in Appendix E. A summary report of recommendations by Mr. Paul J. Merges, Director, Bureau of Radiation, DHSR, on the radiological waste at the Emerson Street Landfill is also presented in Appendix E.

4.2.3 Ash Samples

Samples collected in the incinerator building and from borings near the building were analyzed by Roy F. Weston Inc., Lionville Laboratory and the data were sent to NYSDEC who reviewed the data for QA/QC. The laboratory data sheets are presented in Appendix H and the data are summarized in Table 4-4.

4.2.4 Soil Samples

Two samples collected from borings at P-1 and GW-13 were analyzed by CompuChem and the data were sent to NYSDEC who reviewed the data for QA/QC. The laboratory data sheets are presented in Appendix I and the data are summarized in Table 4-5.

TABLE 4-3

RADIOACTIVE WASTE SAMPLES
DATA SUMMARY

Emerson Street Landfill NYSDEC I.D. No. 828023

SAMPLE: BORING (Depth) PARAMETER	EPA MAX. ALLOWABLE CONC.	C-3 (2'-6')	C-4 (0'-2')	C-4 RE (0'-2')	B-1 (0'-6')	B-2 (0'-6')	A-3 (0'-2')	A-3 RE (0'-2')	A-5 (0'-6')	A-7 (0'-2')	A-7 RE (0'-2')
VOLATILE ORGANICS (ug/kg)											
Methylene chloride	--	NR	22 b	9 b	NR	NR	4 bj	12 b	NR	41 b	11 b
Acetone	--	NR	10 bj	7 bj	NR	NR	5 bj	8 bj	NR	26 b	8 bj
Tetrachloroethene	--	NR	23	11	NR	NR	ND	2 j	NR	9	3 j
Toluene	--	NR	2 j	ND	NR	NR	ND	3 j	NR	14	ND
Benzene	--	NR	ND	ND	NR	NR	ND	ND	NR	2 j	ND
Tentatively Identified Compounds	--	NR	ND	ND	NR	NR	ND	ND	NR	ND	ND
EP TOXICITY (ug/l)											
Arsenic, total	5,000	<500	NR	NR	<500	<500	NR	NR	<500	NR	NR
Barium, total	100,000	<1000	NR	NR	<1000	<1000	NR	NR	<1000	NR	NR
Cadmium, total	1,000	160	NR	NR	<100	<100	NR	NR	<100	NR	NR
Chromium, total	5,000	<500	NR	NR	<500	<500	NR	NR	<500	NR	NR
Lead, total	5,000	913	NR	NR	<500	1,700	NR	NR	4,010	NR	NR
Mercury, total	200	<0.20	NR	NR	<0.20	<0.20	NR	NR	<0.20	NR	NR
Selenium, total	1,000	<100	NR	NR	<100	<100	NR	NR	<100	NR	NR
Silver, total	5,000	<500	NR	NR	<500	<500	NR	NR	<500	NR	NR

All data in ug/kg.

b - Found in method blank.

j - Estimated concentration; compound present below method detection limit.

ND - Not detected at analytical detection limit; see Appendix H for detection limit.

NR - Not run.

TABLE 4-4

ASH WASTE SAMPLES
DATA SUMMARY

Emerson Street Landfill NYSDEC I.D. No. 828023

SAMPLE: BORING (Depth) PARAMETER	EPA MAX. ALLOWABLE CONC.	TB-1 (2.5'-6.5')	TB-1 (2.5'-3')	TB-1 RE	TB-2 (0.5'-6.5')	TB-3 (1'-7')	TB-4 (0.6'-9.5')	BLDG. STACK	BURN PIT
VOLATILE ORGANICS (ug/kg)									
Methylene chloride	--	NR	8 b	12 b	NR	NR	NR	NR	NR
Acetone	--	NR	13 b	23 b	NR	NR	NR	NR	NR
Tetrachloroethene	--	NR	ND	2 j	NR	NR	NR	NR	NR
Toluene	--	NR	ND	3 j	NR	NR	NR	NR	NR
Tentatively Identified Compounds	--	NR	ND	ND	NR	NR	NR	NR	NR
EP TOXICITY (ug/l)									
Arsenic, total	5,000	<500	NR	NR	<500	<500	<500	<500	<500
Barium, total	100,000	1,330	NR	NR	<1000	<1000	<1000	<1000	1,790
Cadmium, total	1,000	<100	NR	NR	<100	<100	<100	12,400	909
Chromium, total	5,000	<500	NR	NR	<500	<500	<500	<500	<500
Lead, total	5,000	<500	NR	NR	<500	<500	2,180	5,610	19,700
Mercury, total	200	<0.20	NR	NR	<0.20	<0.20	<0.20	0.56	1.4
Selenium, total	1,000	<100	NR	NR	<100	<100	<100	124	<100
Silver, total	5,000	<500	NR	NR	<500	<500	<500	<500	<500

b - Found in method blank.
j - Estimated concentration; compound present below method detection limit.
ND - Not detected at analytical detection limit; see Appendix H for detection limit.
NR - Not run.

TABLE 4-5 (Page 1 of 2)

AUGUST 1989 SOIL/ASH SAMPLE DATA SUMMARY

Emerson Street Landfill NYSDEC I.D. No. 828023

SAMPLE No.: PARAMETER	P-1 (Ash)	GW-13 (Ash)	EPA MAXIMUM ALLOWABLE CONC.
EP TOX EXTRACTS:			
HERBICIDES (mg/l)			
2,4-D	ND	ND	NS
2,4,5,TP (Silvex)	ND	ND	NS
2,4,5T	ND	ND	NS
PESTICIDES (mg/l)			
Endrin	ND	ND	NS
Gamma-BHA (Lindane)	ND	ND	NS
Toxaphene	ND	ND	NS
Methoxychlor	ND	ND	NS

NR - Not run.

NS - No standard.

ND - Not detected at analytical detection limit; see Appendix I for detection limit.

TABLE 4-5 (Page 2 of 2)

AUGUST 1989 SOIL/ASH SAMPLE DATA SUMMARY

Emerson Street Landfill NYSDEC I.D. No. 828023

SAMPLE No.: PARAMETER	P-1 (Ash)	GW-13 (Ash)	EPA MAXIMUM ALLOWABLE CONC.
METALS (ug/l)			
Aluminum	1170	1470	NS
Arsenic	61.1 N	3.6 b N w	5,000
Barium	880	1290	100,000
Beryllium	ND	1.8 b	NS
Cadmium	ND	9.6	1,000
Calcium	526000	635000	NS
Chromium	ND	ND	5,000
Cobalt	30.6 b	73.6	NS
Copper	9.9 b	29.7	NS
Iron	11200	52900	5,000
Lead	228	1280	NS
Magnesium	52400	48300	NS
Manganese	3360	5390	200
Mercury	0.23	ND	NS
Nickel	107	277	NS
Potassium	5280	11400	NS
Selenium	ND e N	ND e N	1,000
Silver	ND	6.0 b	5,000
Sodium	4620 b	31300	NS
Vanadium	14.3 b	23.9 b	NS
Zinc	4080	10400	NS

N - Spiked sample recovery is not within control limits.
e - Value estimated due to interference.
b - Value is less than the contract-required detection limit, but greater than the instrument detection limit.
ND - Not detected at analytical detection limit; see Appendix I for detection limit.
w - Post-digestion spike out of control limits; sample absorbance less than 50% of spike absorbance.
NS - No standard.
NR - Not run.

APPENDIX A

TEST BORING LOGS AND MONITORING WELL COMPLETION LOGS

Data by KPM

Sheet 1 of ___

SUBSURFACE EXPLORATION - TEST BORING LOG

Boring No. P-5
Project No. 576-005

Project Name EMERSON STREET

Client NYSDEC

Driller AMERICAN AUGER

Monitoring Instrument(s) ___

SAMPLE HAMMER

Weight — lb

Fall — in.

Date 7/26/89 start — 7/26/89 finish

Boring Location 210 Colfax - IMPOUND LOT

Total Depth 16'

Depth to Water 7.5 - 7.27'

Hole Diameter .7' - .3'

Ground Surface Elevation 535.8

Depth	BLOWS ON SAMPLER 0" to 6"	6" to 12"	12" to 18"	18" to 24"	Retained Sample	Recovery (feet)	Sample No.	Instrument Reading	Moisture Content	Stratigraphic Column	CLASSIFICATION OF MATERIAL (f - fine, m - medium, c - coarse; and - 35-50%, some - 20-35%, little - 10-20%, trace - 0-10%)	Remarks
											NO SAMPLING REQUIRED	
											AUGERED THROUGH SURFACE	
											GRAVEL TO DARK GREY	
											MIXED SAND, GRAVEL, SILT	
									DAMP		(FILL)	
									↓			
									MOIST			
										5	COBBLES - INTERMITTENT	
										7	LIGHT BROWN FINE-MEDIUM	
											SAND, SILT - NO REFUSE	
										10	COBBLES	
											REFUSAL AT 11	
											HO CORING FROM 11	
									MIN	ft.		
									3.75	12	BOULDER IN TIP OF BARREL	
									3.0	13		
									2.0	14	LIGHT BROWN CUTTING WATER	
									3.0	15		
									2.0	16	GREY DOLOMITE	
									3.0	17		
											HOLE OPEN TO 16.5' WATER @ 7.5'	
											SET 2" PVC MONITOR WELL AT 16'	
											#2 SANDPACK TO 4'	
											3/8" BENTONITE PELLETS TO 2'	
											PORTLAND CEMENT TO SURFACE	

LAWLER, MATUSKY & SKELLY ENGINEERS

Data by KPM

Sheet 1 of ___

SUBSURFACE EXPLORATION - TEST BORING LOG

Boring No. GW-12
Project No. 576-005

Project Name EMERSON STREET

Client NYSDEC

Driller AMERICAN AUGERS

Monitoring Instrument(s) DOSIMETER, MGA, HNU, CGI

SAMPLE HAMMER

Weight 140 lb

Fall 30 in.

Date 7/27/89 (start) ___ (finish)

Boring Location FIELD SOUTH of SCHOOL - BEHIND CANON

Total Depth 32

Depth to Water 22.86

Hole Diameter .7'-.3'

Ground Surface Elevation 344.2

Depth	BLOWS ON SAMPLER 0" to 6"	6" to 12"	12" to 18"	18" to 24"	Retained Sample	Recovery (feet)	Sample No.	Instrument Reading	Moisture Content	Stratigraphic Column	CLASSIFICATION OF MATERIAL (f - fine, m - medium, c - coarse; and - 35-50%, some - 20-35%, little - 10-20%, trace - 0-10%)	Remarks
0-2	3	3	6	8	—	1.3	1		DRY M. DENSE		BROWN SILTY SAND, ROOTS PLANT MATERIAL	
5-7	3	18	33	80	—	.2	2		DENSE MOIST	.5	BROWN - DARK BROWN SILTY SAND BLACK WOOD, SILT - PETROLEUM TYPE ODOR NO HNU DEFLECTION PUMPED WATER IN HOLE FOR SPARK ARRESTING	CGI - 100%
												HNU 2-500 ppm OD TO 200 ppm
10-12	14	14	24	26	—	.3	3		M. DENSE MOIST		BLACK, CINDERS, ASH, GLASS PLASTIC BAG PAPER PULP INCINERATOR REFUSE (POSSIBLE)	COMPACT
15-17	15	6	8	7	—	.1	4		M. DENSE WET		BLACK GREY MIXED FILL, GRAVEL WOOD - TOO LITTLE RECOVERY FOR COMPLETE DESCRIPTION	
20-22	10	10	8	5	—	0	5		M. DENSE		NO RECOVERY - SPOON ADVANCING THROUGH TRASH - POSSIBLE WIRE	
22-24	10	5	5	30/6	—	.3	6		LOOSE DENSE WET		GREY BROWN MIXED SAND, SILT BROKEN ROCK	
											REFUSAL AT 24.5' HO CORING BEGAN @ 24'	

LAWLER, MATUSKY & SKELLY ENGINEERS

Boringt No. GW-12
Project No. 576-005

Depth	BLOWS ON SAMPLER 0" to 6"	6" to 12"	12" to 18"	18" to 24"	Retained Sample	Recovery (feet)	Sample No.	Instrument Reading	Moisture Content	Stratigraphic Column	CLASSIFICATION OF MATERIAL (f - fine, m - medium, c - coarse; and - 35-50%, some - 20-35%, little - 10-20%, trace - 0-10%)	Remarks
									3.min	25	FILL TAKING ON WATER NONE RETURNING FROM HOLE STEEL, BRASS, METAL PIECES IN CORE BARREL	
									2.5m	26		
									3min	27	FULL 5' RECOVERY	
									2.0	28	GREY DOLOMITE - CARBONATE	
									1.5	29	PRECIPITATES BETWEEN	
									1.5	30	FRACTURES	
									2.0	31		
									2.5	32		
											2" PVC MONITOR WELL SET AT 32'	
											10' SLTED. 40 PVC SCREEN	
											#2 SAND TO 18.3'	
											BENTONITE PELLETS TO 17.36'	
											BENTONITE SLURRY TO 3'	
											PORTLAND CEMENT TO SURFACE	
											PROTECTIVE STEEL COLLAR	

Data by KPM

Sheet 1 of

SUBSURFACE EXPLORATION - TEST BORING LOG

Boring No. GW-13
Project No. 516-005

Project Name EMERSON STREET

Date 7/28/89 (start) _____ (finish)

Client NYS DEC

Boring Location SCHOOLFIELD - NORTH END

Driller AMERICAN AUGER

Total Depth 29.8

Monitoring Instrument(s) HNU, CGI, DOSIMETER, MSA

Depth to Water 22.14' BG.

SAMPLE HAMMER

Hole Diameter .7'-.3'

Weight 140 lb

Ground Surface Elevation 536.5

Fall 30 in.

Depth	Blows on Sampler 0" to 6"	6" to 12"	12" to 18"	18" to 24"	Retained Sample	Recovery (feet)	Sample No.	Instrument Reading	Moisture Content	Stratigraphic Column	Classification of Material (f - fine, m - medium, c - coarse; and - 35-50%, some - 20-35%, little - 10-20%, trace - 0-10%)	Remarks
0-2	4	8	10	10	—	1.3	1		M. DENSE DRY		PLANT MATERIAL, BROWN DRY SILTY SANDY LOAM MIXED GRAVEL	COHESIVE
										1.8	BLACK SILTY ASH, SLAG, CINDERS GLASS	
5-7	4	8	10	11	—	.4	2		M. DENSE MOIST		BLACK PLASTIC, CINDERS, SILT, GLASS	
10-12	14	24	45	17	—	.8	3		DENSE DRY		DARK FRIABLE FILL (CANS, GLASS, WOOD, PLASTIC, ASH & CINDER) SOME SILT, FINE SAND, LESS DENSE @ 12'	
15-17	24	18	17	21	—	.9	4		DENSE DRY		DARK FRIABLE FILL (GLASS, PLASTIC, FABRIC, ASH, CINDERS) SOME PEBBLES - FINE SAND, SILT //	COMPACT COBBLES
20-22	24	14	12	7	—	—	5		M. DENSE WET		NO RECOVERY - THROUGH FALLEN DEBRIS AUGER REFUSAL ±21.2'	
									MIN	21	CORING FROM 21.	
										22	CORE BARREL PLUGGED	
									3.0	23		
									1.5	24	GREY FRACTURED DOLOMITE	
									1.75	25	UNIFORM 95% RECOVERY	
									1.5	26		
									2.2	27	BOTTOM OF HOLE MEASURED	
									1.5	28	@ 29.8'	
									2.0	29		

LAWLER, MATUSKY & SKELLY ENGINEERS

Boringt No. GW-13
Project No. 576-005

Depth	BLOWS ON SAMPLER 0" to 6"	6" to 12"	12" to 18"	18" to 24"	Retained Sample	Recovery (feet)	Sample No.	Instrument Reading	Moisture Content	Stratigraphic Column	CLASSIFICATION OF MATERIAL f - fine m - medium c - coarse and - 35-50% some - 20-35% little - 10-20% trace - 0-10%	Remarks
											SET 2" PVC MONITORING WELL @ 29.8' 10' SCHED. 40 PVC SCREEN #2 SAND PACK TO 17.4' 3/8" BENTONITE PELLETS TO 16.3' BENTONITE SLURRY TO 1.4' PORTLAND CEMENT TO SURFACE PROTECTIVE STEEL CASING	

LAWLER, MATUSKY & SKELLY ENGINEERS

Data by KPM

Sheet 1 of ___

SUBSURFACE EXPLORATION - TEST BORING LOG

Boring No. P-3
Project No. 576-005

Project Name EMERSON STREET

Date 7/31/89 (start) ___ (finish)

Client NYSDEC

Boring Location SOUTH-BEHIND TRUCKING YARD

Driller AMERICAN AUGER

Total Depth 30.5'

Monitoring Instrument(s) HNU, CGI, MSA, DOSIMETER

Depth to Water 17.26 BG

SAMPLE HAMMER

Hole Diameter .1'-.3'

Weight — lb

Ground Surface Elevation 542.6

Fall — in.

Depth	BLOWS ON SAMPLER 0" to 6"	6" to 12"	12" to 18"	18" to 24"	Retained Sample	Recovery (feet)	Sample No.	Instrument Reading	Moisture Content	Stratigraphic Column	CLASSIFICATION OF MATERIAL (f - fine, m - medium, c - coarse; and - 35-50%, some - 20-35%, little - 10-20%, trace - 0-10%)	Remarks
									DRY	.2	DARK BROWN SILTY SANDY SOIL SIMILAR TO (TOPSOIL-LOAM)	
										1	COBBLES - ROCKS - BRICKS MIXED SOIL, SAND, GRAVEL	
										3.5	DRILLING BECAME EASIER - LESS DENSE	
									MOIST	12	DARK BROWN - GREY SILT MIXED W/ GLASS	COHESIVE
										15	REFUSAL ON AUGER USED HQ CORE FROM 15	
											15-15.5 VERY LOOSE MUDDY CUTTINGS	
									MIN	FT		
									1.5	15.5	REMOVED .5' CONCRETE CORE	
									3.5	16.5		
									2.5	17.5		
									2.5	18.5		
									2.4	19.5		
									2.5	20.5	PUMPED HOLE - NO WATER ENTERED	
									1.5	21.5		
									2.0	22.5	DOLOMITE - GREY	
									2.5	23.5	FEW FRACTURES - VERY COMPETENT	
									2.75	24.5	PUMPED HOLE - 2 FEET OF RECOVERY	
									5.0	25.5		

LAWLER, MATUSKY & SKELLY ENGINEERS

Boringt No. P-3
Project No. 576-005

Depth	BLOWS ON SAMPLER 0" to 6"	6" to 12"	12" to 18"	18" to 24"	Retained Sample	Recovery (feet)	Sample No.	Instrument Reading	Moisture Content	Stratigraphic Column	CLASSIFICATION OF MATERIAL (f - fine, m - medium, c - coarse; and - 35-50%, some - 20-35%, little - 10-20%, trace - 0-10%)	Remarks
									2.0	26.5	GREY DOLOMITE CLAY-SILT AT BOTTOM LITTLE f-c SAND MIXED IN CLAY	
									2.3	27.5		
									2.0	28.5		
									2.0	29.5		
									2.2	30.5		
											SATURATED ROCK HAS A MILD SULPHUR ODOR - PUMPED OUT HOLE	
											SET 2" PVC MONITOR WELL @ 30.5'	
											10' SLOTTED SCHED 40 SCREEN	
											PVC RISER TO SURFACE	
											#2 SAND PACK TO 13'	
											3/8" BENTONITE PELLETS 13-12.4'	
											BENTONITE SLURRY TO 4'	
											PORTLAND CEMENT TO SURFACE	
											STEEL PROTECTIVE CASING	

LAWLER, MATUSKY & SKELLY ENGINEERS

Data by KDM

Sheet 1 of 2

SUBSURFACE EXPLORATION - TEST BORING LOG

Boring No. P-1
Project No.

Project Name EMERSON STREET

Date 8/1/89 start — 8/1/89 finish

Client NYSDEC

Boring Location NE SECTOR - ROCHESTER PROD.

Driller AMERICAN AUGER

Total Depth 33.5'

Monitoring Instrument(s) HNU, CGI, NSA 361, DOSIMETER

Depth to Water 25.88

SAMPLE HAMMER

Hole Diameter .7'

Weight (auto) lb

Ground Surface Elevation 548.2

Fall 2 in.

Depth	BLOWS ON SAMPLER 0" to 6"	6" to 12"	12" to 18"	18" to 24"	Retained Sample	Recovery (feet)	Sample No.	Instrument Reading	Moisture Content	Stratigraphic Column	CLASSIFICATION OF MATERIAL (f - fine, m - medium, c - coarse; and - 35-50%, some - 20-35%, little - 10-20%, trace - 0-10%)	Remarks
											NO SAMPLING WAS REQ.	
										0	BROWN SILTY SAND, MIXED GRAVEL	
										3'	WOOD, GLASS, MIXED DEBRIS - (fill)	
										3.5	BLACK WOOD / CINDERS	SAMPLE RETAINED
									MOIST	6	BLACK WOOD & DEBRIS	
									DRY	10	DARK ASH, METAL DEBRIS	100% LEL
											INTRODUCED WATER IN BORING	18ppm HNU
									WET		CUTTINGS BLACK: WOOD, SILT	
										18	WOOD DEBRIS BLACK COLOR	INCREASED DENSITY
										21	WOOD DEBRIS -	
										24.5	REFUSAL ON BEDROCK	
										25.5	CORE BARREL PLUGGED	
										26.5	DOLOMITE GREY	
											SEVERAL SOLUTION VOIDS .75"	
									5min	27.5	GREY DOLOMITE (fine GRAIN)	
									3min	28.5	few fractures w/v. low	
									2.75min	29.5	WATER BEARING CAPACITY	
									3min	30.5	CARBONATE DEPOSITION - SOLUTION	
									3min	31.5	IN FRACTURES	
									2.5min	32.5	SMALL VOIDS - SOLUTION IN	
									2.5min	33.5	ROCK	

LAWLER, MATUSKY & SKELLY ENGINEERS

Boringt No. P-1
Project No. 576-005

Depth	BLOWS ON SAMPLER 0" to 6"	6" to 12"	12" to 18"	18" to 24"	Retained Sample	Recovery (feet)	Sample No.	Instrument Reading	Moisture Content	Stratigraphic Column	CLASSIFICATION OF MATERIAL (f - fine, m - medium, c - coarse; and - 35-50%, some - 20-35%, little - 10-20%, trace - 0-10%)	Remarks
											SET 2" PVC MONITOR WELL	
											@ 33.5'	
											10' 20 SLOT SCREEN	
											#2 SAND FROM 33.5-21.5	
											SCHED. 40 PVC RISER	
											3/8" BENTONITE PELLETS 21.5-19.5	
											70 GALS. BENTONITE SLURRY	
											2 BAGS HOLE PLUG ADDED	
											PORTLAND CEMENT FROM 6'	
											TO SURFACE	
											PROTECTIVE STEEL CASING	

LAWLER, MATUSKY & SKELLY ENGINEERS

Data by KPM

Sheet 1 of

SUBSURFACE EXPLORATION - TEST BORING LOG

Boring No. GW-11
Project No. 576-005

Project Name EMERSON STREET

Client NYSDEC

Driller AMERICAN AUGER

Monitoring Instrument(s) HNU, MGA, CELI DOSIMETER

SAMPLE HAMMER

Weight 140 lb

Fall 30 in.

Date 8/2/89 start — 8/2/89 finish

Boring Location PYRAMID BROKERAGE

Total Depth 15'

Depth to Water 6.64 BG.

Hole Diameter .7'

Ground Surface Elevation 532.6

Depth	BLOWS ON SAMPLER 0" to 6"	6" to 12"	12" to 18"	18" to 24"	Retained Sample	Recovery (feet)	Sample No.	Instrument Reading	Moisture Content	Stratigraphic Column	CLASSIFICATION OF MATERIAL (f - fine, m - medium, c - coarse; and - 35-50%, some - 20-35%, little - 10-20%, trace - 0-10%)	Remarks
0-2	10	8	8	5		.7	1		DRY		ANGULAR GRAVEL @ SURFACE (PROCESS)	
									LOOSE		SILT - FINE SAND W/ ANGULAR/	
											SUBANGULAR GRAVEL, SOME	
											ASPHALT MASSES (COHESIVE)	
										.3	METAL GRATING FRAGMENTS	
4-6	25	36	50/.05			.7	2		DRY		FINE SAND, BROKEN f-M GRAVEL	HNU -
											PULVERIZED COARSE- CONCRETE	3-5 ppm
											LOOSE SOME TARMACK FRAGMENTS	
										4.5	COBBLE	BOREHOLE
									MIN	ft	REFUSAL @ 5'	5-25 ppm
									5.25	6	RETRIEVED 1.5' DOLOMITE W/ UPPER	NO ODOR
									1.2	6.5	.2' CONCRETE NOTICEABLE OXIDATION	
											BETWEEN NUMEROUS FRACTURES	
									4.5	7.5		
									3.5	8.5	FRACTURED GREY DOLOMITE	
									3.0	9.5	SOLUTION CAVITIES NOTED	
									2.5	10.5	THROUGHOUT - (SMALL)	
									2.5	11.5		
									2.75	12.5		
									2.5	13.5		
									2.5	14.5		
									1.0	15.0		
											INSTALLED 2" PVC MONITOR WELL @ 15'	
											10' SLOTTED PVC SCREEN	
											#2 SAND TO 4', 3/8 BENTONITE PELLETS	
											TO 2' CEMENT GROUT TO SURFACE	
											PROTECTIVE STEEL CASING	

LAWLER, MATUSKY & SKELLY ENGINEERS

Data by FPM

Sheet 1 of

SUBSURFACE EXPLORATION - TEST BORING LOG

Boring No. P-4
Project No. 576-005

Project Name EMERSON STREET

Client NYSDEC

Driller AMERICAN AUGER

Monitoring Instrument(s) HNU, CGI, DOSIMETER, MSA

SAMPLE HAMMER

Weight – lb

Fall – in.

Date 8/2/89 start — 8/2/89 finish

Boring Location CENTRAL AREA - FEDERAL STANDING

Total Depth 16'

Depth to Water 8.41' BG.

Hole Diameter .7-.3'

Ground Surface Elevation 533.5

Depth	BLOWS ON SAMPLER 0" to 6"	6" to 12"	12" to 18"	18" to 24"	Retained Sample	Recovery (feet)	Sample No.	Instrument Reading	Moisture Content	Stratigraphic Column	CLASSIFICATION OF MATERIAL (f - fine, m - medium, c - coarse; and - 35-50%, some - 20-35%, little - 10-20%, trace - 0-10%)	Remarks
											NO SPLIT SPOON SAMPLES REQ. ALLOWED THROUGH BROWN SANDY, SILTY COVER MATERIAL ROOTS, GLASS, WEEDS ON SURFACE	
									MOIST		DARK BROWN - GREY SILTY SAND W/ANGULAR GRAVEL FEW INTERMITTENT COBBLY ZONES	COHESIVE
									NIN	4.	REFUSAL @ 6.0' - HD CORING	
									3.25	7.0		
									3.5	8.0	GREY DOLOSTONE - INTERMITTENT FRACTURE W/SOME CLAY INFILLINGS	
									2.0	9.0		
									3.25	10.0		
									2.75	11.0		
									1.75	12.0		
									2.5	13.0		
									3.0	14.0		
									3.5	15.0		
									2.0	16.0	* PVC MONITOR WELL INSTALLED 2 SAND TO 5' 10' 2" PVC WELL SCREEN 5/8" BENTONITE PELLET SEAL TO 3' PORTLAND CEMENT TO SURFACE PROTECTIVE STEEL CASING	

LAWLER, MATUSKY & SKELLY ENGINEERS

Data by M SNODGRASS

Sheet ___ of ___

SUBSURFACE EXPLORATION - TEST BORING LOG

Boring No. P-2
Project No. 576-005

Project Name EMERSON STREET

Client NYSDEC

Driller AMERICAN AUGER

Monitoring Instrument(s) HNU, MSA, CGI, DOSIMETER

SAMPLE HAMMER

Weight - lb

Fall - in.

Date 8/3/89 (start) ___ (finish)

Boring Location YELLOW FREIGHT

Total Depth 23.5

Depth to Water 13.91

Hole Diameter .7'-.3'

Ground Surface Elevation 546.4

Depth	BLOWS ON SAMPLER 0" to 6"	6" to 12"	12" to 18"	18" to 24"	Retained Sample	Recovery (feet)	Sample No.	Instrument Reading	Moisture Content	Stratigraphic Column	CLASSIFICATION OF MATERIAL (f - fine, m - medium, c - coarse; and - 35-50%, some - 20-35%, little - 10-20%, trace - 0-10%)	Remarks
											NO SAMPLING REQUIRED	
										0	VEGETATION, ROOTS, ORGANIC MATTER, LIGHT BROWN-TAN	
									DRY		FINE SAND, SILT & DRY SOME GRAVEL, COBBLES	
									MOIST	2	DARK SAND, SILT, SOME GRAVEL	
										4	OILY ODOR - DARK SILTS, FINE SANDS SOME GRAVEL & COBBLES	HNU=30ppm
										6	ANGULAR GRAVEL/COBBLES (FILL) LIGHT BROWN	
									DRY			
									MOIST	10	SAND, SILT, GRAVEL & COBBLES	COHESIVE HNU = 3.ppm
									WET	11	DARK BROWN-BLACK FINE SAND & SILTS	
									WET	13	DARK BROWN-GREY FINE SAND, SILT (WELL SORTED)	
										13.5	REFUSAL	
									MIN	FT.		
									3.0	14.5		
									3.0	15.5	LIGHT GREY DOLOMITE	
									3.0	16.5	SMALL SOLUTION CAVITIES	
									2.5	17.5		
									3.0	18.5		
									2.5	19.5		
									3.0	20.5		

LAWLER, MATUSKY & SKELLY ENGINEERS

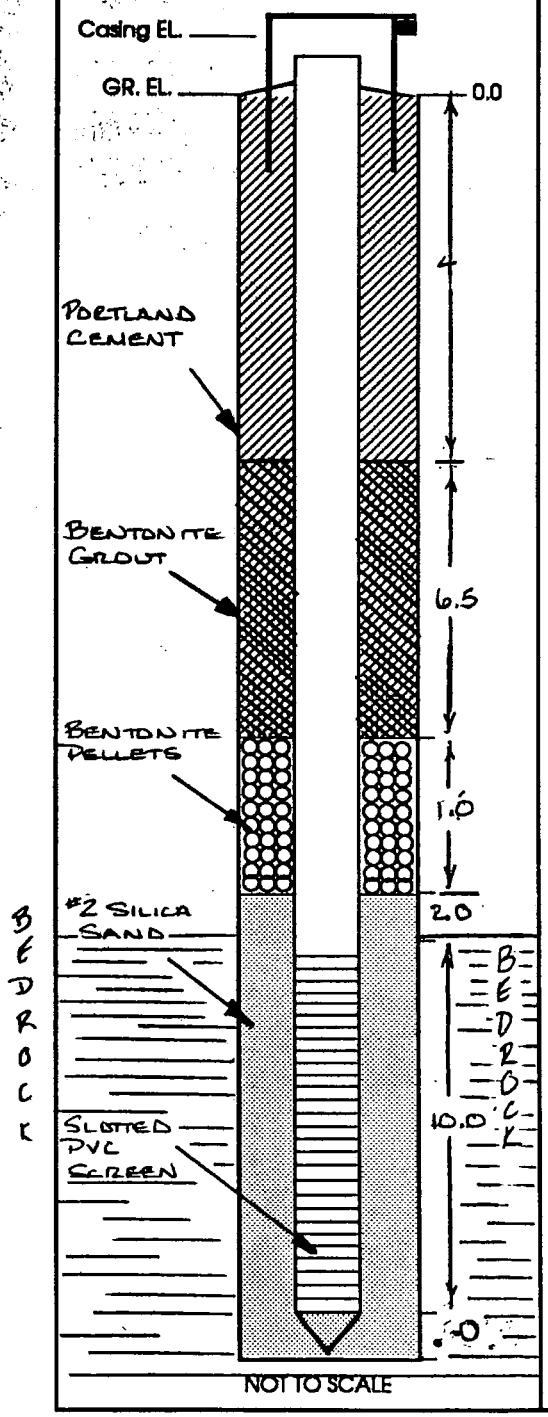
Boringt No. P-2
Project No. 576-005

Depth	BLOWS ON SAMPLER 0" to 6"	6" to 12"	12" to 18"	18" to 24"	Retained Sample	Recovery (feet)	Sample No.	Instrument Reading	Moisture Content	Stratigraphic Column	CLASSIFICATION OF MATERIAL (f - fine, m - medium, c - coarse; and - 35-50%, some - 20-35%, little - 10-20%, trace - 0-10%)	Remarks
									3.6	21.5		
									3.0	22.5		
									2.5	23.5		
											SET 2" PVC SCHED 40 MONITORING WELL @ 23.5	
											10' SLOTTED SCREEN .010	
											SAND #2 TO 11.5'	
											3/8 BENTONITE PELLETS TO 10.5	
											BENTONITE GROUT TO 4'	
											PORTLAND CEMENT TO SURFACE	
											STEEL PROTECTIVE SLEEVE	

Well No. P-C
Project No. 576-004
Project Name EMERSON STREET
Client NYS DEC
Location YELLOW FREIGHT
Date Drilled 8/3/89
Date Developed
Developing Method CENTRIFUGAL PUMP
Well Construction Completed PVC SCHED 40

MONITORING WELL COMPLETION LOG

WELL CONSTRUCTION DETAIL



Inspector M. SNODGRASS
Drilling Contractor AMERICAN AUGER

Type of Well PVC INTERFACE
Static Water Level _____ Date _____
Measuring Point (M.P.) _____
Total Depth of Well 23.5'
Total Depth of boring 23.5'

Drilling Method
Type WET/DRY ROTARY Diameter _____
Casing HSA 4¼" I.D. HQ FW 3 7/8" O.D

Sampling Method
Type BAILER Diameter 1.6-1.9" OD
Weight — Fall —
Interval MID.

Riser Pipe Left in Place
Material PVC SCHED 40 Diameter 2.049" I.D.
Length ± 15' Joint Type THREADED FLUSH

Screen
Material PVC SCHED 40 Diameter 2.049" I.D.
Slot Size 0.010" Length 10.0'
Stratigraphic Unit Screened LOCKPORT DOLOSTONE

Filter Pack
Sand ✓ Gravel _____ Natural _____
Grade #2
Amount 2-300 lbs Interval 23.5'-11.5'

Seal(s)
Type 3/8" BENTONITE Interval 11.5'-10.5'
Type VOLCLAY GROUT Interval 10.5'-4.0'
Type _____ Interval _____

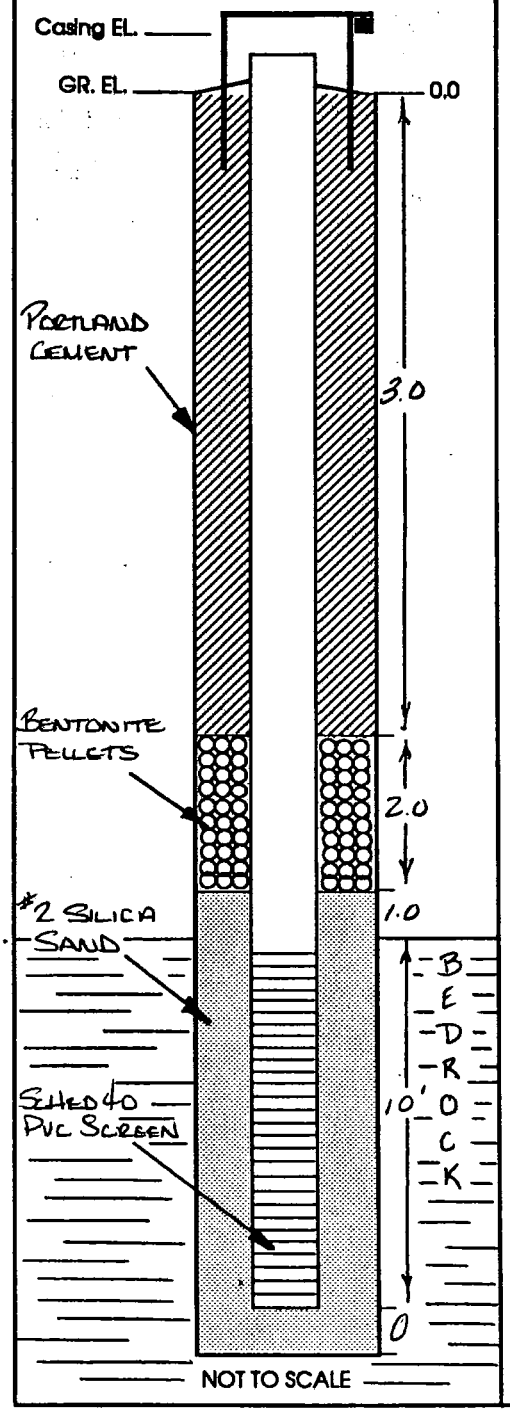
Locking Casing ☑ Yes ☐ No
Notes:

LAWLER, MATUSKY SKELLY ENGINEERS

Well No. P-4
Project No. S16-005
Project Name EMERSON STREET
Client NYSDEC
Location CENTRAL AREA - FEDERAL STAMPING
Date Drilled 8/2/89
Date Developed
Developing Method CENTRIFUGAL PUMP
Well Construction Completed 8/2/89

MONITORING WELL COMPLETION LOG

WELL CONSTRUCTION DETAIL



NOT TO SCALE

Inspector K. McCARTY
Drilling Contractor AMERICAN AUGER

Type of Well INTERFACE - BEDROCK/OVERBURDEN
Static Water Level _____ Date _____
Measuring Point (M.P.)
Total Depth of Well 16'
Total Depth of boring 16'

Drilling Method
Type DRY/WET ROTARY Diameter 4¼" I.D. – 3⅞" O.D.
Casing HSA – HQ

Sampling Method
Type SPLIT SPOON Diameter 1⅜" OD
Weight 140 Fall 30"
Interval 5'

Riser Pipe Left in Place
Material PVC SCHED 40 Diameter 2.375" O.D.
Length 6' Joint Type THREADED FLUSH

Screen
Material SCHED 40 PVC Diameter 2.375" O.D.
Slot Size 0.010" Length 10'
Stratigraphic Unit Screened BEDROCK / fill

Filter Pack
Sand ✓ Gravel _____ Natural _____
Grade #2 SILICA SAND
Amount ≈ 250 lb. Interval 16-5'

Seal(s)
Type BENTONITE PELLETS Interval 5-3'
Type _____ Interval _____
Type _____ Interval _____

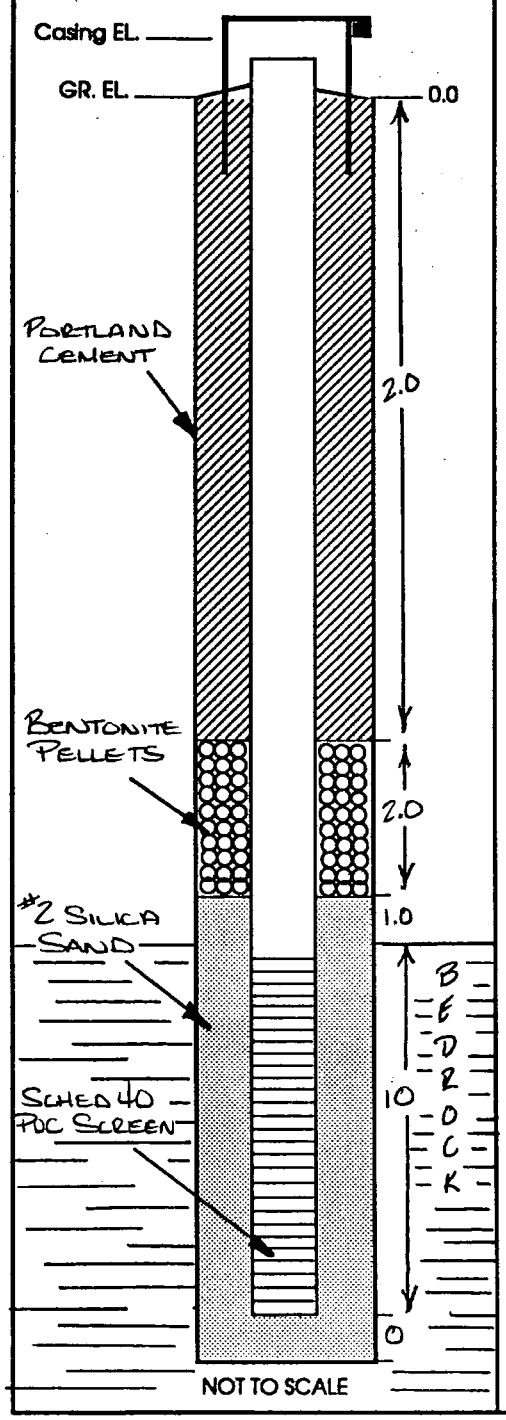
Locking Casing ☑ Yes ☐ No
Notes:

LAWLER, MATUSKY SKELLY ENGINEERS

Well No. GW-[illegible]
Project No. 516-005
Project Name EMERSON STREET
Client NYS DEC
Location BRAMID BROKERAGE YARD
Date Drilled 8/2/89
Date Developed
Developing Method CENTRIFUGAL PUMP
Well Construction Completed 8/2/89

MONITORING WELL COMPLETION LOG

WELL CONSTRUCTION DETAIL



Inspector K. McCARTY
Drilling Contractor AMERICAN AUGER

Type of Well INTERFACE - BEDROCK / FILL
Static Water Level _____ Date _____
Measuring Point (M.P.) _____
Total Depth of Well 15'
Total Depth of boring 15'

Drilling Method
Type DRY/WET ROTARY Diameter 4 1/4" I.D. – 3 7/8" O.D.
Casing HSA - HQ

Sampling Method
Type SPLIT SPOON Diameter 1 3/8" I.D
Weight 140 Fall 30"
Interval 5'

Riser Pipe Left in Place
Material SCHED 40 PVC Diameter 2.375" O.D.
Length 5' Joint Type THREADED FLUSH

Screen
Material SCHED 40 PVC Diameter 2.375" O.D.
Slot Size 0.010" Length 10'
Stratigraphic Unit Screened BEDROCK / FILL

Filter Pack
Sand ✓ Gravel _____ Natural _____
Grade #2 SILICA SAND
Amount ± 250 LBS Interval 15-4'

Seal(s)
Type BENTONITE PELLETS Interval 4'-2'
Type _____ Interval _____
Type _____ Interval _____

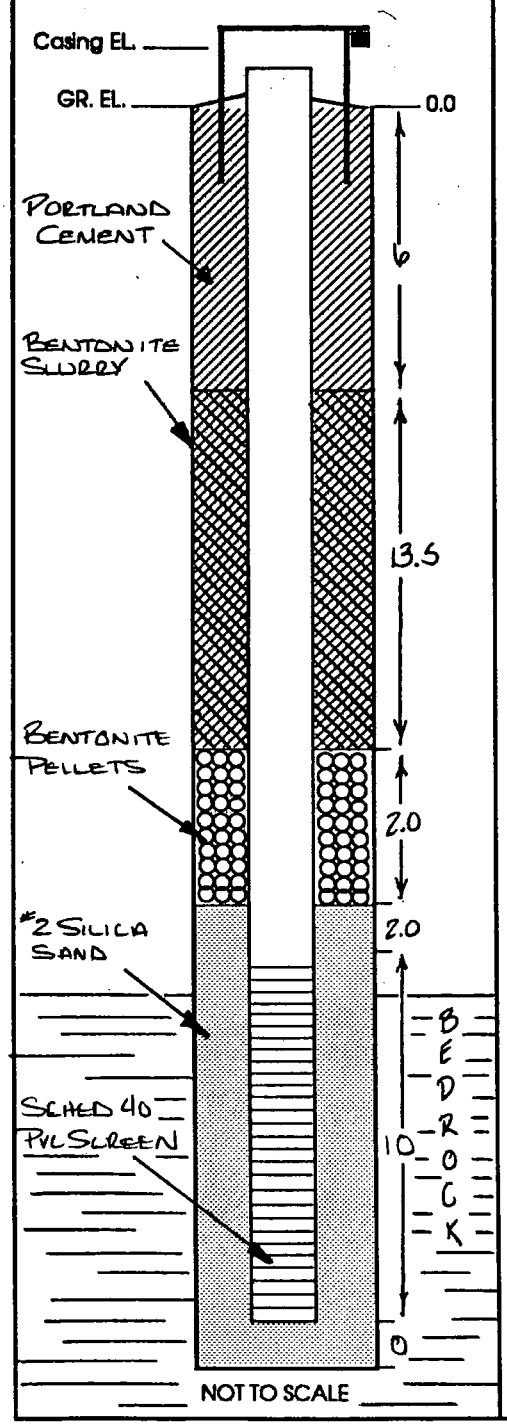
Locking Casing ☑ Yes ☐ No
Notes:

LAWLER, MATUSKY SKELLY ENGINEERS

Well No. [illegible]
Project No. 576-004
Project Name ENERSON STREET
Client NYSDEC
Location ROCHESTER PROD.-NE SECTOR
Date Drilled 8/1/89
Date Developed
Developing Method CENTRIFUGAL PUMP
Well Construction Completed 8/1/89

MONITORING WELL COMPLETION LOG

WELL CONSTRUCTION DETAIL



Inspector K. McCARTY
Drilling Contractor AMERICAN AUGER

Type of Well INTERFACE - OVERBURDEN/BEDROCK
Static Water Level _____ Date _____
Measuring Point (M.P.)
Total Depth of Well 33.5'
Total Depth of boring 33.5'

Drilling Method
Type DRY/WET ROTARY Diameter 4¼" I.D. - 3⅞" O.D.
Casing HSA - HO

Sampling Method
Type SPLIT SPOON Diameter 1⅜" I.D.
Weight 140 Fall 30"
Interval 5'

Riser Pipe Left In Place
Material SCHED 40 PVC Diameter 2.375" O.D.
Length 24.5' Joint Type THREADED FLUSH

Screen
Material SCHED 40 PVC Diameter 2.375" O.D.
Slot Size 0.010" Length 10.0'
Stratigraphic Unit Screened BEDROCK / FILL

Filter Pack
Sand ✓ Gravel _____ Natural _____
Grade #2 SAND (SILICA)
Amount ≈ 250 lb. Interval 33.5 - 21.5'

Seal(s)
Type BENTONITE PELLETS Interval 21.5 - 19.5
Type BENTONITE SLURRY Interval 19.5 - 6.0'
Type _____ Interval _____

Locking Casing ☑ Yes ☐ No
Notes:

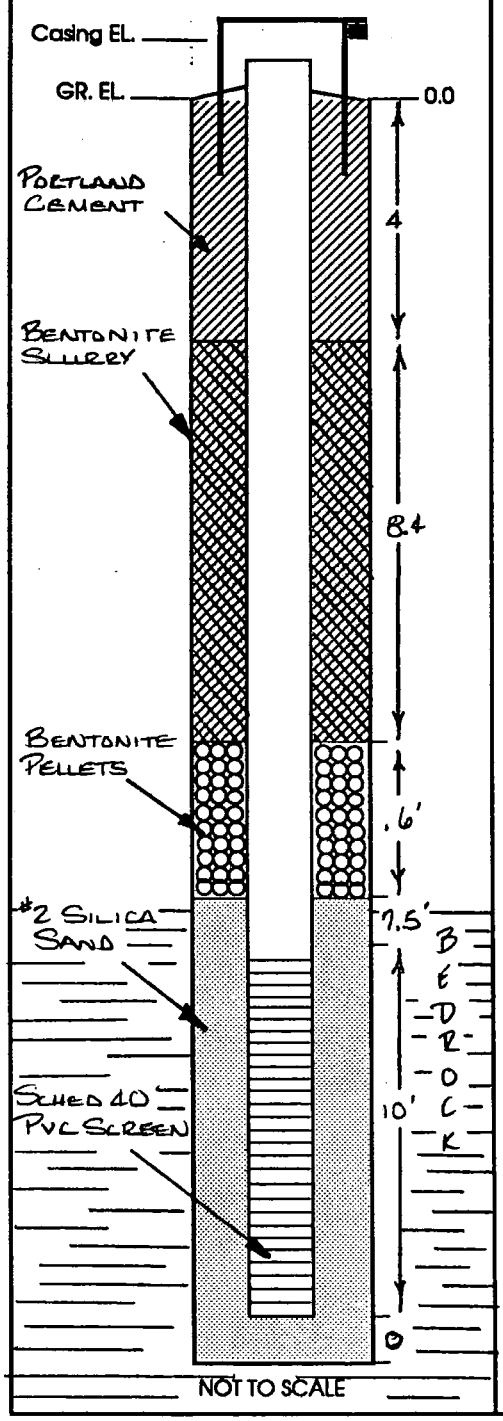
LAWLER, MATUSKY SKELLY ENGINEERS

Well No. [illegible]
Project No. 576-008

MONITORING WELL COMPLETION LOG

Project Name: EMERSON STREET
Client: NYS DEC
Location: SOUTH BEHIND TRUCKING YARD
Date Drilled: 1/31/89
Date Developed:
Developing Method: CENTRIFUGAL PUMP
Well Construction Completed: 1/31/89

WELL CONSTRUCTION DETAIL



Inspector: KEVIN MCCARTY
Drilling Contractor: AMERICAN AUGER

Type of Well: OPEN SANDPACK BEDROCK
Static Water Level: _____ Date: _____
Measuring Point (M.P.): _____
Total Depth of Well: 30.5'
Total Depth of boring: 30.5'

Drilling Method
Type: DRY / WET ROTARY Diameter: 2.375" O.D.
Casing: HSA 4¼", 3⅝" HO

Sampling Method
Type: SPLIT SPOON Diameter: 1⅜" I.D.
Weight: 140 Fall: 30"
Interval: 5'

Riser Pipe Left in Place
Material: SCHED 40 PVC Diameter: 2.375" O.D.
Length: 21' Joint Type: THREADED FLUSH

Screen
Material: SCHED 40 PVC Diameter: 2.375" O.D.
Slot Size: 0.010" Length: 10'
Stratigraphic Unit Screened: BEDROCK

Filter Pack
Sand: ✓ Gravel: _____ Natural: _____
Grade: #2 SILICA SAND
Amount: ±300 LB. Interval: 30.5-13'

Seal(s)
Type: BENTONITE PELLETS Interval: 13-12.4'
Type: BENTONITE SLURRY Interval: 12.4-4'
Type: _____ Interval: _____

Locking Casing ☑ Yes ☐ No
Notes:

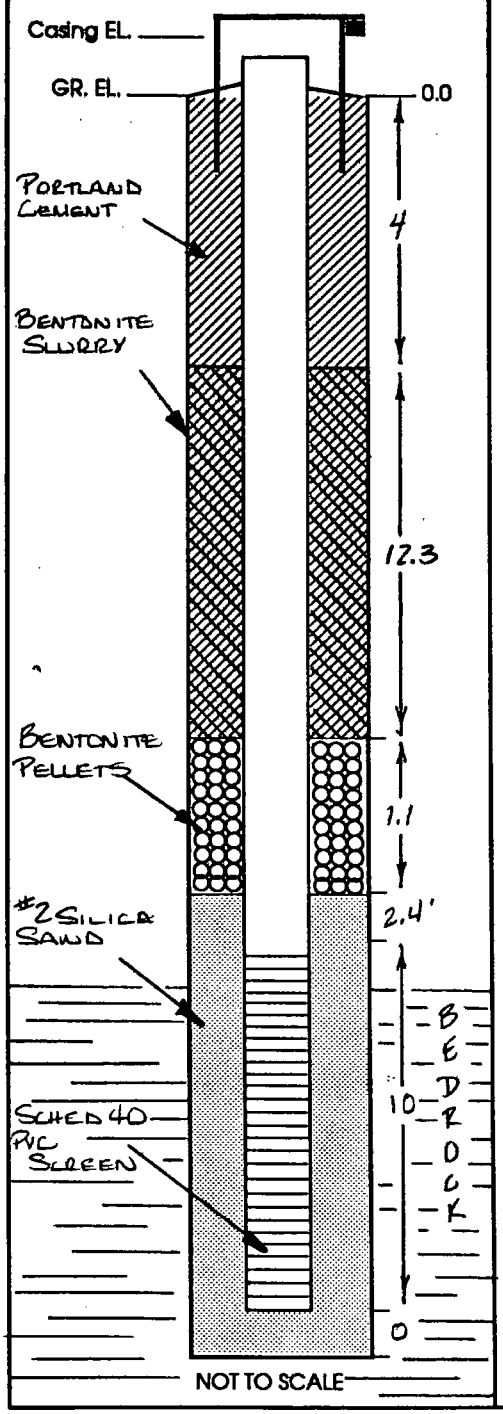
LAWLER, MATUSKY SKELLY ENGINEERS

Well No. GW-[illegible]
Project No. 516-005

MONITORING WELL COMPLETION LOG

Project Name ENERSON STREET
Client NYSDEC
Location SCHOOLFIELD (NORTH ON SITE)
Date Drilled 7/28/89
Date Developed
Developing Method CENTRIFUGAL PUMP
Well Construction Completed 7/28/89

WELL CONSTRUCTION DETAIL



Inspector K. McCARTY
Drilling Contractor AMERICAN AUGER

Type of Well INTERFACE - BEDROCK / OVERBURDEN
Static Water Level _____ Date _____
Measuring Point (M.P.)
Total Depth of Well 29.8'
Total Depth of boring 29.8'

Drilling Method
Type DRY/WET ROTARY Diameter 4¼" I.D - 3⅞" O.D.
Casing HSA - HQ

Sampling Method
Type SPLIT SPOON Diameter 1⅜"
Weight 140 Fall 30"
Interval 5'

Riser Pipe Left in Place
Material SCHED 40 PVC Diameter 2.375" O.D.
Length 20' Joint Type THREADED FLUSH

Screen
Material SCHED 40 PVC Diameter 2.375" O.D.
Slot Size 0.010" Length 10.0'
Stratigraphic Unit Screened BEDROCK - FILL

Filter Pack
Sand ✓ Gravel _____ Natural _____
Grade #2 SILICA SAND
Amount ±300 lbs Interval 29.8'-17.4'

Seal(s)
Type BENTONITE PELLETS Interval 17.4'-16.3'
Type BENTONITE SLURRY Interval 16.3'-4'
Type _____ Interval _____

Locking Casing ☑ Yes ☐ No
Notes:

LAWLER, MATUSKY SKELLY ENGINEERS

Well No. GW-16
Project No. 516-005

MONITORING WELL COMPLETION LOG

Project Name EMERSON STREET

Client NYSDEC

Location WEST OF CANON / SOUTH of SCHOOL

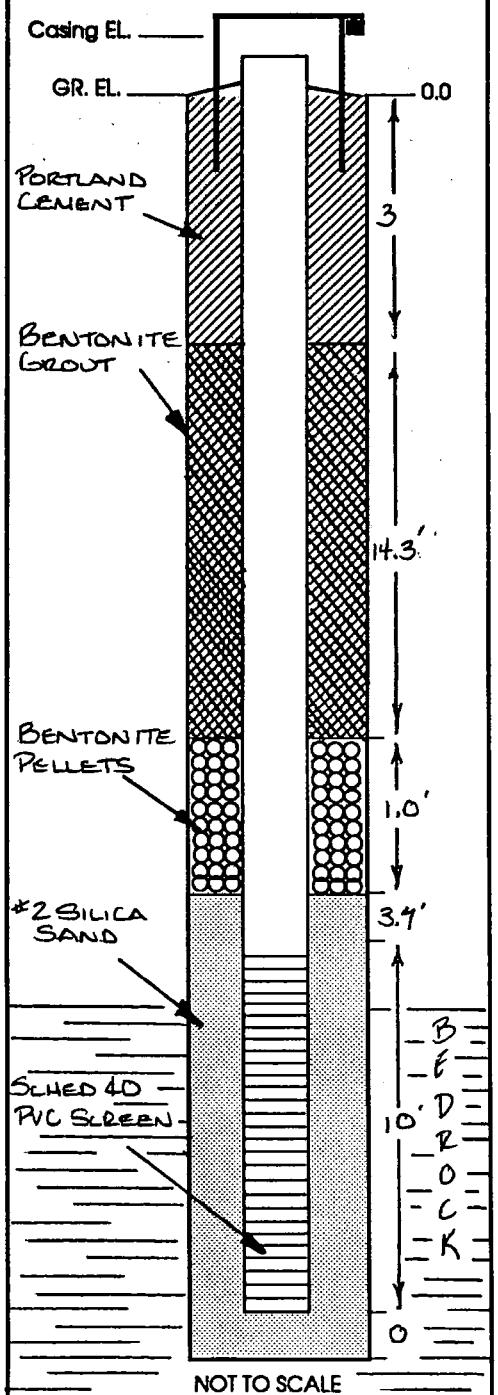
Date Drilled 7/27/89

Date Developed

Developing Method CENTRIFUGAL PUMP

Well Construction Completed 7/27/89

WELL CONSTRUCTION DETAIL



Inspector KEVIN McCARTY
Drilling Contractor AMERICAN AUGER

Type of Well INTERFACE - BEDROCK/OVERBURDEN
Static Water Level _____ Date _____
Measuring Point (M.P.)
Total Depth of Well 32'
Total Depth of boring 32

Drilling Method
Type DRY/WET ROTARY Diameter 4¼" I.D - 3⅞" I.D
Casing HSA - 40

Sampling Method
Type SPLIT SPOON Diameter 1⅜" I.D
Weight 140 Fall 30"
Interval 5'

Riser Pipe Left in Place
Material PVC SCHED 40 Diameter 2.375" O.D.
Length ≈ 8' Joint Type THREADED FLUSH

Screen
Material PVC SCHED 40 Diameter 2.375" O.D.
Slot Size 0.010" Length 10.0'
Stratigraphic Unit Screened BEDROCK - FILL

Filter Pack
Sand ✓ Gravel _____ Natural _____
Grade #2 SILICA
Amount 530 lbs. Interval 32-18.3'

Seal(s)
Type BENTONITE PELLETS Interval 18.36-17.26'
Type BENTONITE SLURRY Interval 17.36-3.0'
Type _____ Interval _____

Locking Casing ☑ Yes ☐ No
Notes:

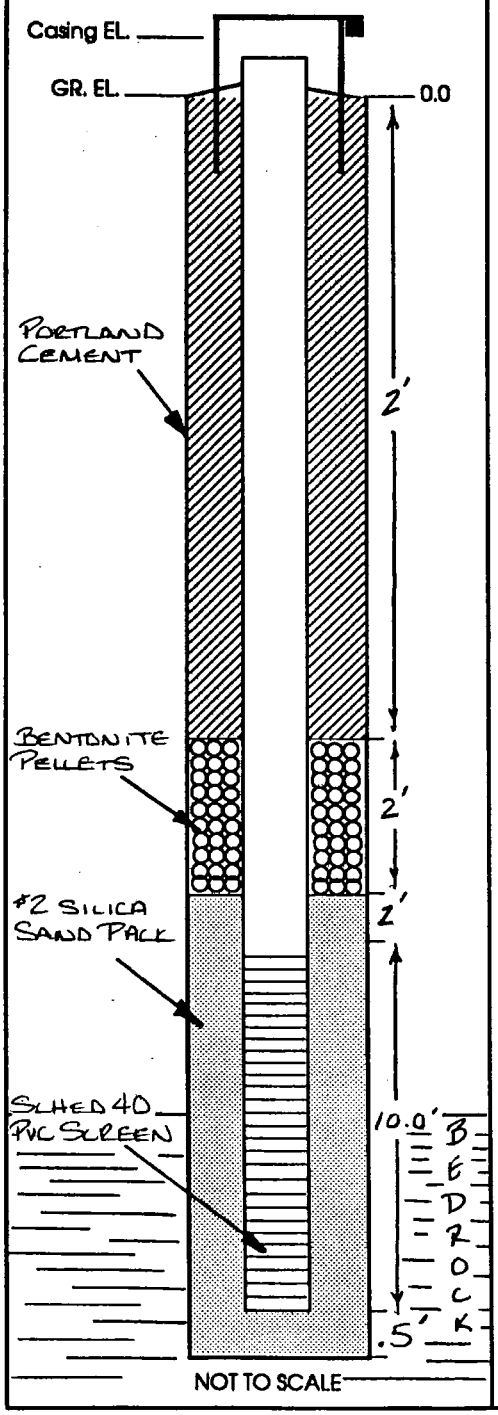
LAWLER, MATUSKY SKELLY ENGINEERS

Well No. 1-5
Project No. 516-005

MONITORING WELL COMPLETION LOG

Project Name EMERSON STREET
Client NYSDEC
Location 210 COLFAX - IMPOUND LOT
Date Drilled 7/26/89
Date Developed
Developing Method CENTRIFUGAL PUMP
Well Construction Completed 7/26/89

WELL CONSTRUCTION DETAIL



Inspector KEVIN McCARTY
Drilling Contractor AMERICAN AUGER

Type of Well INTERFACE / BEDROCK - OVERBURDEN
Static Water Level _____ Date _____
Measuring Point (M.P.)
Total Depth of Well 16'
Total Depth of boring 16.5'

Drilling Method
Type WET / DRY ROTARY Diameter 3 7/8" - 4 1/4" I.D.
Casing HQ CASING / HSA

Sampling Method
Type SPLIT SPOON Diameter 1 3/8" I.D.
Weight 140 Fall 30"
Interval 5'

Riser Pipe Left in Place
Material PVC SCHED 40 Diameter 2.375" O.D.
Length 8' Joint Type THREADED FLUSH

Screen
Material PVC SCHED 40 Diameter 2.375" O.D.
Slot Size 0.010" Length 10.0'
Stratigraphic Unit Screened BEDROCK - OVERBURDEN

Filter Pack
Sand ✓ Gravel _____ Natural _____
Grade #2 SILICA
Amount ±300 LBS Interval 16.5' - 4'

Seal(s)
Type BENTONITE PELLETS Interval 4-2'
Type _____ Interval _____
Type _____ Interval _____

Locking Casing ☑ Yes ☐ No
Notes:

LAWLER, MATUSKY SKELLY ENGINEERS

APPENDIX B

FIELD METER CALIBRATION DATA SHEETS

[redacted]w: [redacted]/K[redacted]
Date: 7/26/89
Job No: 576-005

[redacted] LA[redacted], M[redacted]SKY [redacted]KEL[redacted]NGI[redacted]RS [redacted] S[redacted] E[redacted]n S[redacted]

FIELD METER CALIBRATION AND/OR CHECK
DATA SHEET

Oper: MS/KPM
Calib. By: KPM

METER No./ PROBE No.	TIME	THERM No./ TEMP. (°F)		EXPECTED VALUE	OBSERVED VALUE	ADJ TO[a]	% DIFF.[b]	COMMENTS
MSA 361 Dec#1143	0853	#891072	81°					
		RH	69.6					
			TOX	60ppm	87ppm	60ppm		
			O2	15%	15.4%	15%		
			LEL	[struck].50%	[struck]17.6%	[struck]50%		Span 9.8 → 7.58
801446 HNU DEC	0911			58	46 → 58			LEL Sensor not working at all

[a] For dissolved oxygen and pH meter calibrations, record adjustments (include % and ppm readings for dissolved oxygen meter calibration).

[b] Include % Diff. calculation for conductivity calibration checks: $\% \text{ Diff} = \frac{Ex - Ob}{Ex} \times 100$

Crew: MS
Date: 7/27/89
Job No: 576-005

LAWLER, MATUSKY & SKELLY ENGINEERS
FIELD METER CALIBRATION AND/OR CHECK
DATA SHEET

Site: EMERSON ST.
Oper: KPM, MS
Calib. By: KPM

METER No./ PROBE No.	TIME	THERM No./	TEMP. (°C)	EXPECTED VALUE		OBSERVED VALUE		ADJ TO[a]		% DIFF.[b]	COMMENTS
10 NYSDEC 801446 HNU	0759	82°	68%	58	@ 7.58	66 ppm		58	@ 8.45		
MSA 361 1143	0812	83	70%	O_2 15%		15.8%		NO			
				LEL 50%		0					LEL SENSOR NOT OPERATING
				H_2S 60 ppm		66		60			
3309-60 THERMOMETER											

[a]For dissolved oxygen and pH meter calibrations, record adjustments (include % and ppm readings for dissolved oxygen meter calibration).

[b]Include % Diff. calculation for conductivity calibration checks: $\% \text{ Diff} = \frac{Ex - Ob}{Ex} \times 100$

Crew: [redacted]
Date: 7/28/89
Job No: 576-005

LAWLER, MATUSKY & SKELLY ENGINEERS
FIELD METER CALIBRATION AND/OR CHECK
DATA SHEET

Site: EMERSON STREET
Oper: RM MS
Calib. By: RM MS

METER No./ PROBE No.	TIME	THERM No./ TEMP. (°C)		EXPECTED VALUE	OBSERVED VALUE	ADJ. TO[a]	% DIFF.[b]	COMMENTS
DOSMETER								DUE FOR CALIBRATION 1/9/89
MSA 361 #1143	0838	70°	H_2S	60 ppm	60	No		LEL SENSOR NOT OPERATING
			LEL	50%	0%			
			O_2	15%	16%	No		
ANU 801446	0841	71		58	56-58	No		LEAVE SPAN @ 8:46

[a] For dissolved oxygen and pH meter calibrations, record adjustments (include % and ppm readings for dissolved oxygen meter calibration).

[b] Include % Diff. calculation for conductivity calibration checks: $\% \text{ Diff} = \frac{Ex - Ob}{Ex} \times 100$

LAWLER, MATUSKY & SKELLY ENGINEERS
ENVIRONMENTAL SCIENCE & ENGINEERING CONSULTANTS
ONE BLUE HILL PLAZA
POST OFFICE BOX 1509
PEARL RIVER, NEW YORK 10965

BY _____ DATE _____ SHEET NO. _____ OF _____
CHKD. BY _____ DATE 7/31/85 JOB NO. 576-005
SUBJECT Emerson St.

METER No.	THERM TEMP °C	EXPECTED VALUE	OBSERVED VALUE	ADJ TO	COMMENTS
DOSIMETER					Dose for Calib.
MSA 361 #1143		O_2 = 14-17%	16.2%		No Adj
		LEL —			NOT OPERATING
		H_2S 60ppm	→ .49	→ 60	
GASTECK GX-3 CMS	LEL	50%	→ 50%		
HNU 801446		58ppm	56ppm		No Adj.
THERMO-HYGROMETER 3309-60		26°C			
		RH 50.5%			
THERM. # 690		22.4			

BY _____ DATE 8/1/89 LAWLER, MATUSKY & SKELLY ENGINEERS SHEET NO. _____ OF _____

ENVIRONMENTAL SCIENCE & ENGINEERING CONSULTANTS JOB NO. 576.005

ONE BLUE HILL PLAZA
POST OFFICE BOX 1509
PEARL RIVER, NEW YORK 10965

CHKD. BY _____ DATE _____

SUBJECT Emerson Street

METER	TEMP.	OBSERVED	EXPECTED	ADJ.	Comments
MSA 361 1143	H_2S	68	60 ppm	to 60	
	O_2	16.1	14-17%		
	LEL				NOT OPERAT
GAS TECH GX-3	LEL	95%	50%	up	
HNU 80146		5.2 ppm	56 ppm @ 8.45	→ 8.35	
THERMOHYGROMETER 3309-60					
THERM. #690					
DOSIMETER					DUE FOR CALIBRATI
pH pen # CP33	of STANDARDS 22.3°c	4.0	4	NO ADJ	
		7.0	7		
		9.9	10		
# CP22		4.0	4		
		7.0	7		
TURBIDIMETER DRT 15C		10.0	10		
		1.0-1.1	1.0	NO ADJ	

BY _____ DATE 8/2/89

CHKD. BY _____ DATE _____

LAWLER, MATUSKY & SKELLY ENGINEERS

ENVIRONMENTAL SCIENCE & ENGINEERING CONSULTANTS

ONE BLUE HILL PLAZA
POST OFFICE BOX 1509
PEARL RIVER, NEW YORK 10965

SHEET NO. _____ OF _____

JOB NO. S16-005

SUBJECT EMERSON STREET - CALIBRATION SHEET

TIME: 0800 TEMP 70°F RH: 82.7

H-NU DEC #801446 — read: 58 ppm

DOSIMETER 3700

GAS TECH GV-3 — LEL 50% — WILL NOT GO BACK TO ZERO

O_2 15% maximum adjustment

15

MSA — H_2S - read: 57 adj: 60

Cr - read: 16.6

LEL - NON OPERATING

TURBIDMETER — 1.0 - 1.8 → 1.0

THERMOHYGROMETER

APPENDIX C

FIELD SAMPLING LOGS AND CREW CHIEF REPORTS

WELL SAMPLING LOG

Date: 8/9/89

Crew: JAC CH KMC

Job No: 576 - 005

Project: NYS DEC

Project Site: Emerson St.

METERS USED

Temp: HHT-2

pH: CP-56

Cond: TLC

Turb:

Well ID No: GW-01

Well Condition: Good

Well Depth/Diameter: 29.97'/2"

Well Casing Type: PVC

Screened Interval: —

Casing Ht/Lock No: Steel: 2.9' PVC:

Reference Pt: Top of PVC

Depth to Water (DTW): 19.90'

Water Column; Ht/Vol: 10.07'/1.65 gals

Purge Est: 11 gals

Purge Date/Time(s): 8/9/89 0907 - 0920

Purge Method: Cent. pump

Purge Depth(s): Surf → Bott (Oryness)

Purge Rates (gpm): 1 gpm

Purged Volume: 3.5

DTW After Purging: 27.70'

Yield Rate: L-M-H —

Purge Observations: Water cloudy - milky

PURGE CHEMISTRIES

VOL.	TEMP. (°C)	pH	SP. COND.	TURB.
3.5 gal	17.3	6.3	120	165

DTW Before Sampling: 20.00'

Sample Date/Time(s): 8/9/89 1405 - 1415

Sampling Method: PVC Bailers

Sampling Depth(s): Mid Column

DTW After Sampling: 25.34'

Sampling Observations: Clear no odor

Chain-of-Custody No(s): 012771

Analytical Lab(s): Compuchem

WET SAMPLE CHEMISTRIES

	Temp. (°C)	pH	Sp. Cond.	Turb.
Before	—	—	—	3.79
After	11.5	7.3	156	84

SAMPLE ANALYSES

Parameters	Inv. No.	Pres. Meth.	Filt. (Y/N)
VOA	2	4°C	N
BN/AE	3	↓	↓
PCB/Pest	2	↓	↓
Metals	1	HNO_3	↓
Cyanide	1	NaOH	↓

Comments:

Air Temp: 70°

Weather Conditions: Clear, wind 0-5 mp

WELL SAMPLING LOG

Date: 8/9/89

Crew: JAC CH KMcG

Job No: 576 - 005

Project: NYS DEC

Project Site: Emerson St.

METERS USED

Temp: HHT -2

pH: CP 56

Cond: TAC DEC 560

Turb: DRT 15C

Well ID No: GW-02

Well Condition: Good

Well Depth/Diameter: 28.38'/3"

Well Casing Type: PVC

Screened Interval: —

Casing Ht/Lock No: PVC: 0.22'

Reference Pt: Top of PVC

Depth to Water (DTW): 16.43'

Water Column; Ht/Vol: 11.95'/4.39 gals

Purge Est: 12 gals

Purge Date/Time(s): 8/9/89 0940 - 0947

Purge Method: Cent. pump

Purge Depth(s): Surf -> Bot.

Purge Rates (gpm): 3 gpm

Purged Volume: 14 gals

DTW After Purging: 18.23'

Yield Rate: L-M-H —

Purge Observations: Strong sulfur odor started grey flow clear, odor subsided Notice bentonite on flow valve + sink meter.

PURGE CHEMISTRIES

VOL.	TEMP. (°C)	pH	SP. COND.	TURB.
4 gals	12.5	6.8	1816	<200
8 gals	—	—	—	66
14 gals	11.6	7.4	272	18

Comments:

DTW Before Sampling: 16.84'

Sample Date/Time(s): 8/9/89 1320 - 133

Sampling Method: PVC Bailer

Sampling Depth(s): Mid Column

DTW After Sampling: 20.24'

Sampling Observations: Clear sulfur od

Chain-of-Custody No(s): 012808

Analytical Lab(s): Compuchem

WET SAMPLE CHEMISTRIES

	Temp. (°C)	pH	Sp. Cond.	Turb.
Before	-	-	-	17.
After	11.0	7.9	256	147

SAMPLE ANALYSES

Parameters	Inv. No.	Pres. Meth.	Filt. (Y/N)
VOA	2	4°C	N
BN/AE	3	↓	↓
PCB/Pest	2	↓	↓
Metals	1	HNO_3	↓
Cyanide	1	NaOH	↓

Air Temp: 70°F

Weather Conditions: Clear, wind 0-5 mph

WELL SAMPLING LOG

Date: 8/8/89
Crew: JAC CH
Job No: 576 - 005
Project: NYS DEC
Project Site: Emerson Sit

METERS USED

Temp: HHT-2 / HHT-3
pH: CP 56 / 03
Cond: TLC DEC 560
Turb: DRT 15C

Well ID No: GW-3
Well Condition: Good
Well Depth/Diameter: 19.24/2"
Well Casing Type: PVC
Screened Interval: —
Casing Ht/Lock No: Steel: 2.75' PVC: 0.09'
Reference Pt: Top of PVC
Depth to Water (DTW): 7.80'
Water Column; Ht/Vol: 11.44'/1.87 gal
Purge Est: 11 gals

Purge Date/Time(s): 8/8/89 1045-
Purge Method: Cont Pump
Purge Depth(s): Surface - Bott
Purge Rates (gpm): 3 gal
Purged Volume: 11 gals
DTW After Purging: 14.72'

Yield Rate: L-M-H

Purge Observations: Initially purged 3 gals. Waited 10 min, purged 3 gals then 2X's more 10 mins of each

DTW Before Sampling: 9.52'
Sample Date/Time(s): 8/8/89 1435 - 1445
Sampling Method: PVC Bailer
Sampling Depth(s): Mid Column
DTW After Sampling: 9.72'
Sampling Observations: Water clear, no odor
Chain-of-Custody No(s): 012769
Analytical Lab(s): Compuchem

PURGE CHEMISTRIES

VOL.	TEMP. (°C)	pH	SP. COND.	TURB.
3 gals	16.0	7.2	324	89
6 gals	16.5	7.2	458	<200
11 gals	17.3	7.2	472	<200

Comments:

WET SAMPLE CHEMISTRIES

	Temp. (°C)	pH	Sp. Cond.	Turb.
Before	—	—	—	41
After	14.1	7.1	398	<200
QC	14.1	7.0	-	—

SAMPLE ANALYSES

Parameters	Inv. No.	Pres. Meth.	Filt. (Y/N)
VOA	2	4°C	N
BN/AE	3		
PCB/Pest.	2		
Metals	1	HNO_3	
Cyan Rec	1	NaOH	

Air Temp: 72°F
Weather Conditions: clear, no wind

WELL SAMPLING LOG

Date: 8/8/89
Crew: JAC CH
Job No: 576 003
Project: NYS DEC
Project Site: Emerson St.

METERS USED

Temp: HHT-2
pH: CP 56
Cond: TLC DEC 560
Turb: DRT 15C

Well ID No: GW-4
Well Condition: Good
Well Depth/Diameter: 19.89' /2"
Well Casing Type: PVC
Screened Interval: —
Casing Ht/Lock No: Steel : 1.78' PVC: 0.1'
Reference Pt: Top of PVC
Depth to Water (DTW): 9.21'
Water Column; Ht/Vol: 10.68' / 1.75 gals
Purge Est: 11 gals
Purge Date/Time(s): 8/8/89 1135 - 1140
Purge Method: Cent. pump
Purge Depth(s): Surf to bott.
Purge Rates (gpm): 7 gal/min
Purged Volume: 15 gal
DTW After Purging: 9.24'

Yield Rate: L-M-H —
Purge Observations: Started cloudy then cleared up.

PURGE CHEMISTRIES

VOL.	TEMP. (°C)	pH	SP. COND.	TURB.
5 gal	14.5	7.1	370	144
10 gal	14.4	7.1	479	61
15 gal	14.5	6.9	481	26

Comments:

DTW Before Sampling: 9.22'
Sample Date/Time(s): 8/8/89 1410 - 1420
Sampling Method: PVC Bailer
Sampling Depth(s): MR Column
DTW After Sampling: 9.22'
Sampling Observations: Clear no odor
Chain-of-Custody No(s): 012767
Analytical Lab(s): Compuchem

WET SAMPLE CHEMISTRIES

	Temp. (°C)	pH	Sp. Cond.	Turb.
Before	—	—	—	2
After	14.9	6.6	444	57

SAMPLE ANALYSES

Parameters	Inv. No.	Pres. Meth.	Filt. (Y/N)
VOA	2	4°C	N
BN/AE	3	↓	↓
PCB/Pest	2	↓	↓
Metals	1	HNO3	↓
Cyanide	1	NaOH	↓

Air Temp: 72°F
Weather Conditions: Clear, no wind

WELL SAMPLING LOG

Date: 8/8/89

Crew: JAC CH

Job No: 576 005

Project: NYS DEC

Project Site: Emerson St

METERS USED

Temp: HHT-2

pH: CP 56

Cond: TLC DEC 560

Turb: DRT 15C

Well ID No: GW-5

Well Condition: Good

Well Depth/Diameter: 23.10'/2"

Well Casing Type: PVC

Screened Interval: –

Casing Ht/Lock No: Steel: 2.2' PVC: 0.16'

Reference Pt: Top of PVC

Depth to Water (DTW): 10.25'

Water Column; Ht/Vol: 12.85'/2.10 gal

Purge Est: 13 gals

Purge Date/Time(s): 8/8/89 1015 – 1020

Purge Method: Centr Pump

Purge Depth(s): Surf -> BAT

Purge Rates (gpm): 6 gal/min

Purged Volume: 15 gal

DTW After Purging: 10.22'

Yield Rate: L-M-H

Purge Observations: Clear, no odor

PURGE CHEMISTRIES

VOL.	TEMP. (°C)	pH	SP. COND.	TURB.
5 gal	13.3	7.7	246	14
10 gal	13.1	7.6	243	6.0
15 gal	13.3	7.5	245	4.0

Comments:

DTW Before Sampling: 10.36'

Sample Date/Time(s): 8/8/89 1335 – 1345

Sampling Method: PVC Bailer

Sampling Depth(s): mid column

DTW After Sampling: 10.48'

Sampling Observations: Clear no odor

Chain-of-Custody No(s): 012770

Analytical Lab(s): Compuchem

WET SAMPLE CHEMISTRIES

	Temp. (°C)	pH	Sp. Cond.	Turb.
Before	—	—	—	3.0
After	12.9	7.2	223	53

SAMPLE ANALYSES

Parameters	Inv. No.	Pres. Meth.	Filt. (Y/N)
VOA	2	4°C	N
BN/AE	3	↓	↓
PCB/Pest	2	↓	↓
Metals	1	HNO_3	↓
Cyanide	1	NaOH	↓

Air Temp: 72°F

Weather Conditions: Clear, no wind

WELL SAMPLING LOG

Date: 8/8/89

Crew: JAC CH

Job No: 576 005

Project: NYSDEC

Project Site: Emerson St.

METERS USED

Temp: HHT-2

pH: CP56

Cond: TLC DEC 560

Turb: DRT 15C

Well ID No: GW-6

Well Condition: Good

Well Depth/Diameter: 24.97'/2"

Well Casing Type: PVC

Screened Interval: —

Casing Ht/Lock No: steel: 1.95' PVC: 0.15'

Reference Pt: Top of PVC

Depth to Water (DTW): 15.65'

Water Column; Ht/Vol: 9.32'/1.53 gals

Purge Est: 9 gals

Purge Date/Time(s): 8/8/89 0952-0954

Purge Method: Cent pump

Purge Depth(s): Surf -> BAT

Purge Rates (gpm): 5 gpm

Purged Volume: 10 gals

DTW After Purging: 16.22'

Yield Rate: L-M-H —

Purge Observations: Water was clear no odor

PURGE CHEMISTRIES

VOL.	TEMP. (°C)	pH	SP. COND.	TURB.
5 gal	14.5	7.5	147	<200
10 gal	14.4	7.3	143	70

DTW Before Sampling: 16.0'

Sample Date/Time(s): 8/8/89 1310 - 1320

Sampling Method: PVC Bailer

Sampling Depth(s): M.2 column

DTW After Sampling: 16.18'

Sampling Observations: Clear -> cloudy no odor

Chain-of-Custody No(s): 012230

Analytical Lab(s): Compuchem

WET SAMPLE CHEMISTRIES

	Temp. (°C)	pH	Sp. Cond.	Turb.
Before	—	—	—	5.0
After	13.3	7.5	302	<200

SAMPLE ANALYSES

Parameters	Inv. No.	Pres. Meth.	Filt. (Y/N)
VOA	2	4°C	N
BN/AE	3	↓	↓
PCB/Pest	2	↓	↓
Metals	1	HNO_3	↓
Cyanides	1	NaOH	↓

Comments:

Air Temp: 72°F

Weather Conditions: No wind, clear

WELL SAMPLING LOG

Date: 8/8/89
Crew: JAC CH
Job No: 576 005
Project: NYS DEC
Project Site: Emerson St.

METERS USED

Temp: HHT-2
pH: CP 56
Cond: TLC DEC 560
Turb: DRT-15C

Well ID No: GW-7
Well Condition: Good
Well Depth/Diameter: 18.47'/2"
Well Casing Type: PVC
Screened Interval:
Casing Ht/Lock No: Curb box PVC: 0.16'
Reference Pt: Top PVC
Depth to Water (DTW): 9.33'
Water Column; Ht/Vol: 9.14'/1.30 gal
Purge Est: 9 gals
Purge Date/Time(s): 8/8/89 0858-0935
Purge Method: Centr Pump
Purge Depth(s): Surf - Bott (Dryness)
Purge Rates (gpm): 2 gal/min
Purged Volume: 8 gals
DTW After Purging: 9.72'

Yield Rate: L-M-H —

Purge Observations: Purged: 2 gals, 10 min purged: 2 gals. 5 min, purged: 1.5 gals. Then purged every 5 mins

PURGE CHEMISTRIES

VOL.	TEMP. (°C)	pH	SP. COND.	TURB.
2 gals	15.5	7.8	154	<200
4 gals	16.2	7.6	157	<200
8 gals	16.9	7.4	159	130

Comments:

DTW Before Sampling: 9.51'
Sample Date/Time(s): 8/8/89 1245-1250
Sampling Method: PVC Bailer
Sampling Depth(s): Mid column
DTW After Sampling: 13.28'
Sampling Observations: Clear w/ orange pieces floating in the water
Chain-of-Custody No(s): 012212
Analytical Lab(s): Compuchem

WET SAMPLE CHEMISTRIES

	Temp. (°C)	pH	Sp. Cond.	Turb.
Before	—	—	—	4.0
After	14.7	6.9	118	56

SAMPLE ANALYSES

Parameters	Inv. No.	Pres. Meth.	Filt. (Y/N)
VOA	2	4°C	N
BN/AE	3	↓	↓
PCB/Pest	2	↓	↓
Metals	1	HNO3	↓
Cyanides	1	NaOH	↓

Air Temp: 62°F
Weather Conditions: Pt. cloudy, wind 0-5 mph

WELL SAMPLING LOG

Date: 8/7/89
Crew: JAC CH
Job No: 576 005
Project: NYS DEC
Project Site: Emerson St.

METERS USED
Temp: HHT-2
pH: CP 56
Cond: TLC 560
Turb: DRT-15C Turb. Meter

Well ID No: 6W80
Well Condition: Good
Well Depth/Diameter: 25.49/3"
Well Casing Type: PVC
Screened Interval: —
Casing Ht/Lock No: 2.1'(Steel) 0.13'(PVC)
Reference Pt: Top of PVC
Depth to Water (DTW): 5.92'
Water Column; Ht/Vol: 19.57'/7.2gals
Purge Est: 20 gals
Purge Date/Time(s): 8/7/89 1035 - 1105
Purge Method: Cent. Pump
Purge Depth(s): Surf -> Bott.
Purge Rates (gpm): 5 gal/min
Purged Volume: 17 gals
DTW After Purging: 7.52'

Yield Rate: L-M-H —

Purge Observations: Purged 7 gals then waited 10 min purged 6 more gals. 10 min purged 4 gals.

PURGE CHEMISTRIES

VOL.	TEMP. (°C)	pH	SP. COND.	TURB.
5 gals	16.6	7.1	1690	>200
17 gals	14.3	7.3	310	>200

DTW Before Sampling: 5.90'
Sample Date/Time(s): 8/7/89 1600 - 1615
Sampling Method: PVC Bailer
Sampling Depth(s): Mid water column
DTW After Sampling: 7.02'
Sampling Observations: Clear, slight sulfur odor
Chain-of-Custody No(s): 012214
Analytical Lab(s): Compuchem

WET SAMPLE CHEMISTRIES

	Temp. (°C)	pH	Sp. Cond.	Turb.
Before	—	—	—	33.3
After	14.9	7.3	283	139

SAMPLE ANALYSES

Parameters	Inv. No.	Pres. Meth.	Filt. (Y/N)
VOA	2	4°C	N
BN/AE	3	↓	↓
PCB/Pest	2	↓	↓
Metals	1	HNO_3	↓
Cyanide	1	NaOH	↓

Comments:
Purge water started clear then milky gray

Air Temp: 68°F
Weather Conditions: Cloudy, Wind (10-15

WELL SAMPLING LOG

Date: 8/7/89
Crew: JAC CH
Job No: 546 005
Project: NYSDEC
Project Site: Emerson St.

METERS USED

Temp: HHT-2 / HHT3
pH: CP 56 / CP 03
Cond: TLC 560 /
Turb: DRT-15C

Well ID No: GW-9
Well Condition: Good
Well Depth/Diameter: 26.59'/2"
Well Casing Type: PVC
Screened Interval:
Casing Ht/Lock No: Steel: 2.0' PVC: 0.05'
Reference Pt: Top PVC
Depth to Water (DTW): 17.59'
Water Column; Ht/Vol: 9'/ 1.47 gals
Purge Est: 9 gals
Purge Date/Time(s): 8/7/89 1235-
Purge Method: Cent. Pump
Purge Depth(s): Surf -> Bott. (Dryness)
Purge Rates (gpm): 5 gal/min
Purged Volume: 4.5 gals
DTW After Purging: 22.44'

Yield Rate: L-M-H —
Purge Observations: Purged 3 gals then waited 10 mins, purged: 1.5 gals

DTW Before Sampling: 17.31'
Sample Date/Time(s): 8/7/89 1725- 1745
Sampling Method: PVC Bailer
Sampling Depth(s): Mid Column
DTW After Sampling: 22.38'
Sampling Observations:
Chain-of-Custody No(s): 012237
Analytical Lab(s): Compuchem

PURGE CHEMISTRIES

VOL.	TEMP. (°C)	pH	SP. COND.	TURB.
3 gals	17.5	7.6	238	L200
4.5 gals	16.4	7.6	260	L200

WET SAMPLE CHEMISTRIES

	Temp. (°C)	pH	Sp. Cond.	Turb.
Before	—	—	—	34.2
After	11.3	7.1	309	45.8
QC	11.7	6.9		

SAMPLE ANALYSES

Parameters	Inv. No.	Pres. Meth.	Filt. (Y/N)
VOA	2	4°C	N
BN/AE	3	↓	↓
PCB/Pest	2	↓	↓
Metals	1	HNO_3	↓
Cyanide	1	NaOH	↓

Comments:

Air Temp: 68°F
Weather Conditions: cloudy, wind 10-15 mph

WELL SAMPLING LOG

Date: 8/7/89
Crew: JAC CH
Job No: 576-005
Project: NYSDEC
Project Site: Emerson St.

Well ID No: GW 10 A
Well Condition: Good
Well Depth/Diameter: 25.84'/3"
Well Casing Type: PVC
Screened Interval:
Casing Ht/Lock No: Steel 2.25'; PVC: 0.09'
Reference Pt: Top PVC
Depth to Water (DTW): 4.76'
Water Column; Ht/Vol: 21.08'/7.7 gals
Purge Est: 21 gals
Purge Date/Time(s): 8/7/89 1130 - 1210
Purge Method: Centr Pump
Purge Depth(s): Surf -> Bott
Purge Rates (gpm): 5 gals/min
Purged Volume: 21 gals
DTW After Purging: 11.35'

Yield Rate: L-M-H —

Purge Observations: Purged: 7 gals, Waited 10 min, purged: 4 gals. Waited 10 min purged: 5 gals; 10 mins purged: 5 gals

PURGE CHEMISTRIES

VOL.	TEMP. (°C)	pH	SP. COND.	TURB.
5 gals	16.7	7.1	372	>200
16 gals	14.0	7.3	386	>200
21 gals	14.0	7.3	384	>200

Comments:

METERS USED

Temp: HHT-2
pH: CP 56
Cond: TLC 560
Turb: DRT-15C

DTW Before Sampling: 4.80'
Sample Date/Time(s): 8/7/89 1650 - 1700
Sampling Method: PVC Bailer
Sampling Depth(s): Mid Column
DTW After Sampling: 6.29'
Sampling Observations: Clean string surface
Chain-of-Custody No(s): 012768
Analytical Lab(s): Compu chem

WET SAMPLE CHEMISTRIES

	Temp. (°C)	pH	Sp. Cond.	Turb.
Before	—	—	—	116
After	14.9	6.8	340	160

SAMPLE ANALYSES

Parameters	Inv. No.	Pres. Meth.	Filt. (Y/N)
VOA	2	4°C	N
BN/AE	3	↓	↓
PCB/Pest	2	↓	↓
Metals	1	HNO_3	↓
Cyanide		NaOH	↓

Air Temp: 68°F
Weather Conditions: Cloudy, wind 10-15 mph

WELL SAMPLING LOG

Date: 8/7/89
Crew: JAC CH
Job No: 576 005
Project: NYSDEC
Project Site: Emerson St.

METERS USED

Temp: HHJ-3
pH: CP 56
Cond: TLC 560
Turb: ART-15C

Well ID No: GW-11
Well Condition: Good
Well Depth/Diameter: 16.77'/2"
Well Casing Type: PVC
Screened Interval: Bottom 10'
Casing Ht/Lock No: Steel: 2.42' PVC: 0.26
Reference Pt: Top PVC
Depth to Water (DTW): 8.57'
Water Column; Ht/Vol: 8.2' / 1.34 gals
Purge Est: 8 gals
Purge Date/Time(s): 8/7/89 1450-1455
Purge Method: Cent. Pump
Purge Depth(s): Surf → Bott.
Purge Rates (gpm): 6gpm
Purged Volume: 20 gal.
DTW After Purging: 9.01'

Yield Rate: L-M-H —

Purge Observations: started turbid then cleared up. no odor

DTW Before Sampling: 8.90'
Sample Date/Time(s): 8/7/89 1520-1540
Sampling Method: PVC Bailer
Sampling Depth(s): Mid screen
DTW After Sampling: 8.96'
Sampling Observations: Clear, no odor
Chain-of-Custody No(s): 012238
Analytical Lab(s): Compuchem

PURGE CHEMISTRIES

VOL.	TEMP. (°C)	pH	SP. COND.	TURB.
5gal	15.4	7.2	130	<200
20gal	15.4	7.0	133	44

WET SAMPLE CHEMISTRIES

	Temp. (°C)	pH	Sp. Cond.	Turb.
Before	—	—	—	39
After	14.4	7.4	133	66

SAMPLE ANALYSES

Parameters	Inv. No.	Pres. Meth.	Filt. (Y/N)
VOA	2	4°C	N
BN/AE	3	↓	↓
PCB/Pest	2	↓	↓
Metals	1	HNO_3	↓
Cyanides	1	NaOH	↓

Comments:

Air Temp: 72°F
Weather Conditions: Cloudy, Wind 10-12

WELL SAMPLING LOG

Date: 8/9/89

Crew: JAC CH KMcG

Job No: 576 - 005

Project: NYS DEC

Project Site: Emerson St.

METERS USED

Temp: HHT-2 / HHT-3

pH: CP 56 / CP 03

Cond: TLC DEC 560

Turb: DRT 15C

Well ID No: GW - 12

Well Condition: Good

Well Depth/Diameter: 34.54' / 2"

Well Casing Type: PVC

Screened Interval: Bottom 10'

Casing Ht/Lock No: Steel: 2.12' PVC: 0.24'

Reference Pt: Top of PVC

Depth to Water (DTW): 24.27'

Water Column; Ht/Vol: 10.27' / 1.68

Purge Est: 30 gals

Purge Date/Time(s): 8/9/89 1039 - 1053

Purge Method: Cent. Pump

Purge Depth(s): Surf -> Bott.

Purge Rates (gpm): 3

Purged Volume: 30 gals

DTW After Purging: 24.97'

Yield Rate: L-M-H —

Purge Observations: Very turbid, sulfur odor in confined space

PURGE CHEMISTRIES

VOL.	TEMP. (°C)	pH	SP. COND.	TURB.
4 gals	15.5	8.6	255	<200
14 gals	15.0	8.7	314	<200
30 gals	15.6	8.7	321	<200

Comments:

DTW Before Sampling: 25.45'

Sample Date/Time(s): 8/9/89 1500 - 151

Sampling Method: PVC Bailer

Sampling Depth(s): mid column

DTW After Sampling: 24.84'

Sampling Observations: "Pee yellow" no odor

Chain-of-Custody No(s): 012234

Analytical Lab(s): Compuchem

WET SAMPLE CHEMISTRIES

	Temp. (°C)	pH	Sp. Cond.	Turb.
Before	—	—	—	4.1
After	13.2	8.8	337	13.9
	13.4	8.8		

SAMPLE ANALYSES

Parameters	Inv. No.	Pres. Meth.	Filt. (Y/N)
VOA	2	4°C	N
BN/AE	3	↓	↓
PCB/Pest	2	↓	↓
Metals	1	HNO_3	↓
Cyanide	1	NaOH	↓

Air Temp: 72°F

Weather Conditions: Clear, warm

WELL SAMPLING LOG

Date: 8/9/89
Crew: JAC, CH, KMcG
Job No: 576 -005
Project: NYSDEC
Project Site: Emerson St.

METERS USED

Temp: HHT-2
pH: CP 56
Cond: TLC DEC 560
Turb: DRT 15C

Well ID No: GW - 13
Well Condition: Good
Well Depth/Diameter: 30.15' / 2"
Well Casing Type: PVC
Screened Interval: Bottom 10'
Casing Ht/Lock No: Steel: 1.771 PVC
Reference Pt: Top of PVC
Depth to Water (DTW): 23.35'
Water Column; Ht/Vol: 6.8' / 1.11 gals
Purge Est: 20 gals
Purge Date/Time(s): 8/9/89 1125 - 1220
Purge Method: Cent. pump
Purge Depth(s): Surf -> Bott
Purge Rates (gpm): 2 gpm
Purged Volume: 20 gals
DTW After Purging: 24.45'

Yield Rate: L-M-H —

Purge Observations: Purged 8 gals waited 10 mins. Then purged 4 gals. waited 10 min purged 3 gals.

PURGE CHEMISTRIES

VOL.	TEMP. (°C)	pH	SP. COND.	TURB.
5 gals	17.1	9.4	449	<200
13 gals	18.6	9.3	461	<200
20 gals	18.1	9.4	467	<200

Comments:

DTW Before Sampling: 24.14'
Sample Date/Time(s): 8/9/89 1435 - 1443
Sampling Method: PVC Bailer
Sampling Depth(s): Mid column
DTW After Sampling: 24.45'
Sampling Observations: "Tea" color, no odor
Chain-of-Custody No(s): 012236
Analytical Lab(s): Compuchem

WET SAMPLE CHEMISTRIES

	Temp. (°C)	pH	Sp. Cond.	Turb.
Before	—	—	—	12
After	14.7	9.3	360	49

SAMPLE ANALYSES

Parameters	Inv. No.	Pres. Meth.	Filt. (Y/N)
VOA	2	4°C	N
BN/AE	3	↓	↓
PCB/Pest	2	↓	↓
Metals	1	HNO_3	↓
Cyanide	1	NaOH	↓

Air Temp: 72°F
Weather Conditions: clear, no wind

WELL SAMPLING LOG

Date: 8/9/89

Crew: JAC CH KMcB

Job No: 576-005

Project: NYS DEC

Project Site: Emerson St.

Well ID No: Field Blank

Well Condition: —

Well Depth/Diameter: —

Well Casing Type: —

Screened Interval: —

Casing Ht/Lock No: —

Reference Pt: —

Depth to Water (DTW): —

Water Column; Ht/Vol: —

Purge Est: —

Purge Date/Time(s): —

Purge Method: —

Purge Depth(s): —

Purge Rates (gpm): —

Purged Volume: —

DTW After Purging: —

Yield Rate: L-M-H —

Purge Observations: —

PURGE CHEMISTRIES

VOL.	TEMP. (°C)	pH	SP. COND.	TURB.

METERS USED

Temp: —

pH: —

Cond: —

Turb: —

—

DTW Before Sampling: —

Sample Date/Time(s): 8/9/89 1450

Sampling Method: PVC Bailer

Sampling Depth(s): —

DTW After Sampling: —

Sampling Observations: —

Chain-of-Custody No(s): —

Analytical Lab(s): Compuchem

WET SAMPLE CHEMISTRIES

	Temp. (°C)	pH	Sp. Cond.	Turb.
Before	—	—	—	—
After	—	—	—	—

SAMPLE ANALYSES

Parameters	Inv. No.	Pres. Meth.	Filt. (Y/N)
VOA	1	4°C	N

Comments:
Poured lab supplied water thru a clean bailer.

Air Temp:

Weather Conditions:

Crew: JAC CH
D[redacted] 81[redacted]
Job No: 576 005

LAWLER, MATUSKY & SKELLY ENGINEERS
[redacted]FIE[redacted]ETE[redacted]ALI[redacted]ION[redacted]/O[redacted]ECK[redacted]
DATA SHEET

Site: [illegible]
[redacted]r: [redacted] Sa[redacted]
Calib. By: JAC CH

METER No./ PROBE No.	TIME	THERM No./ TEMP. (°C)	EXPECTED VALUE		OBSERVED VALUE		ADJ. TO[a]		% DIFF.[b]	COMMENTS
HNU DEC801439	0945		58	9.8	58	4.38				
PH CP#56	1010	17.4	7.0	4.0/10.0	7.0	4.1/9.9				
HF Turb	1010		0.10		0.14		0.10			
PH #03	1716	17.1	7.0	4.0/10.0	7.1	4.1/10.0	7.0			
PH CP 56 #03	1803	17.1	7.0	4.0/10.0	7.0	4.1/10.0				
	1805	17.1	7.0	4.0/10.0	7.0	4.1/10.0				

[a] For dissolved oxygen and pH meter calibrations, record adjustments (include % and ppm readings for dissolved oxygen meter calibration).

[b] Include % Diff. calculation for conductivity calibration checks: $\% \text{ Diff} = \frac{Ex - Ob}{Ex} \times 100$

Crew: JAC CSH
Date: 8/8/89
Job No: 576-005

LAWLER, MATUSKY & SKELLY ENGINEERS
FIELD METER CALIBRATION AND/OR CHECK
DATA SHEET

Site: Emerson St
Oper: Well Sampling
Calib. By: CSH

METER No./ PROBE No.	TIME	THERM No./ TEMP. (°C)		EXPECTED VALUE		OBSERVED VALUE		ADJ. TO[a]		% DIFF.[b]	COMMENTS
CP#564 pH	0831	HHT-2	14.1	7.0	4.0/10.0	7.0	4.1/9.9				
03 pH	0835	↓	↓	↓	↓	7.0	4.0/10.0				
CP#564 pH	1501	HHT-2	20.6	7.0	4.0/10.0	7.0	4.1/10.0				
03 pH	1505	↓	↓	↓	↓	7.1	4.1/10.0	7.0			
Turb Array	0835			0.10		0.40		0.10			
DRT15C	1505			0.10		0.02		0.10			
	0840			58	9.8	56	4.2	58	4.11		
HNU											

[a] For dissolved oxygen and pH meter calibrations, record adjustments (include % and ppm readings for dissolved oxygen meter calibration).

[b] Include % Diff. calculation for conductivity calibration checks: $\% \text{ Diff} = \frac{Ex - Ob}{Ex} \times 100$

Cr[redacted]AC [redacted]K[redacted]
Date: 9-9-89
Job No: 576-005

LAWLER, MATUSKY & SKELLY ENGINEERS
FIELD METER CALIBRATION AND/OR CHECK
DATA SHEET

Site: Emerson St.
Oper: Well Sampling
Calib. By: CH

METER No./ PROBE No.	TIME	THERM No./ TEMP. (°C)		EXPECTED VALUE		OBSERVED VALUE		ADJ. TO[a]		% DIFF.[b]	COMMENTS
CP 156	1527	HHT-2	23.5	7.0		7.0	4.0/9.8				
End of Day	↓	↓	↓	4.0	10.0						
CP 103	1532	HHT-2	23.5	7.0		7.0	4.0/9.9				
End of Day	↓	↓	↓	4.0	10.0						
	0845			0.10			0.30		0.10		
Turbidity Meter											
CP #56 PH	0845	HHT-2	13.5	7.0	4.0/10.0	7.0	4.1/10.0				
03 PH Start of Day	↓	↓	13.6	7.0	4.0/10.0	6.9	4.1/10.0	7.0			

[a] For dissolved oxygen and pH meter calibrations, record adjustments (include % and ppm readings for dissolved oxygen meter calibration).

[b] Include % Diff. calculation for conductivity calibration checks: $\% \text{ Diff} = \frac{Ex - Ob}{Ex} \times 100$

Facility: _____
Date: _____
Calib. By: MS + KMG
Calib. Gas: _____

LAWLER, MATUSKY & SKELLY ENGINEERS
OVA METER FIELD CALIBRATION
DATA SHEET

Job No: 576-005
Site: Emerson St
Crew: KMG + MS
Oper: _____

DATE/TIME	METER No.	BATT. CHECK	EXPECTED ZERO	EXPECTED CALIB. GAS (ppm)	OBSERVED ZERO	OBSERVED CALIB. GAS (ppm)	SPAN ADJ. (from -- -- to)	COMMENTS
8/3/89 0750	DRT-15L Turbidimeter	✓						0.1 read 0.27 adjusted to 0.1
8/3/89 0755	NYSDEC 801439 HNU	✓	0	58	0	58	3.0 to 2.9	Read 25 adjusted SPAN
8/3/89 0800	GX-3 Gastech	✓	0	47-55	0	50		Adjusted combustibles up to 50
8/3/89 0800	NYSDEC MSA-361 CBZ #1143	✓	0	60	0	58		No Adjust 78°F 82% RH

On-Site Health & Safety Officer and/or Crew Chief:

(Signature): _____

(Date): _____

Facility:
Date: 8-7-89
Calib. By: KM&G
Calib. Gas:

LAWLER, MATUSKY & SKELLY ENGINEERS
OVA METER FIELD CALIBRATION
DATA SHEET

Job No: 576-005
Site: Emerson St
Crew: KM&G
Oper:

DATE/TIME	METER No.	BATT. CHECK	EXPECTED ZERO	EXPECTED CALIB. GAS (ppm)	OBSERVED ZERO	OBSERVED CALIB. GAS (ppm)	SPAN ADJ. (from -- -- to)	COMMENTS
8-7-89 1035	NYSDEC HNU B01446	✓	0	58	0	38	8.4 to ~~7.9~~ 8.1	read 52 before adjust
8-8-89 0920	NYSDEC HNU B01446	✓	0	58	0	56		NO adjust

On-Site Health & Safety Officer and/or Crew Chief:

(Signature):

(Date):

LAWLER, MATUSKY & SKELLY ENGINEERS
CREW CHIEF REPORT

1. CREW CHIEF: J. Condello
2. CREW MEMBER(S): C. Haas
3. CLIENT: NYS DEC
4. SURVEY: Emerson Street
5. JOB NO: 576-001
6. PROJ. MGR: E. Malisch
7. VEHICLE USED: Avis Cube Van
8. BOAT(S) USED: —

B. CREW CHIEF REPORT (COMPLETE AFTER SURVEY.)

1. SURVEY START/END DATE — 8/6 / 8/10/89
2. SURVEY START/END TIME — — / —
3. DESCRIBE DETAILS IN SECTION C:
   (a) SAMPLING GEAR WORKING PROPERLY — (Y)/N
   (b) METERS FIELD CALIBRATED: (1) WATER QUALITY — (Y)/N
   (2) AIR MONITOR(HNU,OVA,CGI) — (Y)/N
   (FIELD CALIB.MUST BE ATTACHED TO ORIG. C.C. REPORT & SENT TO QA/QC)
   (c) WAS DOWNTIME INCURRED? #HRS? — Y/(N)
   (d) ANY INCIDENTS, ACCIDENTS, PERTINENT OBSER. — (Y)/N
4. WERE FOLLOWING REPORTS COMPLETED & SUBMITTED?
   (a) WEATHER CONDITIONS LISTED ON FIELD DATA SHEETS — (Y)/N
   (b) RADIO LOGS — ~~Y/N~~
   (c) EQUIPMENT USAGE — (Y)/N
   (d) BOAT/VEHICLE LOGS — (Y)/N
5. BOAT USAGE
   (a) ENGINE HOURS — — TO —
   (b) RADIO LOGS — — TO —
   (c) BOAT LOCATION —
6. CHAIN OF CUSTODY COMPLETED. SAMPLES SIGNED OVER. — (Y)/N

C. COMMENTS/OBSERVATIONS

8/6/89 1600-0000 Loaded up car traveled up to Rochester
8/7/89 0730-2000 Arrived on site w/ K. McGuiness + met Todd from the DEC. Sampled 4 wells with no problems. Told by Todd that we only had to drum the purge water from the 3 new wells.
8/8/89 0730 - 1800 Purged + sampled 5 wells with absolutely no difficulty. Dropped off Compuchem shuttles at Fed Ex. Great day, great weather.

8/9/89 0730 - 1700 Purged + sampled the remaining 4 wells. Again with no problems. K McG did a drum labeling + inventory while we sampled. Dropped samples off at Fed Ex.

8/10/89 0830 - 1900 Did a round of SWL's on all 13 wells + 5 piezometers. Met the surveyors and showed them the new wells + piezometers. Packed up + traveled back.

NOTE: SEND ORIGINAL CREW CHIEF REPORT TO QA/QC WITHIN 5 DAYS OF SURVEY COMPLETION. SEND YELLOW COPY TO WAREHOUSE. RETAIN PINK COPY FOR C.C. FILE.

C.C. SIGNATURE [signature] DATE: 8/10/89

USE ADDITIONAL SHEET(S), IF NECESSARY.

REC'D QAS
AUG 11 1989

APPENDIX D

GEOLOGICAL LOG OF RADIOLOGICAL BORINGS

Data by Kevin McGuinness

Sheet 1 of 1

SUBSURFACE EXPLORATION - TEST BORING LOG

Boring No. C-1
Project No. 576-005

Project Name Emerson St. Landfill
Date 1030 8-7-89 (start) 1135 8-7-89 (finish)
Client NYSDEC
Boring Location 12' from C center
Driller American Auger
Total Depth 10'
Monitoring Instrument(s) HNU and Micro R
Depth to Water ≈4'
SAMPLE HAMMER
Hole Diameter
Weight 140 lb
Ground Surface Elevation
Fall 30 in.

Depth	Blows on Sampler 0" to 6"	6" to 12"	12" to 18"	18" to 24"	Retained Sample	Recovery (feet)	Sample No.	Instrument Reading HNU	Moisture Content	Stratigraphic Column	Classification of Material (f - fine, m - medium, c - coarse; and - 35-50%, some - 20-35%, little - 10-20%, trace - 0-10%)	Remarks
0	1										0-.3 - Br-Blk f sandy silt, tr glass .3-.55 - Br-grey sandy, glassy FILL .55-.77 - white grey ASH with blk cinders	
		2										
			2									
				2	✓	.77	-	.2	dry			
2	4										0-.3 - white ASH and GLASS .3-1.16 - Blk and Br and rusty red FILL some glass and cinders	
		7										
			2									
				4	✓	1.16	-	.2	dry			
4	1										0-.6 - Blk. br and whitish ASH, some FILL and cinders .6-.7 - White paper-like material .7-1.0 - Blk ooze, saturated silt and FILL.	
		0										
			1									
				0	✓	1.0	-	4-5	wet			
6	3										No Recovery - saturated	
		1										
			1									
				1	-	NR	-	-	wet			
8	2										0-.1 - Blk ooze, silt and FILL .1-.5 - Grey-br hard clayey SILT with small stones .5-.8 - weathered grey fractured bedrock	
		2										
			32									
				50/4	✓	0.8	-	.2	wet			
											Complete at 10'	

LAWLER, MATUSKY & SKELLY ENGINEERS

Data by Kevin McGuinness

Sheet 1 of 1

SUBSURFACE EXPLORATION - TEST BORING LOG

Boring No. C-2
Project No. 576-005

Project Name Emerson St. Landfill
Client NYSDEC
Driller American Auger
Monitoring Instrument(s) HNU and Micro R

SAMPLE HAMMER
Weight 140 lb
Fall 30 in.

Date 1155 8-7-89 (start) 1211 8-7-89 (finish)
Boring Location 32' from C center
Total Depth 8'
Depth to Water ≃ 5'
Hole Diameter
Ground Surface Elevation

Depth	Blows on Sampler 0" to 6"	6" to 12"	12" to 18"	18" to 24"	Retained Sample	Recovery (feet)	Sample No.	Instrument Reading HNU	Moisture Content	Stratigraphic Column	Classification of Material (f - fine, m - medium, c - coarse; and - 35-50%, some - 20-35%, little - 10-20%, trace - 0-10%)	Remarks
0	1							.2-.4			0-.3 - Blk-br cinders and FILL .3-.48 - White-gray ASH, fine, silty talc-like	
		2										
			5									
				8	✓	.48	-	.4-.6	dry			slight deflection
2	3										0-.32 - Gray-br cindery FILL, some coal, glass, and reddish-br stained paper.	
		3										
			7									
				9	✓	.32	-	.2	dry			
4	7										No Recovery	
		2										
			7									
				4	NR	—	—	—				
6	2								wet		0-.1 - Blk FILL	saturated
		1										
			1									
				1	✓	.10	-	.6-1.0	wet			
8											Complete at 8'	

LAWLER, MATUSKY & SKELLY ENGINEERS

Data by Kevin McGuinness

SUBSURFACE EXPLORATION - TEST BORING LOG

Boring No. C-3
Project No. 576-005

Project Name Emerson St. Landfill

Date 1355 8-7-89 (start) 1412 8-7-89 (finish)

Client NYSDEC

Boring Location 72' from C center

Driller American Auger

Total Depth 6'

Monitoring Instrument(s) HNU and Micro R

Depth to Water –

SAMPLE HAMMER

Hole Diameter

Weight 140 lb

Ground Surface Elevation

Fall 30 in.

Depth	Blows on Sampler 0" to 6"	6" to 12"	12" to 18"	18" to 24"	Retained Sample	Recovery (feet)	Sample No.	Instrument Reading	Moisture Content	Stratigraphic Column	Classification of Material (f - fine, m - medium, c - coarse; and - 35-50%, some - 20-35%, little - 10-20%, trace - 0-10%)	Remarks
0	1							.6 bkgd			0-.43 - Blk-reddish brwn cs FILL, some glass and cinders, nails	
		0										
			2									
				2	✓	.43	-	.6	dry			
2	1										0-.2 - Blk cs FILL .2-.7 - White powdery ash, fill, cs cinders .7-.91 - FILL + cinders	
		2										
			2									
				6	✓	.91	-	3-5	dry			
4	8										0-.66 - Blk-brwn cs sandy FILL and cinders, glass, small chunks of ash	
		9										
			3									
				2	✓	.66	-	3-4	dry			
6											Complete At 6'	

LAWLER, MATUSKY & SKELLY ENGINEERS

Data by KEVIN MCGUINNESS

SUBSURFACE EXPLORATION - TEST BORING LOG

Boring No. C-4
Project No. 576-005

Project Name Emerson St. Landfill
Client NYSDEC
Driller American Auger
Monitoring Instrument(s) HNU and Micro R

SAMPLE HAMMER
Weight 140 lb
Fall 30 in.

Date 1420 8-7-89 (start) 1445 8-7-89 (finish)
Boring Location 112' from C center
Total Depth 6'
Depth to Water –
Hole Diameter
Ground Surface Elevation

Depth	BLOWS ON SAMPLER 0" to 6"	6" to 12"	12" to 18"	18" to 24"	Retained Sample	Recovery (feet)	Sample No.	Instrument Reading HNU	Moisture Content	Stratigraphic Column	CLASSIFICATION OF MATERIAL (f - fine, m - medium, c - coarse; and - 35-50%, some - 20-35%, little - 10-20%, trace - 0-10%)	Remarks
0	2							bkgd-.8			0-.57 - Blk-reddish br cs FILL cinders, glass, trace ash, coal	
		2										
			4									
				4	✓	.57	–	16-17	dry			
2	3										0-.4 - same .4-.62 - Blk oily saturated wood - shinny sheenlike	petroleum odor
		5										
			9									
				7	✓	.62	–	4-6	dry			
4	6										0-.33 - same FILL as 0-2'	
		1										
			1									
				2	✓	.33	–	1-1.4	dry			
											Complete at 6'	

LAWLER, MATUSKY & SKELLY ENGINEERS

Data by Kevin McGuinness

SUBSURFACE EXPLORATION - TEST BORING LOG

Boring No. B-1
Project No. 576-005

Project Name Emerson St Landfill
Date 1500 8-7-89 (start) 1512 8-7-89 (finish)
Client NYSDEC
Boring Location 38' from B center
Driller American Auger
Total Depth 8'
Monitoring Instrument(s) HNU and Micro R
Depth to Water
SAMPLE HAMMER
Hole Diameter
Weight 140 lb
Ground Surface Elevation
Fall 30 in.

Depth	Blows on Sampler 0" to 6"	6" to 12"	12" to 18"	18" to 24"	Retained Sample	Recovery (feet)	Sample No.	Instrument Reading HNU	Moisture Content	Stratigraphic Column	Classification of Material (1 - fine, m - medium, c - coarse; and - 35-50%, some - 20-35%, little - 10-20%, trace - 0-10%)	Remarks
0	2										0-.3 - Br - organic rich peaty silty sand. .2-.54 - white - tan ash	
		2										
			3									
				1	✓	.54	-	*.6-1.2	dry			
2	7										0-.2 - ash same .2-.26 - leather ? (shoe sole ?) .26-.82 - Blk-br FILL, coal, cinders and glass	
		7										
			4									
				3	✓	.82	-	3.5	dry			
4	3										0-.2 - grey-white cc ash, glass, cinders .2-.55 - Blk-br, reddish br, damp FILL .55-.64 - Blk saturated silty FILL	
		2										
			1									
				1	✓	.64	-	3.5	wet at bottom			
6	1										0-.31 - Grey br silty ooze + cinders	
		1										
			1									
				3	✓	.31	-	.6-.8	wet			
											Complete at 8'	

* 0.4 - bkgd

LAWLER, MATUSKY & SKELLY ENGINEERS

Data by Kevin McGuinness

Sheet 1 of 1

SUBSURFACE EXPLORATION - TEST BORING LOG

Boring No. B-2
Project No.

Project Name Emerson St. Land fill

Date 1515 8-7-89 (start) 1532 8-7-89 (finish)

Client NYSDEC

Boring Location 20' N of B-1

Driller American Auger

Total Depth 6'

Monitoring Instrument(s) HNU and Micro R

Depth to Water —

SAMPLE HAMMER

Hole Diameter

Weight 140 lb

Ground Surface Elevation

Fall 30 in.

Depth	BLOWS ON SAMPLER 0" to 6"	6" to 12"	12" to 18"	18" to 24"	Retained Sample	Recovery (feet)	Sample No.	Instrument Reading	Moisture Content	Stratigraphic Column	CLASSIFICATION OF MATERIAL (f - fine, m - medium, c - coarse; and - 35-50%, some - 20-35%, little - 10-20%, trace - 0-10%)	Remarks
0	2										0-.45 - blk br cs FILL, coal, cinders and glass	
		1									.45-.91 - Tan-white fine ash, some glass	
			8									
				6	✓	.91	—	2-4.5	dry			
2	3										0-.25 - Cs FILL, many cinders	
		2									.25-.7 - white grey ASH, cinders and coal	
			2								.7-.92 - Reddish-br-blk FILL, cinders and glass	
				6	✓	.82	—	2-4	dry			
4	5										0-.53 - FILL - brown - same	
		4										
			3									
				4	✓	.53	—	1	dry			
											Complete at 6'	

LAWLER, MATUSKY & SKELLY ENGINEERS

Data by Kevin McGuinness

Sheet 1 of 1

SUBSURFACE EXPLORATION - TEST BORING LOG

Boring No. B-3
Project No. 576-005

Project Name Emerson St. Landfill

Client NYSDEC

Driller American Auger

Monitoring Instrument(s) HNU and Micro R

SAMPLE HAMMER

Weight 140 lb

Fall 30 in.

Date 1337 - 8-7-89 (start) 1348 8-7-89 (finish)

Boring Location 98' from B center

Total Depth 6'

Depth to Water

Hole Diameter

Ground Surface Elevation

Depth	BLOWS ON SAMPLER 0" to 6"	6" to 12"	12" to 18"	18" to 24"	Retained Sample	Recovery (feet)	Sample No.	Instrument Reading HNU	Moisture Content	Stratigraphic Column	CLASSIFICATION OF MATERIAL (f - fine, m - medium, c - coarse; and - 35-50%, some - 20-35%, little - 10-20%, trace - 0-10%)	Remarks
0	2										0-.1 - Brwn Fill, glass, silt + cinder	
		1										
			1					*				
				1	✓	0.1	-	.4	dry			
2	4										0-.25 - Brwn, fine, loose dry Fill and glass.	
		2										
			1									
				1	✓	.25	-	1.4	dry			
4	2										0-.25 - white gray cs ASH .25-.55 - Brwn fine dry FILL .55-.78 - Blk wood and FILL, - stained no sheen	
		5										
			5									
				3	✓	.78	-	1.4-3	dry			
6											Complete at 6'	

LAWLER, MATUSKY & SKELLY ENGINEERS

Data by Kevin Mc Guinness

SUBSURFACE EXPLORATION - TEST BORING LOG

Boring No. A-1
Project No. 576-005

Project Name Emerson St. Landfill
Client NYSDEC
Driller American Auger
Monitoring Instrument(s) HNU and Micro R

SAMPLE HAMMER
Weight 140 lb
Fall 30 in.

Date 1604 8-7-89 start — 1617 8-7-89 finish
Boring Location A center
Total Depth 8'
Depth to Water ≃ 6'
Hole Diameter
Ground Surface Elevation

Depth	Blows on Sampler 0" to 6"	6" to 12"	12" to 18"	18" to 24"	Retained Sample	Recovery (feet)	Sample No.	Instrument Reading HNU	Moisture Content	Stratigraphic Column	Classification of Material (f - fine, m - medium, c - coarse; and - 35-50%, some - 20-35%, little - 10-20%, trace - 0-10%)	Remarks
0	4										0-.2- Grey-br FILL, red brick, glass	
		5									.2-.61- Alt. bands of rd-br cinders, blk fill, white ash, and white/blk ash - cs.	loose
			5									
				5	✓	.61	-	44	dry			
2	5										0-.91- Cs FILL and white ash - same as above	Highest HNU readings from white + blk speckeled ash + cinders
		10										
			5									
				5	✓	.91	-	22	dry			
4	2										0-.2- Cs FILL, blk + white speckeled	
		1									.2-.41- Red brick	
			1									
				1	✓	.41	-	0.6	dry			wet at tip
6	1										0-.2- Cs slag and cinders	Natural material at ≃ 7.5'
		1									.2-.35- Grey saturated fine sand + silt, some clay	
			1									
				3	✓	.35	-	0.4	wet			
8											Complete at 8'	

LAWLER, MATUSKY & SKELLY ENGINEERS

Data by Kevin McGuinness

SUBSURFACE EXPLORATION - TEST BORING LOG

Boring No. A-2
Project No. 576-005

Project Name Emerson St Landfill
Client NYSDEC
Driller American Auger
Monitoring Instrument(s) HNU and Micro R
SAMPLE HAMMER
Weight 140 lb
Fall 30 in.

Date 1622 8-7-89 start — 1635 8-7-89 finish
Boring Location 20' N of A center
Total Depth 6'
Depth to Water
Hole Diameter
Ground Surface Elevation

Depth	BLOWS ON SAMPLER 0" to 6"	6" to 12"	12" to 18"	18" to 24"	Retained Sample	Recovery (feet)	Sample No.	Instrument Reading HNU	Moisture Content	Stratigraphic Column	CLASSIFICATION OF MATERIAL (f - fine, m - medium, c - coarse; and - 35-50%, some - 20-35%, little - 10-20%, trace - 0-10%)	Remarks
0	2										0-.4 - Dk Brwn organic rich silty SAND	Highest HNU off of ash
		3									.4-.7 - Red-br cs FILL, glass, cinders and aqua-blue powder	
			2								.7-1.01 - White-gray ASH, coal	
				1	✓	1.01	-	2-11	dry			
2	6										0-.3 - White-gray ASH	
		5									.3-.95 - Rd-brwn and blk FILL, cinders slag, coal, and glass - auto tire	
			14									
				8	✓	.95	-	3-5	dry			
4	3										0-.52 - Gray-brwn ash and FILL coal and cinders	
		3										
			3									
				3	✓	.52	-	5-8	dry			
6											Complete at 6'	

LAWLER, MATUSKY & SKELLY ENGINEERS

Data by Kevin McGuinness

SUBSURFACE EXPLORATION - TEST BORING LOG

Boring No. A-3
Project No. 576-005

Project Name Emerson St. Landfill
Client NYSDEC
Driller American Auger
Monitoring Instrument(s) HNU and Micro R

SAMPLE HAMMER
Weight 140 lb
Fall 30 in.

Date 1643 8-7-89 start — 1655 8-7-89 finish
Boring Location 60' from A center
Total Depth 6'
Depth to Water
Hole Diameter
Ground Surface Elevation

Depth	BLOWS ON SAMPLER 0" to 6"	6" to 12"	12" to 18"	18" to 24"	Retained Sample	Recovery (feet)	Sample No.	Instrument Reading HNU	Moisture Content	Stratigraphic Column	CLASSIFICATION OF MATERIAL (f - fine, m - medium, c - coarse; and - 35-50%, some - 20-35%, little - 10-20%, trace - 0-10%)	Remarks
0	2										0-.7 - Blk-br-red-br FILL slag and cinders	High HNU from Ash
		3									.7-1.13 - Gray fine sandy silty ASH	
			12									
				12	✓	1.13	-	60	dry			
2	10										0-.78 - Gray fine Ash	
		5										
			5									
				6	✓	.78	-	38	dry			
4	2										0-.42 - Blk br. slag, cinders, and stones	
		13										May have hit tire
			32									
				7	✓	.42	-	3	damp at tip			
6											Complete at 6'	

LAWLER, MATUSKY & SKELLY ENGINEERS

Data by Kevin McGuinness

Sheet 1 of 1

SUBSURFACE EXPLORATION - TEST BORING LOG

Boring No. A-4
Project No. 576-005

Project Name Emerson St. Landfill

Date 1700 8-7-89 (start) 1722 8-7-89 (finish)

Client NYSDEC

Boring Location 100' from A center

Driller American Auger

Total Depth 6'

Monitoring Instrument(s) HNU and Micro R

Depth to Water

SAMPLE HAMMER

Hole Diameter

Weight 140 lb

Ground Surface Elevation

Fall 30 in.

Depth	BLOWS ON SAMPLER 0" to 6"	6" to 12"	12" to 18"	18" to 24"	Retained Sample	Recovery (feet)	Sample No.	Instrument Reading HNU	Moisture Content	Stratigraphic Column	CLASSIFICATION OF MATERIAL (f - fine, m - medium, c - coarse; and - 35-50%, some - 20-35%, little - 10-20%, trace - 0-10%)	Remarks
0	3										0-.4 - Gray-blk silty FILL, some glass .4-.8 - Red-br rusty cinders and FILL .8-1.27 - Gray fine sandy ash	High HNU from ASH
		5										
			17									
				13	✓	1.27	–	48	dry			
2	6										0-.95 - same fine sandy ash .95-1.27 - Blk cs sandy cinders – some white ash in nose	compact hard
		6										
			5									
				3	✓	1.23	–	67	dry			
4	4										0-.67 - white and black ash and cinders	
		5										
			6									
				6	✓	.67	–	32	dry			
											Complete at 6'	

LAWLER, MATUSKY & SKELLY ENGINEERS

Data by Kevin McGuinness

SUBSURFACE EXPLORATION - TEST BORING LOG

Boring No. A-5
Project No. 576-005

Project Name Emerson St. Landfill

Date 1810 8-7-89 (start) 1828 8-7-89 (finish)

Client NYSDEC

Boring Location 33' NE of A center

Driller American Auger

Total Depth 8'

Monitoring Instrument(s) HNU and Micro R

Depth to Water ≈ 7.5'

SAMPLE HAMMER

Hole Diameter

Weight 140 lb

Ground Surface Elevation

Fall 30 in.

Depth	Blows on Sampler 0" to 6"	6" to 12"	12" to 18"	18" to 24"	Retained Sample	Recovery (feet)	Sample No.	Instrument Reading HNU	Moisture Content	Stratigraphic Column	Classification of Material (f - fine, m - medium, c - coarse; and - 35-50%, some - 20-35%, little - 10-20%, trace - 0-10%)	Remarks
0	2										0-.35 - Brown organic rich, silty FILL -some glass	High HNU from ash
		3									.35-.88- Blk + white ash, cinders, slag and coal	
			1									
				1	✓	.88	-	74				
2	10										0-.79 - same as above	
		5										
			3									
				3	✓	.79	-	22				
4	2										0-.56 - Blk + white ash and cinders	
		2										
			4									
				3	✓	.56	-	56				
6	2										0-.58 - Blk - br slag and cinders	
		2										
			1									
				2	✓	.58	-	28				
											Complete at 8'	

Data by Kevin McGuinness

Sheet 1 of 1

SUBSURFACE EXPLORATION - TEST BORING LOG

Boring No. A-6
Project No. 576-005

Project Name Emerson St. Landfill

Client NYSDEC

Driller American Auger

Monitoring Instrument(s) HNV and Micro A

SAMPLE HAMMER

Weight 140 lb

Fall 30 in.

Date 1834 8-7-89 (start) 1858 8-7-89 (finish)

Boring Location 62' from A center

Total Depth 6'

Depth to Water

Hole Diameter

Ground Surface Elevation

Depth	BLOWS ON SAMPLER 0" to 6"	6" to 12"	12" to 18"	18" to 24"	Retained Sample	Recovery (feet)	Sample No.	Instrument Reading HNV	Moisture Content	Stratigraphic Column	CLASSIFICATION OF MATERIAL (f - fine, m - medium, c - coarse; and - 35-50%, some - 20-35%, little - 10-20%, trace - 0-10%)	Remarks
0	2							117			0-.4 - Gray br silty SAND - blk .4-.59 - Rusty cinders and slag	
		2										
			2									
				2	✓	.59	-		dry			
2	2							24			0-.2 - same .2-.5 - white + blk ASH .5-1.03 - rusty, cs, cinders, slag, glass and coal	
		6										
			17									
				6	✓	1.03	-	650	dry			
4	7										0-.56 - Br FILL, cinders and some white ash	
		7										
			5									
				1	✓	.56	-	145	dry			
											Complete at 6'	

LAWLER, MATUSKY & SKELLY ENGINEERS

Data by Kevin McGuinness

Sheet 1 of 1

SUBSURFACE EXPLORATION - TEST BORING LOG

Boring No. A-7
Project No. 576-005

Project Name Emerson St. Landfill

Date 1920 8-7-89 start — 1930 8-7-89 finish

Client NYSDEC

Boring Location 122' from A center

Driller American Auger

Total Depth 6'

Monitoring Instrument(s) HNU and Micro R

Depth to Water

SAMPLE HAMMER

Hole Diameter

Weight 140 lb

Ground Surface Elevation

Fall 30 in.

Depth	Blows on Sampler 0" to 6"	6" to 12"	12" to 18"	18" to 24"	Retained Sample	Recovery (feet)	Sample No.	Instrument Reading HNU	Moisture Content	Stratigraphic Column	Classification of Material (f - fine, m - medium, c - coarse; and - 35-50%, some - 20-35%, little - 10-20%, trace - 0-10%)	Remarks
0	1							400			0-.4 - Brown-reddish cinders	
		1						220			.4-.7 - white ASH	
			7									
				6	✓	.70			dry			
2	1										0-.3 - same	
		5									.3-.5 - Blk FILL + cinders	
			5								.5-.7 - Red brick	
				4	✓	.96		176	dry		.7-.96 - Blk Fill + cinders	
4	2										0-.25 - Br, white cs cinders + Ash.	
		3										
			2									
				1	✓	.25		25	dry			
6											Complete at 6'	

LAWLER, MATUSKY & SKELLY ENGINEERS

APPENDIX E

SUMMARY REPORT OF INVESTIGTION OF RADIOACTIVE WASTES AT EMERSON STREET LANDFILL AND RECOMMENDED ACTION

Lawler, Matusky & Skelly Engineers

New York State Department of Environmental Conservation
50 Wolf Road, Albany, New York 12233

Thomas C. Jorling
Commissioner

M E M O R A N D U M

TO: Earl Barcomb, Director, Bureau of Hazardous Site Control, DHWR

FROM: Paul J. Merges, Ph.D., Director, Bureau of Radiation, DHSR

SUBJECT: Summary Report of Investigation of Radioactive Wastes at the Emerson Street Landfill and Recommended Action

REFERENCE: U.S. Nuclear Regulatory Commission, "Disposal or Onsite Storage of Thorium or Uranium Wastes From Past Operations", Federal Register, Vol.46 No. 205, pp. 52061-52063, October 23, 1981.

DATE: January 22, 1990

In accordance with your request the Bureau of Radiation has prepared the subject report summarizing the results of radiological investigations conducted at the Emerson Street Landfill in Rochester. Included in the attached report are remedial actions recommended for this site which have been developed from the above referenced document.

Should you have questions or require additional information concerning this report please contact Edward Johnson of my staff at 457-2225.

PJM/CEJ
Attachment

cc: D. Mafrici (w/out attach.)
B. Youngberg (w/out attach.)
E. Johnson
J. Swartwout
M. Komoroske
File

SUMMARY REPORT OF INVESTIGATION OF RADIOACTIVE WASTES

AT THE EMERSON STREET LANDFILL

AND RECOMMENDED ACTION

Division of Hazardous Substances Regulation
Bureau of Radiation
January 19, 1990

Attachments

(1) Map of Radioactively Contaminated Area

(2) Radioanalyses Results of Collected Wastes and Sediments

(3) Radioanalyses Results and Description of Continuous Split Spoon Sampling

(4) U.S. Nuclear Regulatory Commission, "Disposal or Onsite Storage of Thorium or Uranium Wastes From Past Operations", Federal Register, Vol.46 No. 205, pp. 52061-52063, October 23, 1981.

Survey and Analyses Results

Based upon review of all radiological survey data collected from the Emerson Street Landfill, Rochester, the Bureau of Radiation concludes that there are only three discrete surface areas, identified on Attachment (1), that are significantly contaminated with radioactive materials. The materials appear to be industrial wastes, possibly from the glass manufacturing industry. Machined glass disks, approximately one inch in diameter, were found comingled with the radioactive wastes. The glass disks did not prove to be radioactive, however, when separated from the other wastes. The waste materials are physically characterized as white, grey, and black fine-grained sludges.

As shown in Attachment (2), radioanalyses of the sludge revealed that the waste contained significant concentrations of natural Thorium Series radionuclides in secular equilibrium. Three samples of waste materials were collected, one from each discrete area. The greatest concentration was determined to be approximately 650 pCi/g thorium-232.

Analyses of sediment samples collected from the ponded water area adjacent to the waste locations demonstrated that the concentrations of radioactivity are at or near typical natural background levels. The Bureau concludes that there is no significant migration of radioactive material into the ponded area occurring at this time.

Surface radiological surveys of the contaminated areas indicate that the total contaminated surface area consists of a few square meters. Radiological analyses conducted on continuous split spoon samples taken from the subterrain surrounding the contaminated areas resulted in radioactivity concentrations typical of natural background levels (see Attachment (3)). These results confirm that the contamination is limited in lateral extent below the surface.

Discussion

At this time the Department has not ascertained the origin of the thorium wastes. Therefore, it is not possible to determine if the wastes are subject to the provisions of either a general or specific radioactive materials license. However, it has been determined through radioanalysis that the wastes exhibit characteristics that would otherwise require licensing control. Accordingly, the Bureau has reviewed the guidelines and standards that are relevant and appropriate to a decision on the disposition of these wastes.

To provide guidance to licensees and regulatory agencies on the disposal of similar radioactive material wastes, the US Nuclear Regulatory Commission (USNRC) developed the guidelines contained in Attachment (4). The guidelines were written to provide alternatives for the disposal of thorium and uranium wastes resulting from past operations of the nuclear fuel cycle. But, it is a well established fact that thorium and uranium are extracted from ore deposits for the manufacture of many commercial products other than nuclear fuel (e.g. certain glass products). Wastes from such manufacturing operations can contain significant quantities of radioactivity, and may not be disposed as required under applicable radioactive materials regulations. In addition, thorium and uranium are often constituents of minerals that are mined and processed to extract rare earth metals other than thorium and uranium. Processing of these minerals can result in the reconcentration of thorium and uranium to levels that are many times the concentration in their natural, unprocessed state. Unless this consequence is realized, processing residues can be discarded without regard for their radioactive content.

The Attachment (4) guidelines specify several allowed concentrations of thorium and uranium for local land disposal. Each concentration level is derived from a corresponding allowed maximum radiation dose to a future individual occupying the site in a manner consistent with imposed property restrictions. In cases where thorium or uranium wastes have been disposed without adherence to regulatory control, the guidelines can be applied to specify the level of decontamination required to reduce the concentration of residual contamination to an acceptable level.

Alternatives

See Attachment (4).

Recommendation

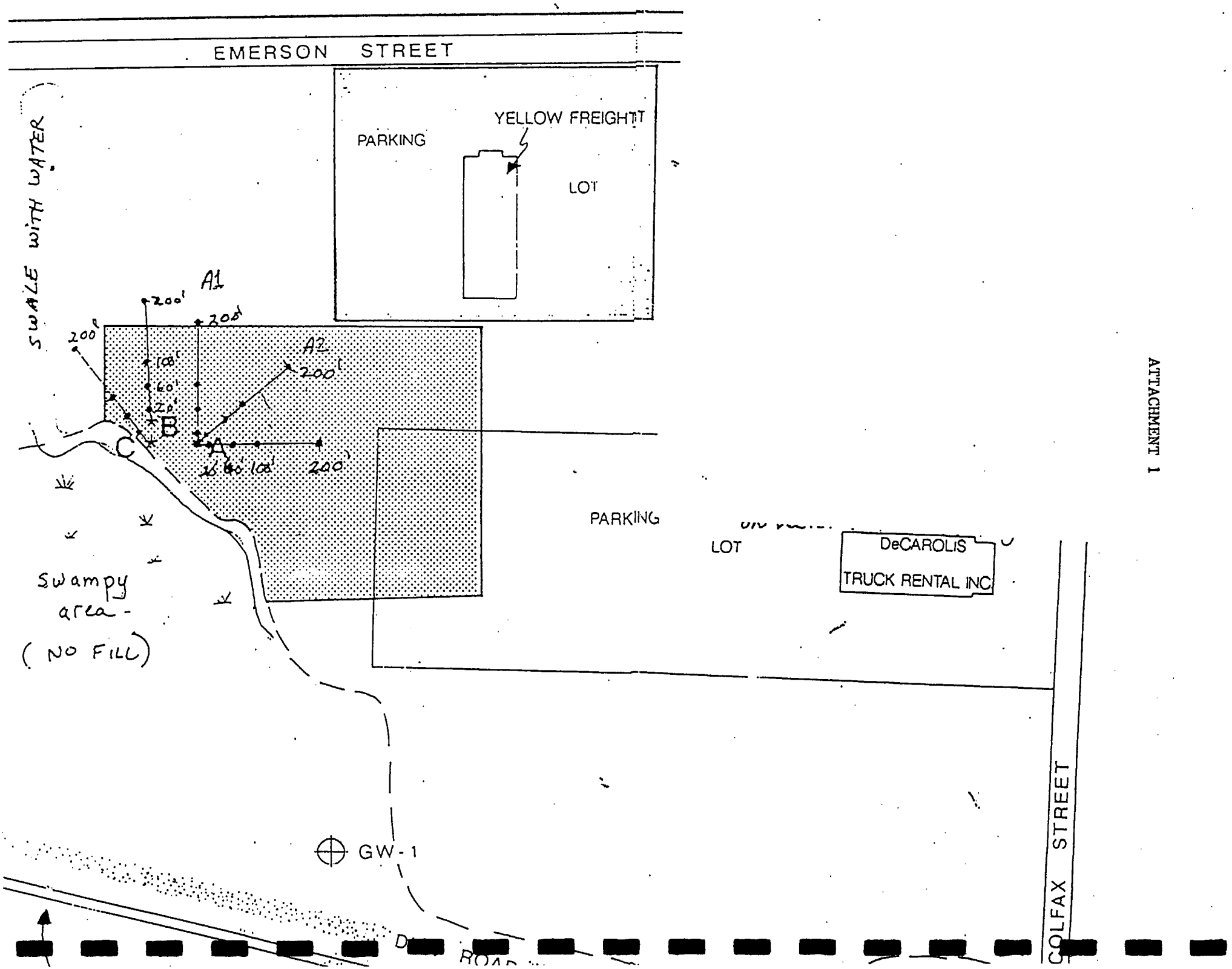
In selecting the appropriate alternative the Bureau considered the evolving philosophy of radiation protection on

which current and proposed regulations and standards are developed, as well as the relative quantity of waste materials on the subject site and the associated costs of disposal. Referring to Attachment (4), allowing the wastes to remain in place with an appropriate cover would, by strict adherence to the guidelines, require issuance of a radioactive materials license (option 5). Selection of options 2 or 4 is acceptable, however, considering the relatively small volume of expected wastes and the goal of environmental protection, the Bureau has determined that selection of option 1 is both practicable and preferrable.

Accordingly, the Bureau recommends that the site be remediated by removal of all wastes and soil contaminated with thorium-232 at a concentration greater than 10 pCi/g. The wastes contain sufficient concentrations of thorium-232 to meet the definition of source material pursuant to the Atomic Energy Act of 1954 as amended (> 54.5 pCi/g). Therefore, the wastes and contaminated soil should be disposed as low-level radioactive waste by transfer to a USNRC licensed disposal site. Since the wastes extend below the surface of the landfill, the exact volume of radioactive waste can only be determined upon completion of the decontamination work, although based on the survey data it is unlikely that the total volume will exceed 3 cubic meters (approximately 100 cubic feet).

Conclusion

A workplan describing the proposed remediation work should be submitted to the Bureau for review and approval prior to commencing decontamination. A report of the waste removal and waste disposal actions, including copies of final radiation surveys, confirmatory sample analysis results, and waste disposal manifests should be submitted to the Bureau upon completion of remedial actions.



ATTACHMENT 1

ATTACHMENT 2

Emmerson Street Landfill

Collection Point	Bureau of Radiation Sample Number	Clean Harbors Analytical Services Sample Number
Upstream Sediment	NR-8-89-001-041	8905168-01
Downstream Sediment	NR-8-89-001-042	8905168-02
RAD-5 (Location C)	NR-8-89-001-043	8905168-03
RAD-6 (Location B)	NR-8-89-001-044	8905168-04
RAD-7 (Location A)	NR-8-89-001-045	8905168-05

ATTACHMENT 2

CleanHarbors
ANALYTICAL SERVICES
325 WOOD ROAD, BRAINTREE, MA 02184
(617) 849-6070

REPORT OF ANALYSIS

New York State Department
of Environmental Conservation
50 Wolf Road
Albany, NY 12233-7255

Attn: Mr. Ed Johnson

Collected By: Bureau of Radiation

Sampling Date: 05/13/89

Case No.: NR-8-89 SDG No.: 001

Sample No.: 041

Matrix: Soil

CHAS Lab. No.: 8905168-01

3213

	Concentration (pCi/g)
Uranium Series	
Total Uranium	0.4 ± 0.1
Uranium-235	0.2 ± 0.2
Uranium-238	LT 20
Radium-226	1.4 ± 0.3
Thallium-210	LT 0.12
Thorium Series	
Actinium-228	1.9 ± 0.7
Lead-212	1.8 ± 0.3
Thallium-208	1.7 ± 0.5
Other Nuclides	
Cobalt-60	LT 0.14
Potassium-40	26 ± 4
Cesium-137	0.3 ± 0.2

Note: LT = Less than 2 standard deviations in the net count rate or the procedure detection limit.

The information contained in this report is, to the best of my knowledge, accurate and complete.

Per/Date: Richard C. Fix 6/28/89
Richard C. Fix
Director, Technical Services

ATTACHMENT 2

CleanHarbors

ANALYTICAL SERVICES
325 WOOD ROAD, BRAINTREE, MA 02184
(617) 849-6070

REPORT OF ANALYSIS

New York State Department
of Environmental Conservation
50 Wolf Road
Albany, NY 12233-7255

Attn: Mr. Ed Johnson

Collected By: Bureau of Radiation

Sampling Date: 05/13/89

Case No.: NR-8-89 SDG No.: 001

Sample No.: 042

Matrix: Soil

CHAS Lab. No.: 8905168-02

	Concentration (pCi/g)
Uranium Series	
Total Uranium	LT 0.3
Uranium-235	LT 0.14
Uranium-238	LT 20
Radium-226	0.7 ± 0.3
Thallium-210	LT 0.11
Thorium Series	
Actinium-228	1.5 ± 0.6
Lead-212	1.6 ± 0.3
Thallium-208	1.2 ± 0.4
Other Nuclides	
Cobalt-60	LT 0.14
Potassium-40	22 ± 4
Cesium-137	0.6 ± 0.2

DIV. HAZARD
BUREAU

Note: LT = Less than 2 standard deviations in the net count rate or the procedure detection limit.

The information contained in this report is, to the best of my knowledge, accurate and complete.

Per/Date: Richard C. Fix 6/28/89
Richard C. Fix
Director, Technical Services

ATTACHMENT 2

CleanHarbors

ANALYTICAL SERVICES
325 WOOD ROAD, BRAINTREE, MA 02184
(617) 849-6070

REPORT OF ANALYSIS

New York State Department
of Environmental Conservation
50 Wolf Road
Albany, NY 12233-7255

Attn: Mr. Ed Johnson

Collected By: Bureau of Radiation

Sampling Date: 05/13/89

Case No.: NR-8-89 SDG No.: 001

Sample No.: 043

Matrix: Soil

CHAS Lab. No.: 8905168-03

DIV. HAZARDOUS BUREAU

Uranium Series	Concentration (pCi/g)
Total Uranium	0.8 ± 0.2
Uranium-235	LT 0.7
Uranium-238	LT 60
Radium-226	1.6 ± 1.1
Thallium-210	4.8 ± 0.6
Thorium Series	
Actinium-228	109 ± 5
Lead-212	131 ± 2
Thallium-208	112 ± 4
Other Nuclides	
Cobalt-60	LT 0.4
Potassium-40	14 ± 5
Cesium-137	LT 0.6

Note: LT = Less than 2 standard deviations in the net count rate or the procedure detection limit.

The information contained in this report is, to the best of my knowledge, accurate and complete.

Per/Date: Richard C. Fix 6/28/89
Richard C. Fix
Director, Technical Services

ATTACHMENT 2

CleanHarbors

ANALYTICAL SERVICES
325 WOOD ROAD, BRAINTREE, MA 02184
(617) 849-6070

REPORT OF ANALYSIS

New York State Department
of Environmental Conservation
50 Wolf Road
Albany, NY 12233-7255

Attn: Mr. Ed Johnson

Collected By: Bureau of Radiation

Sampling Date: 05/13/89

Case No.: NR-8-89 SDG No.: 001

Sample No.: 044

Matrix: Soil

CHAS Lab. No.: 8905168-04

	Concentration (pCi/g)
Uranium Series	
Total Uranium	0.4 ± 0.1
Uranium-235	LT 1.2
Uranium-238	LT 90
Radium-226	LT 2
Thallium-210	27.7 ± 1.0
Thorium Series	
Actinium-228	647 ± 8
Lead-212	687 ± 4
Thallium-208	654 ± 6
Other Nuclides	
Cobalt-60	LT 0.7
Potassium-40	76 ± 8
Cesium-137	LT 0.9

Note: LT = Less than 2 standard deviations in the net count rate or the procedure detection limit.

The information contained in this report is, to the best of my knowledge, accurate and complete.

Per/Date: Richard C. Fix 6/28/89
Richard C. Fix
Director, Technical Services

ATTACHMENT 2

CleanHarbors

ANALYTICAL SERVICES
325 WOOD ROAD, BRAINTREE, MA 02184
(617) 849-6070

REPORT OF ANALYSIS

New York State Department
of Environmental Conservation
50 Wolf Road
Albany, NY 12233-7255

Attn: Mr. Ed Johnson

Collected By: Bureau of Radiation

Sampling Date: 05/13/89

Case No.: NR-8-89 SDG No.: 001

Sample No.: 045

Matrix: Soil

CHAS Lab. No.: 8905168-05

	Concentration (pCi/g)
Uranium Series	
Total Uranium	LT 0.3
Uranium-235	0.3 ± 0.2
Uranium-238	LT 20
Radium-226	3.1 ± 0.4
Thallium-210	LT 0.13
Thorium Series	
Actinium-228	3.6 ± 0.9
Lead-212	4.5 ± 0.4
Thallium-208	3.3 ± 0.6
Other Nuclides	
Cobalt-60	LT 0.13
Potassium-40	20 ± 4
Cesium-137	0.2 ± 0.2

Note: LT = Less than 2 standard deviations in the net count rate or the procedure detection limit.

The information contained in this report is, to the best of my knowledge, accurate and complete.

Per/Date: Richard C. Fix 6/28/89
Richard C. Fix
Director, Technical Services

ATTACHMENT 3

Radiological Investigation

Emmerson Street Landfill

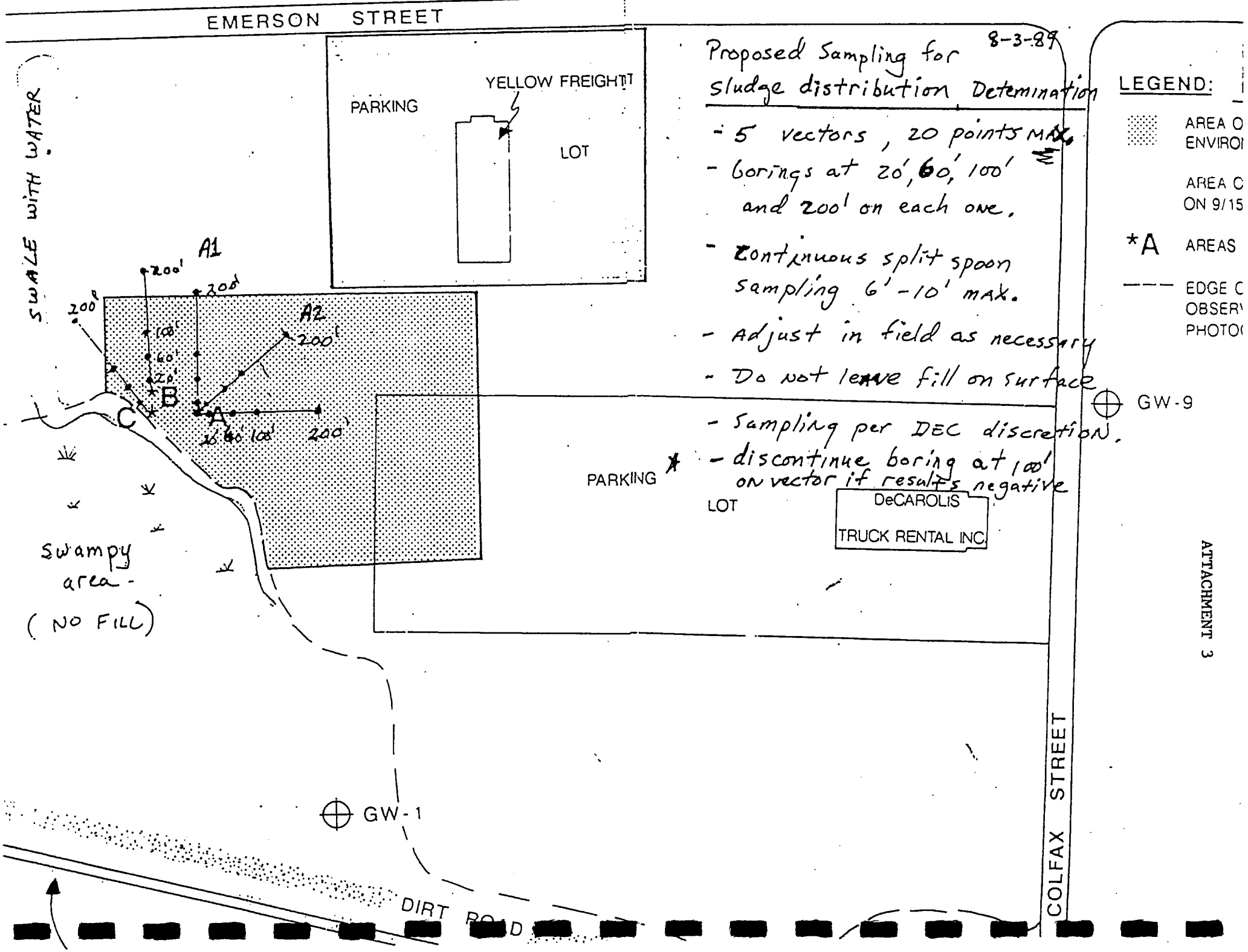
August 7, 1989

Objective:

On August 7 John Mitchell with the Bureau of Radiation arrived at Emmerson Street Landfill and met with Todd Caffoe DEC Region 8 site engineer. Also on site was a contracted driller. Our objective was to use the three "warm spots" located in earlier surveys as centroids and core at intervals of 20', 60, 100' and 200' along several vectors from those centroids.

Results:

These cores were performed using a split spoon. Each core section was frisked for radioactivity. No areas of greater than twice background were located, however, soil samples were collected at various core locations and depths. Attachment 1 lists core locations, sample locations and measurements. Attachment 2 are the sampling analysis results.



Proposed Sampling for sludge distribution Detemination 8-3-89

- 5 vectors, 20 points MAX.
- borings at 20', 60', 100' and 200' on each one.
- Continuous split spoon sampling 6'-10' max.
- Adjust in field as necessary
- Do not leave fill on surface
- Sampling per DEC discretion.
- discontinue boring at 100' on vector if results negative

ATTACHMENT 3

ATTACHMENT 3

Emmerson Street Landfill
Sample Cross Reference

Clean Harbors Analytical Services Sample Number	Sample Location Vector/Distance from Centroid	Depth
080789001	A1/Centroid	0 - 2'
080789002	A1/Centroid	2 - 4'
080789003	A1/20'	2 - 4'
080789004	A1/60'	0 - 2'
080789005	A2/33'	0 - 2'
080789006	A2/63'	2 - 4'
080789007	A2/93'	0 - 2'

ATTACHMENT 3

CleanHarbors

ANALYTICAL SERVICES
325 WOOD ROAD, BRAINTREE, MA 02184
(617) 849-6070

REPORT OF ANALYSIS

New York State Department
of Environmental Conservation
50 Wolf Road
Albany, NY 12233-7255

Attn: Mr. Ed Johnson

Collected By: Bureau of Radiation

Sampling Date: 08/07/89

Case No.: NR-8-89 SDG No.: 001

Sample No.: 080789001

Matrix: Soil/Sediment

CHAS Lab. No.: 8908159-01W

Uranium Series	Concentration (pCi/g)
Total Uranium	0.7 ± 0.1
Uranium-235	LT 0.2
Uranium-238	LT 30
Radium-226	2.1 ± 0.5
Thallium-210	0.2 ± 0.2
Thorium Series	
Actinium-228	3.0 ± 1.0
Lead-212	2.5 ± 0.4
Thallium-208	1.9 ± 0.7
Other Nuclides	
Cobalt-60	LT 0.2
Potassium-40	11 ± 4
Cesium-137	0.7 ± 0.2

Note: LT = Less than 2 standard deviations in the net count rate or the procedure detection limit.

The information contained in this report is, to the best of my knowledge, accurate and complete.

Per/Date: Richard C. Fix 10/2/89
Richard C. Fix
Director, Technical Services

ATTACHMENT 3

CleanHarbors

ANALYTICAL SERVICES
325 WOOD ROAD, BRAINTREE, MA 02184
(617) 849-6070

REPORT OF ANALYSIS

New York State Department
of Environmental Conservation
50 Wolf Road
Albany, NY 12233-7255

Attn: Mr. Ed Johnson

Collected By: Bureau of Radiation

Sampling Date: 08/07/89

Case No.: NR-8-89 SDG No.: 001

Sample No.: 080789002

Matrix: Soil/Sediment

CHAS Lab. No.: 8908159-02W

Uranium Series	Concentration (pCi/g)
Total Uranium	LT 0.3
Uranium-235	LT 0.11
Uranium-238	LT 12
Radium-226	1.0 ± 0.2
Thallium-210	LT 0.09
Thorium Series	
Actinium-228	1.4 ± 0.5
Lead-212	1.2 ± 0.2
Thallium-208	1.0 ± 0.3
Other Nuclides	
Cobalt-60	LT 0.08
Potassium-40	8 ± 2
Cesium-137	0.17 ± 0.10

Note: LT - Less than 2 standard deviations in the net count rate or the procedure detection limit.

The information contained in this report is, to the best of my knowledge, accurate and complete.

Per/Date: Richard C. Fix 10/2/89
Richard C. Fix
Director, Technical Services

ATTACHMENT 3

CleanHarbors

ANALYTICAL SERVICES
325 WOOD ROAD, BRAINTREE, MA 02184
(617) 849-6070

REPORT OF ANALYSIS

New York State Department
of Environmental Conservation
50 Wolf Road
Albany, NY 12233-7255

Attn: Mr. Ed Johnson

Collected By: Bureau of Radiation

Sampling Date: 08/07/89

Case No.: NR-8-89 SDG No.: 001

Sample No.: 080789003

Matrix: Soil/Sediment

CHAS Lab. No.: 8908159-03W

Uranium Series	Concentration (pCi/g)
Total Uranium	0.6 ± 0.1
Uranium-235	LT 0.3
Uranium-238	LT 60
Radium-226	0.9 ± 0.7
Thallium-210	LT 0.3
Thorium Series	
Actinium-228	LT 1.4
Lead-212	1.6 ± 0.6
Thallium-208	LT 1.1
Other Nuclides	
Cobalt-60	LT 0.3
Potassium-40	LT 7
Cesium-137	LT 0.3

Note: LT = Less than 2 standard deviations in the net count rate or the procedure detection limit.

The information contained in this report is, to the best of my knowledge, accurate and complete.

Per/Date: Richard C. Fix 10/2/89
Richard C. Fix
Director, Technical Services

ATTACHMENT 3

CleanHarbors
ANALYTICAL SERVICES
325 WOOD ROAD, BRAINTREE, MA 02184
(617) 849-6070

REPORT OF ANALYSIS

New York State Department
of Environmental Conservation
50 Wolf Road
Albany, NY 12233-7255

Attn: Mr. Ed Johnson

Collected By: Bureau of Radiation

Sampling Date: 08/07/89

Case No.: NR-8-89 SDG No.: 001

Sample No.: 080789004

Matrix: Soil/Sediment

CHAS Lab. No.: 8908159-04W

Uranium Series	Concentration (pCi/g)
Total Uranium	LT 0.3
Uranium-235	LT 0.2
Uranium-238	LT 30
Radium-226	0.6 ± 0.4
Thallium-210	LT 0.2
Thorium Series	
Actinium-228	0.9 ± 0.7
Lead-212	0.6 ± 0.3
Thallium-208	LT 0.5
Other Nuclides	
Cobalt-60	LT 0.2
Potassium-40	14 ± 5
Cesium-137	0.2 ± 0.2

Note: LT = Less than 2 standard deviations in the net count rate or the procedure detection limit.

The information contained in this report is, to the best of my knowledge, accurate and complete.

Per/Date: Richard C. Fix 10/2/89
Richard C. Fix
Director, Technical Services

ATTACHMENT 3

CleanHarbors
ANALYTICAL SERVICES
325 WOOD ROAD, BRAINTREE, MA 02184
(617) 849-6070

REPORT OF ANALYSIS

New York State Department
of Environmental Conservation
50 Wolf Road
Albany, NY 12233-7255

Attn: Mr. Ed Johnson

Collected By: Bureau of Radiation

Sampling Date: 08/07/89

Case No.: NR-8-89 SDG No.: 001

Sample No.: 080789005

Matrix: Soil/Sediment

CHAS Lab. No.: 8908159-05W

Uranium Series	Concentration (pCi/g)
Total Uranium	LT 0.3
Uranium-235	LT 0.3
Uranium-238	LT 50
Radium-226	0.9 ± 0.7
Thallium-210	LT 0.3
Thorium Series	
Actinium-228	LT 1.2
Lead-212	1.2 ± 0.5
Thallium-208	1.4 ± 0.9
Other Nuclides	
Cobalt-60	LT 0.3
Potassium-40	10 ± 6
Cesium-137	LT 0.3

Note: LT = Less than 2 standard deviations in the net count rate or the procedure detection limit.

The information contained in this report is, to the best of my knowledge, accurate and complete.

Per/Date: Richard C. Fix 10/2/89
Richard C. Fix
Director, Technical Services

ATTACHMENT 3

CleanHarbors
ANALYTICAL SERVICES
325 WOOD ROAD, BRAINTREE, MA 02184
(617) 849-6070

REPORT OF ANALYSIS

New York State Department
of Environmental Conservation
50 Wolf Road
Albany, NY 12233-7255

Attn: Mr. Ed Johnson

Collected By: Bureau of Radiation

Sampling Date: 08/07/89

Case No.: NR-8-89 SDG No.: 001

Sample No.: 080789006

Matrix: Soil/Sediment

CHAS Lab. No.: 8908159-06W

Uranium Series	Concentration (pCi/g)
Total Uranium	LT 0.3
Uranium-235	0.12 ± 0.11
Uranium-238	LT 15
Radium-226	1.1 ± 0.2
Thallium-210	LT 0.08
Thorium Series	
Actinium-228	1.5 ± 0.5
Lead-212	1.7 ± 0.2
Thallium-208	1.1 ± 0.4
Other Nuclides	
Cobalt-60	LT 0.09
Potassium-40	8 ± 2
Cesium-137	0.11 ± 0.10

Note: LT = Less than 2 standard deviations in the net count rate or the procedure detection limit.

The information contained in this report is, to the best of my knowledge, accurate and complete.

Per/Date: Richard C. Fix 10/2/89
Richard C. Fix
Director, Technical Services

ATTACHMENT 3

CleanHarbors
ANALYTICAL SERVICES
325 WOOD ROAD, BRAINTREE, MA 02184
(617) 849-6070

REPORT OF ANALYSIS

New York State Department
of Environmental Conservation
50 Wolf Road
Albany, NY 12233-7255

Attn: Mr. Ed Johnson

Collected By: Bureau of Radiation

Sampling Date: 08/07/89

Case No.: NR-8-89 SDG No.: 001

Sample No.: 080789007

Matrix: Soil/Sediment

CHAS Lab. No.: 8908159-07W

Uranium Series	Concentration (pCi/g)
Total Uranium	0.4 ± 0.1
Uranium-235	0.4 ± 0.3
Uranium-238	LT 40
Radium-226	2.0 ± 0.7
Thallium-210	LT 0.3
Thorium Series	
Actinium-228	2.3 ± 1.5
Lead-212	2.8 ± 0.6
Thallium-208	1.9 ± 0.9
Other Nuclides	
Cobalt-60	LT 0.2
Potassium-40	7 ± 6
Cesium-137	0.3 ± 0.3

Note: LT - Less than 2 standard deviations in the net count rate or the procedure detection limit.

The information contained in this report is, to the best of my knowledge, accurate and complete.

Per/Date: Richard C. Fix 10/2/89
Richard C. Fix
Director, Technical Services

The Assistant Secretary finds that good cause exists for not publishing the supplement to the Puerto Rico State Plan as a proposed change and making the Regional Administrator's approval effective upon publication for the following reasons:

1. The standards are identical to the Federal standards which were promulgated in accordance with Federal law meeting requirements for public participation.

2. The standards were adopted in accordance with the procedural requirement of State Law and further participation would be unnecessary.

The decision is effective October 23, 1981.

(Sec. 18 Pub. L. 91-596, 84 Stat. 1608 (29 U.S.C. 667))

Signed at New York City, New York, this 15th day of June 1981.

Roger A. Clark,

Regional Administrator.

[FR Doc. 81-30748 Filed 10-23-81; 8:45 am]

BILLING CODE 4510-26-M

NUCLEAR REGULATORY COMMISSION

Advisory Committee on Reactor Safeguards, Subcommittee on Callaway Plant; Location Change

The ACRS Subcommittee on Callaway Plant will hold a meeting on November 4 and 5, 1981, at the HOLIDAY INN-WEST, 1900 I-70 Drive Southwest, Columbia, MO instead of the Hilton Inn.

Notice of this meeting was published in the Federal Register on October 19, 1981 (46 FR 51329), and all other items remain the same except for the location change as indicated above.

Dated: October 19, 1981.

John C. Hoyle,

Advisory Committee, Management Officer.

[FR Doc. 81-30733 Filed 10-23-81; 8:45 am]

BILLING CODE 7590-01-M

Disposal or Onsite Storage of Thorium or Uranium Wastes From Past Operations

AGENCY: Nuclear Regulatory Commission (NRC).

ACTION: Discussion of options for NRC approval of applications for disposal or onsite storage of thorium or uranium wastes; interim use and public comment.

SUMMARY: This notice discusses five options for NRC approval of disposal or onsite storage or thorium or uranium wastes from past nuclear operations. The options are contained in a Branch Technical Position for administration by the Uranium Fuel Licensing Branch, Division of Fuel Cycle and Material Safety, Office of Nuclear Material Safety and Safeguards.

DATES: Comments on the options for disposal or onsite storage of thorium or uranium are encouraged. Such comments will be considered in any subsequent revision of the Branch Technical Position. Comments are due December 22, 1981.

Note.—Comments received after the expiration date will be considered if it is practical to do so, but assurance of consideration cannot be given except as to comments filed on or before that date.

FOR FURTHER INFORMATION CONTACT: Ralph G. Page, Chief, Uranium Fuel Licensing Branch, Division of Fuel Cycle and Material Safety, Office of Nuclear Material Safety and Safeguards, Washington, D.C. 20555, telephone 301-427-4309.

SUPPLEMENTARY INFORMATION:

I. Introduction

Some of the sites formerly used for processing thorium and uranium are known today to be contaminated with residual radioactive materials. Some are currently covered by NRC licenses. Others were once licensed, but the licenses to possess and use material have expired. In many cases, the total amount of contaminated soil is large, but the activity concentrations of radioactive materials are believed sufficiently low to justify their disposal on privately owned lands or storage onsite rather than their transport to a licensed radioactive materials disposal (commercial) site. In many instances packaging and transporting these wastes to a licensed disposal site would be too costly and not justified from the standpoints of risk to the public health or cost-benefit. Furthermore, because of the total volume of these wastes, limited commercial waste disposal capacity, and restrictions placed on receipt of long-lived wastes at commercial sites, it is not presently feasible to dispose of these wastes at commercial low-level waste disposal sites.

Effective January 28, 1981, NRC regulations in 10 CFR 20, "Standards for Protection Against Radiation", were amended (45 FR 71761-71762) to delete § 20.304 which provided general authority for disposal of radioactive materials by burial in soil. Under the amended regulations, licensees must apply for and obtain specific NRC approval to dispose of radioactive materials in this manner under the provisions of 10 CFR 20.302. A case-by-case review was believed needed to assure that burial of radioactive wastes would not present an unreasonable health hazard at some future date.

The deleted provisions of § 20.304 previously permitted burial of up to 100 millicuries of thorium or natural uranium at any one time, with a yearly limitation of 12 burials for each type of material at each site. The only disposal standards specified were (1) burial at a minimum depth of four feet, and (2) successive burials separated by at least six feet. Thus a total of 1.2 curies of these materials were permitted to be disposed of each year by burial in a 12 foot by 18 foot or larger plot of ground.

Under the amended regulations, it is incumbent on an applicant who wants to bury radioactive wastes to demonstrate that local land burial is preferable to other disposal alternatives. The evaluation of the application takes into account the following information:

Types and quantities of material to be buried
Packaging of waste
Burial location
Characteristics of burial site
Depth of burial
Access restrictions to disposal site
Radiation safety procedures during disposal operations
Recordkeeping
Local burial restrictions, if any

For applications involving disposal of soils contaminated with low level concentrations of thorium and uranium (other than concentrations not exceeding EPA cleanup standards), the matters of principal importance are:

Concentrations of thorium and uranium (either in secular equilibrium with their daughters or without daughters present)
Volume of contaminated soil
Costs for offsite and onsite disposal
Availability of offsite burial space
Disposal site characteristics
Depth of burial and accessibility of buried wastes
State and local government views

II. Branch Technical Position

There are five acceptable options for disposal or onsite storage of thorium and uranium contaminated wastes. Applications for disposal or storage will be approved if the guidelines discussed under any option are met. Applications for other methods of disposal may be submitted and these will be evaluated on their own merits.

1. Disposal of acceptably low concentrations (which meet EPA cleanup standards) of natural thorium with daughters in secular equilibrium, depleted or enriched uranium, and

Beecham's free choice) or

(3) contains royalty or other fee provisions having the purpose or effect of restricting or limiting Beecham from making any United States to any person other than its own subsidiary (which amount was manufactured by Bristol, or for Bristol pursuant to a manufacturing agreement, ... pursuant to a manufacturing agreement, anywhere in the world) during the calendar year prior to the period in which 6-APA was not so available.

uranium ores with daughters in secular equilibrium with no restriction on burial method.

Under this option, the concentrations of natural thorium and depleted or enriched uranium wastes are set sufficiently low that no member of the public is expected to receive a radiation dose commitment from the disposed materials in excess of 1 millirad per year to the lung or 3 millirads per year to the bone from inhalation and ingestion, under any foreseeable use of the material or property. These radiation dose guidelines were recommened by the Environmental Protection Agency (EPA) for protection against transuranium elements present in the environment as a result of unplanned contamination (42 FR 60950–60959). In addition, the concentrations are sufficiently low so that no individual may receive an external dose in excess of 10 microroentgens per hour above background. This is compatible with guidelines EPA proposed as cleanup standards for inactive uranium processing sites (46 FR 2556–2563).

For natural uranium ores having daughters in equilibrium, the concentration limit is equal to that set by the EPA (46 FR 2556–2563) for radium-226 (i.e., 5 pCi/gm, including background) and its decay products.

The concentrations specified below are believed appropriate to apply. It is expected, however, that currently licensed operations will be conducted in such a manner as to minimize the possibility of soil contamination and when such occurs the contamination will be reduced to levels as low as reasonably achievable.

Kind of material	Concentration (pCi/gm)
Natural thorium (Th-232 plus Th-228) if all daughters are present and in equilibrium	10
Depleted Uranium	35
Enriched Uranium	30
Natural Uranium Ores (U-238 plus U-234) if all daughters are present and in equilibrium	10

The analysis upon which the Branch Technical Position is based is available for inspection at the Commission's Public Document Room at 1717 H St., N.W., Washington, D.C.

The concentrations specified under this option may be compared with naturally occurring thorium and uranium ore concentrations of 1.3 pCi/gm in igneous rock and uranium concentrations of 120 pCi/gm in Florida phosphate rock and 50–80 pCi/gm in Tennessee bituminous shale. Concentration limits for natural thorium and natural uranium ore wastes containing daughters not at secular equilibrium can be calculated on a case-by-case basis using the applicable isotopic activities data.

2. Disposal of certain low concentrations of natural thorium with daughters in secular equilibrium and depleted or enriched uranium with no daughters present when buried under prescribed conditions with no subsequent land use restrictions and no continuing NRC licensing of the material.

Under this option the concentrations of natural thorium and uranium are set sufficiently low so that no member of the public will receive a radiation dose exceeding those discussed under option 1 when the wastes are buried in an approved manner absent intrusion into the burial grounds. This option will require establishing prescribed conditions for disposal in the license, such as depth and distribution of material, to minimize the likelihood of intrusion. Burial will be permitted only if it can be demonstrated that the buried materials will be stabilized in place and not be transported away from the site.

Acceptability of the site for disposal will depend on topographical, geological, hydrological and meteorological characteristics of the site. At a minimum, burial depth will be at least four feet below the surface. In the event that there is an intrusion into the burial ground, no member of the public will likely receive a dose in excess fo 170 millirems to a critical organ. An average dose not exceeding 170 millirems to the whole body for all members of a general population is recommended by international and national radiation expert bodies to limit population doses. With respect to limiting doses to individual body organs, the concentrations are sufficiently low that no individual will receive a dose in excess of 170 millirems to any organ from exposure to natural thorium, depleted uranium, or enriched uranium.

The average activity concentration of radioactive material that may be buried under this option in the case of natural thorium (Th-232 plus Th-228) is 50 pCi/gm, if all daughters are present and in equilibrium; for enriched uranium it is 100 pCi/gm if the uranium is soluble and 250 pCi/gm if insoluble; for depleted uranium it is 100 pCi/gm if the uranium is soluble and 300 pCi/gm if insoluble. Natural uranium ores containing radium 226 and its daughters are not included under this option, because of possible radon 222 emanations and resultant higher than acceptable exposure of individuals in private residences if houses were built over buried materials.

3. Disposal of low concentrations of natural uranium ores, with all daughters in equilibrium, when buried under prescribed conditions in areas zoned for industrial use and the recorded title documents are amended to state that the specified land contains buried radioactive materials and are conditioned in a manner acceptable under state law to impose a covenant running with the land that the specified land may not be used for residential building. (There is no continuing NRC licensing of the material.)

Disposal will be approved if the burial criteria outlined in option 2 (including burial at a minimum of 4 feet) are met. Depending upon local soil characteristics, burials at depths greater than 4 feet may be required. In order to assure protection against radon 222 releases (daughter in decay chain of uranium 238 and uranium 234), it is necessary that the recorded title documents be amended to state in the permanent land records that no residential building should be permitted over specified areas of land where natural uranium ore residues (U-238 plus U-234) in concentrations exceeding 10 pCi/gm has been buried. Industrial building is acceptable so long as the concentration of buried material does not exceed 40 pCi/gm of uranium (i.e., Ra-226 shall not exceed 20 pCi/gm).

4. Disposal of land-use-limited concentrations of natural thorium or natural uranium with daughters in secular equilibrium and depleted or enriched uranium without daughters present when buried under prescribed conditions in areas zoned for industrial use and the recorded title documents are amended to state that the land contains buried radioactive material and are conditioned in a manner acceptable under state law to impose a covenant running with land that the land (1) may not be excavated below stated depths in specified areas of land unless cleared by appropriate health authorities, (2) may not be used for residential or industrial structures over specified areas where radioactive materials in concentrations higher than specified in options 2 and 3 are buried, and (3) may not be used for agricultural purposes in the specified areas. (There is no continuing NRC licensing of the disposal site.)

Under this option, conditions of burial will be such that no member of the public will receive radiation doses in excess of those discussed under option 1 absent intrusion into the burial ground. Criteria for disposal under these conditions is predicated upon the assumption that intentional intrusion is less likely to occur if a warning is given

in land documents of record not to excavate below burial depths in specified areas of land without clearance by health authorities; not to construct residential or industrial building on the site; and not to use specified areas of land for agricultural purposes. Because of this, we believe it appropriate to apply a maximum critical organ exposure limit of 500 millirems per year to thorium and uranium buried under this restriction instead of 170 millirems as used in options 2 and 3. In addition, any exposure to such materials is likely to be more transient than assumed (essentially continual exposure) under those options. These two factors combine to increase the activity concentration limits calculated under option 2 by about 10. Thus, the average concentration that may be buried under this option for thorium (Th-232 plus Th-228) is 500 pCi/gm if all daughters are present and in equilibrium; for enriched uranium it is 1000 pCi/gm if the uranium is soluble and 2500 pCi/gm if insoluble; and for depleted uranium it is 1000 pCi/gm if the uranium is soluble and 3000 pCi/gm if insoluble.

With respect to natural uranium with daughters present and in equilibrium, the concentration that may be buried under this option is 200 pCi/gm of U-238 plus U-234, i.e., 100 pCi/gm Ra-226. This concentration is based on a limited exposure of 2.4 hours per day to limit the radon dose to less than 0.5 working level month (WLM) which is equivalent to continuous exposure to 0.02 working level (WL). Depending upon local soil characteristics, burials at depths greater than 4 feet may be required.

SUMMARY OF MAXIMUM CONCENTRATIONS PERMITTED UNDER DISPOSAL OPTIONS

Kind of Material	Disposal Options			
	1 [1]	2 [2]	3 [3]	4 [4]
Natural Thorium (Th-232 + Th-228) with daughters present and in equilibrium	10	50	.	500
Natural Uranium (U-238 + U-234) with daughters present and in equilibrium	10		40	200
Depleted Uranium				
Soluble	35	100		1,000
Insoluble	35	300		3,000
Enriched Uranium				
Soluble	30	100		1,000
Insoluble	30	250		2,500

[1] Based on EPA cleanup standards.
[2] Concentrations based on limiting individual doses to 170 mrem/yr.
[3] Concentration based on limiting equivalent exposure to 0.02 working level or less.
[4] Concentrations based on limiting individual doses to 500 mrem/yr and, in case of natural uranium, limiting exposure to 0.02 working level or less.

5. Storage of licensed concentrations of thorium and uranium onsite pending the availability of an appropriate disposal site.

When concentrations exceed those specified in option 4, long term disposal other than at a licensed disposal site will not normally be a viable option under the provisions of 10 CFR 20.302. In such cases, the thorium and uranium may be permitted to be stored onsite under an NRC license until a suitable method of disposal is found. License conditions will require that radiation doses not exceed those specified in 10 CFR Part 20 and be maintained as low as reasonably achievable.

Before approving an application to dispose of thorium or uranium under options 2, 3, or 4, NRC will solicit the view of appropriate State health officials within the State in which the disposal would be made.

Dated at Silver Spring, Maryland this 19th day of October, 1981.

Richard E. Cunningham,

Director, Division of Fuel Cycle and Material Safety, Office of Nuclear Material Safety and Safeguards.

[FR Doc. 81-30408 Filed 10-22-81; 8:45 am]

BILLING CODE 7590-01-M

OFFICE OF PERSONNEL MANAGEMENT

Postponement of Application Deadline for Fund-Raising Privileges Among Federal Employees by Private Voluntary Organizations

Section 5.43 of the "Manual on Fund-Raising Within the Federal Service for Voluntary Health and Welfare Agencies" sets December 1 of each year as the deadline by which national voluntary agencies must submit applications for participation in the Combined Federal Campaign (CFC) to be conducted in the fall of the following year. This year's deadline is being postponed from December 1, 1981, to February 1, 1982. In June 1981, the U.S. Office of Personnel Management (OPM) announced that the eligibility criteria for participation in the 1982-83 CFC are being reviewed. The deadline date is being postponed to avoid national voluntary agencies having to revise their applications to meet eligibility criteria which may be changed.

Donald J. Devine,

Director.

[FR Doc. 81-30410 Filed 10-22-81; 8:45 am]

BILLING CODE 6325-01-M

OFFICE OF THE UNITED STATES TRADE REPRESENTATIVE

Resolution of Complaint of Price-Undercutting of Subsidized Cheese Imports

On October 1, 1981, the United States Trade Representative received a letter from the Secretary of Agriculture informing him of the Secretary's finding that imported Grade A Swiss type cheese produced in Finland has been offered for sale in the United States at duty-paid wholesale prices which are five cents per pound less than the domestic wholesale market price of similar cheese produced in the United States.

In accordance with Section 702(c)(2) of the Trade Agreements Act of 1979 (the Act) (19 U.S.C. 1202 note), the Office of the United States Trade Representative notified Finland of the price undercutting determination made by the Secretary of Agriculture, requested that corrective action be taken, and asked for appropriate assurances concerning the commitments made in the Arrangement Between the United States and Finland Concerning Cheese.

On October 14, 1981, Finland notified the United States Trade Representative that measures have been taken to ensure that the duty-paid wholesale price of imported Grade A Swiss type cheese produced in Finland will not be less than the domestic wholesale market price of similar cheese produced in the United States. In addition, Finland gave assurance that it will respect the price commitments in the Arrangement. Since the above notification by Finland has occurred within the 15-day period provided in Section 702(c)(3) of the Act, the United States Trade Representative has notified the Secretary of Agriculture of his belief that no further action is required.

William E. Brock,

United States Trade Representative.

[FR Doc. 81-30404 Filed 10-22-81; 8:45 am]

BILLING CODE 3190-01-M

SECURITIES AND EXCHANGE COMMISSION

[Release No. 22236; 70-6650]

Arkansas Power & Light Co.; Proposed Issuance and Sale of First Mortgage Bonds

October 19, 1981.

Arkansas Power & Light Company

Emerson Street Landfill Aug 7, 1989

BKG 5-7 μR/hr 25-35 cpm

Surface reading before Coring → 12-15 μR/hr 70 cpm

Vector # A1 = At centroid

Distance from Centroid		Depth	Reading & Notes
At Centroid	Sample #1	0	
		1'	25-30 cpm Top½ Gray Brown Fill, Some brick & glass / Alt. bands of red brown cinders fill, white Ash
		2	
	Sample #2	3	40-50 cpm Some White Ash
		4	
		5	40-50 cpm
		6	
		7	40 cpm
		8	
		9	
		10	

Regionals

Vector A1 A2

Distance from centroid	Depth	Reading & Notes
20'	0-2'	20-30 cpm
sample #3	2-4'	25-35 cpm
	4-6'	30 cpm

Reading before Coring 25-35 cpm 5 μR/h

Sample was about mud-core white gray ash ~40-5 cpm

Vector A1 Regional A3

Distance from centroid		Depth	Reading & Notes
60'	Sample #4	0	
		1	25 at Top - 35 cpm at bottom Sampled bottom ½ gray fine silt & Ash
		2	
		3	30 cpm 4 μR/hr
		4	
		5	30 cpm
		6	
		7	
		8	
		9	
		10	

Surface reading before coring 20-25 cpm 5 μR/hr

Vector A1

Regionals A4

Distance from centroid	Depth	Reading & Notes
100'	0	
	1'	25-35 cpm
	2	
	3	"
	4	
	5	"
	6	
	7	
	8	
	9	
	10	

Vector A2 Regional's A5

Distance from Centroid		Depth	Reading & Notes
		0	
[redacted] 33'	Sample #5	1'	25-35cpm
		2	
		3	25-35cpm
		4	
		5	45cpm Blk & White Ash & cinders
		6	
		7	25cpm
		8	
		9	
		10	

Vector A2 Regional's A6

Distance from Centroid	Depth	Reading & Notes
68'	0	
	1	25-30 cpm
	2	Gray brown silty S[illegible]
Sample #6	3	40-50 cpm Rusty Cinders & Slag
	4	White Ash cinders some glass & coal see illustration
	5	35-40 cpm
	6	
	7	
	8	
	9	
	10	

	35-40	40-50	35-40

Took whole Thi[illegible] as sample

Vector A2 Regionals A7

Distance from Centroid		Depth	Reading & Notes
100' (93')	Sample #7	0	
		1	25-35 cpm Brown Redish cinders White Ash
		2	
		3	30-40 cpm
		4	
		5	30 cpm
		6	
		7	
		8	
		9	
		10	

Surface readings before Coring 45cpm 5uR/hr

Vector B

Distance from Centroid	Depth	Reading & Notes
~~20'~~ 38'	0	
	1'	30-35 cpm
	2	
	3	25 cpm
	4	
	5	25 cpm
	6	
	7	30-35 cpm
	8	
	9	
	10	

Vector B

Distance from Centroid	Depth	Reading & Notes
60' (58')	0	
	1	30 cpm
	2	
	3	25-35 cpm
	4	
	5	30 cpm
	6	
	7	
	8	
	9	
	10	

Surface before core 20-25 cpm 5-7 μR/hr

Vector B

Distance from Centroid	Depth	Reading & Notes
100' (98')	0	
	1	30 cpm
	2	
	3	30 cpm
	4	
	5	30 cpm
	6	
	7	
	8	
	9	
	10	

Bkg 25-35 cpm 5-7 uR/hr

Centroid Readings 200 cpm (contact) 20 uR/hr at 1 Meter
55 uR/hr on contact

Vector C

12' from centroid 0-2' 35 cpm ash
2-4 30-35
4-6 30-35
6-8 Water, No Sample

32' from Centroid

Surface reading before Core 25-40 cpm 5-7 uR/hr

0-2 25 cpm
2-4 25 cpm
4-6 No Sample (
6-8 30 cpm

72' from centroid

Surface reading before Core 4 uR/hr 25-35 cpm

0-2 25 cpm
2-4 35 cpm
4-6 25 cpm

Vector C cont.

112' from Centroid

Surface before core 4 uR/hr 25-35 cpm

Depth	
0-2'	30 cpm
2-4	25-30 cpm
4-6	25 cpm

APPENDIX F

BORING LOGS AND METER DATA FOR ASH SAMPLING

Data by: KEVIN McGUINNESS

SUBSURFACE EXPLORATION - TEST BORING LOG

Boring No. TB-1
Project No. 576-005

Project Name: Emerson St. Landfill
Client: NYSDEC
Driller: American Auger
Monitoring Instrument(s): HNU and Micro R

SAMPLE HAMMER
Weight: 140 lb
Fall: 30 in.

Date: 0920 8-8-89 (start) 1030 8-8-89 (finish)
Boring Location: South side of storage building
Total Depth: 10.5'
Depth to Water: ≈ 6'
Hole Diameter: —
Ground Surface Elevation:

Depth	Blows on Sampler 0" to 6"	6" to 12"	12" to 18"	18" to 24"	Retained Sample	Recovery (feet)	Sample No.	Instrument Reading HNU	Moisture Content	Stratigraphic Column	Classification of Material (1 - fine, m - medium, c - coarse; and - 35-50%, some - 20-35%, little - 10-20%, trace - 0-10%)	Remarks
											Augered through ≈.5' of asphalt and gravel	
.5	8										0-.5 - Blk silty SAND and Gravel .5-1.5 - Tan and br mottled fine silty SAND, some hard compact Ash some stone	
		10										
			12									
				9	✓	1.5	–	650	dry			
2.5	4										0-.95 - Grey-blk silt and fine SAND	No white ash like Borings A, B, or C
		6										
			5									
				10	✓	.95	–	*30	dry			
4.5	12										0-.62 - Gray-blk silt, ash, cinders.	clay-like soft damp
		7										
			3									
				3	✓	.62	–	*15	damp			
6.5	1										0-.4 - Gray blk silt, some stone and leather-like material	Still filled land
		1										
			1									
				1	✓	.41	–	*5	wet			
8.5	11										0-1.12 - Reddish-gray (red shale colored) fine silty SAND and small stones.	Natural material
		12										
			13									
				17	✓	1.12	–	*12	wet			
10.5												

* Probe extension became contaminated so HNU used without extension

LAWLER, MATUSKY & SKELLY ENGINEERS

Data by DEVIN McGINNESS

SUBSURFACE EXPLORATION - TEST BORING LOG

Boring No. TB-2
Project No. 576-005

Project Name Emerson St. Landfill
Client NYSDEC
Driller American Auger
Monitoring Instrument(s) HNU and Micro R

SAMPLE HAMMER
Weight 140 lb
Fall 30 in.

Date 1100 8-8-89 (start) 1130 8-8-89 (finish)
Boring Location Impoundment Lot N side of storage building
Total Depth 8.5'
Depth to Water —
Hole Diameter
Ground Surface Elevation

Depth	Blows on Sampler 0" to 6"	6" to 12"	12" to 18"	18" to 24"	Retained Sample	Recovery (feet)	Sample No.	Instrument Reading HNU	Moisture Content	Stratigraphic Column	Classification of Material (f - fine, m - medium, c - coarse; and - 35-50%, some - 20-35%, little - 10-20%, trace - 0-10%)	Remarks
											Augered through ≈.5' of asphalt and gravel	
.5	24										0-1.6 - Blk, br + white coal, slag, ash glass, asphalt and sand FILL in a coarse mix.	
		34										
			18									
				21	✓	1.6	-	400	dry			
2.5	2										0-.3 - white and black ash and slag	
		1										
			1									
				1	✓	0.3	-	1.5	dry			
4.5	2										0-.3 - white and black speckeled ash and slag. .3-1.35 - Tan grey green silty sand.	
		2										
			2									
				4	✓	1.35	-	2	dry			
6.5	10										0-.1 - Red brick .1-.6 - Tan-greenish silty sand	
		21										
			29									
				23	✓	0.6	-	1.5	damp			
8.5											Complete at 8.5'	

LAWLER, MATUSKY & SKELLY ENGINEERS

Data by [illegible]

SUBSURFACE EXPLORATION - TEST BORING LOG

Boring No. TB-3
Project No. 576-005

Project Name Emerson St. Landfill
Client NYSDEC
Driller American Auger
Monitoring Instrument(s) HNU and MicroR

SAMPLE HAMMER
Weight 140 lb
Fall 30 in.

Date 1142 8-8-89 (start) 1220 8-8-89 (finish)
Boring Location Impoundment Lot - N of Guard Shack
Total Depth 9'
Depth to Water ≈7'
Hole Diameter
Ground Surface Elevation

Depth	Blows on Sampler 0" to 6"	6" to 12"	12" to 18"	18" to 24"	Retained Sample	Recovery (feet)	Sample No.	Instrument Reading HNU	Moisture Content	Stratigraphic Column	Classification of Material (f - fine, m - medium, c - coarse; and - 35-50%, some - 20-35%, little - 10-20%, trace - 0-10%)	Remarks
											Augered through ≈1' of asphalt and gravel	
1	20										0-1.53 - Asphalt, oily dirt, ash, coal and cinders	
		70										
			53									
				29	✓	1.53	-	5	dry			
3	12										No Recovery	
		7										
			6									
				4	-	NR	-	-	dry			
5	2										0-.15 - Blk asphalt	
		1										
			1									
				1	✓	.15	-	1.5	wet			
7	3										0-.4 - Blk silty sand and gravel .4-.8 - Red-gray silty sand .8-1.55 - Green-gray silty clay	soupy ooze
		4										
			10									
				13	✓	1.55	-	3	wet			
											Complete at 9'	

LAWLER, MATUSKY & SKELLY ENGINEERS

Data by [illegible]

SUBSURFACE EXPLORATION - TEST BORING LOG

Boring No. TB-4
Project No. 576-005

Project Name Emerson St. Landfill
Client NYSDEC
Driller American Auger
Monitoring Instrument(s) HNV and MicroR

SAMPLE HAMMER
Weight 140 lb
Fall 30 in.

Date 1232 8-8-89 (start) 1255 8-8-89 (finish)
Boring Location Inpoundment Lot 150' E of TB-2
Total Depth 8.5'
Depth to Water ≈ 7'
Hole Diameter
Ground Surface Elevation

Depth	BLOWS ON SAMPLER 0" to 6"	6" to 12"	12" to 18"	18" to 24"	Retained Sample	Recovery (feet)	Sample No.	Instrument Reading HNV	Moisture Content	Stratigraphic Column	CLASSIFICATION OF MATERIAL (f - fine, m - medium, c - coarse; and - 35-50%, some - 20-35%, little - 10-20%, trace - 0-10%)	Remarks
											Augered through ≈ .5' of asphalt and gravel	Boring in area of stained surface (motor oil) - may be cause of high HNV readings
.5	7											
		4									0-1.45 - Blk-br white grey asphalt, cinders glass and ash.	
			7									
				11	✓	1.45	-	20-70	dry			
2.5	7										0-1.06 - Blk soot, white ash, asphalt and glass.	
		2										
			4									
				11	✓	1.06	-	20-30	dry			
4.5	7										0-.54 - Tan-white ash, cinders, soot some small stones and wood fragments.	
		12										
			16									
				18	✓	.54	-	17	dry			
6.5	6										0-.42 - Gray-blk sandy gravel and cinders. .42-.72 - Gray-green clay, tr. silt.	
		8										
			12									
				13	✓	.72	-	3-4	wet			
8.5											Complete at 8.5'	

LAWLER, MATUSKY & SKELLY ENGINEERS

APPENDIX G

ANALYTICAL DATA
GROUNDWATER SAMPLES - AUGUST 1989

Lawler, Matusky & Skelly Engineers

RECEIVED

OCT 1 0 1989

BUREAU OF
HAZARDOUS SITE CONTROL
DIVISION OF HAZARDOUS
WASTE REMEDIATION

COMPUCHEM
LABORATORIES

August 28, 1989

Mr. Lawrence Bailey
New York D.E.C.
50 Wolf Road
Albany, NY 12233-3502

EMERSON ST. LANDFILL
#828023

Dear Mr. Bailey:

We at CompuChem® are pleased to provide our report for the analysis you requested. Data for the following samples are enclosed:

	Your ID Number	Our ID Number	Analysis Code	Order Number	Description of Work Requested
GW-3	828023-03	279569	2000	17523/SDG 01	Semi-Volatiles (Style 9)
" -4	828023-04	279573			Volatiles (Style 9)
" -5	828023-05	279555			Pesticide/PCB's (Style 9)
" -6	828023-06	279574			
" -7	828023-07	279562	867		Metals/Cyanides (Style J)

In this report we have included the analytical results, the method reference, and the quality control summary. To obtain additional technical information concerning this report, please contact your Sales Representative. In addition to resolving your questions, they can provide you with a complete overview of our line of services and assist you in identifying those services which will effectively and efficiently support your monitoring program.

For your convenience, your Customer Service Representative can help you place a new order, obtain information about a sample's status or obtain assistance with sample logistics. Your Sales Representative and your Customer Service Representative can be reached at 1/919-549-8263.

Thank you for choosing CompuChem®. We would like to continue providing you analytical support and services. We would appreciate your comments regarding the quality of services you have received from CompuChem®; client satisfaction is important to us. Please address your comments to your Sales or Customer Service Representative at the address given below.

Sincerely,

for Mary E. Mitchell Supervisor,
Report Deliverables

cc: Accounting
(Cover letter only)

cc: Mr. Joseph Coble
New York D.E.C
6274 East Avon-Lima Road
Avon, NY 14414

COMPUCHEM LABORATORIES

CHRONICLE

ITEM NO.	SAMPLE IDENTIFIER	COMPUCHEM® NUMBER	DATE SAMPLE RECEIVED	DATE VOLATILE FRACTION ANALYZED
1.	828023-03	279569	08/09/89	08/13/89
2.	828023-04	279573	08/09/89	08/13/89
3.	828023-05	279555	08/09/89	08/13/89
4.	828023-06	279574	08/09/89	08/13/89
5.	828023-07	279562	08/09/89	08/13/89

VOLATILE

(Blank - Volatile)	CB890813A19
(Spike)	279559/279560
(BFB)	BF890813A19
(Standard)	CS890813A19

ITEM NO.	SAMPLE IDENTIFIER	COMPUCHEM® NUMBER	DATE SAMPLE RECEIVED	DATE SAMPLE EXTRACTED	DATE SEMI-VOLATILE FRACTION ANALYZED
1.	828023-03	279569	08/09/89	08/11/89	08/14/89
2.	828023-04	279573	08/09/89	08/11/89	08/14/89
3.	828023-05	279555	08/09/89	08/11/89	08/14/89
4.	828023-06	279574	08/09/89	08/11/89	08/14/89
5.	828023-07	279562	08/09/89	08/11/89	08/14/89

SEMI-VOLATILE

(Blank - Semi-Volatile)	279963
(Spike)	279556/279557
(DFTPP)	DF890814A05
(Standard)	HG890814A05

(Continued)

COMPUCHEM LABORATORIES

CHRONICLE

ITEM NO.	SAMPLE IDENTIFIER	COMPUCHEM® NUMBER	DATE SAMPLE RECEIVED	DATE SAMPLE EXTRACTED	DATE PESTICIDE/PCB's FRACTION ANALYZED
1.	828023-03	279569	08/09/89	08/11/89	08/18/89
2.	828023-05	279555	08/09/89	08/11/89	08/14/89

PESTICIDE

(Standard)	P3101-P3112
(Blank - Pesticide)	280014
(Standard)	P3701-P3712
(Spike)	279563/279564
(Standard)	P3901-P3912

3.	828023-04	279573	08/09/89	08/11/89	08/18/89
4.	828023-06	279574	08/09/89	08/11/89	08/14/89
5.	828023-07	279562	08/09/89	08/11/89	08/18/89

PESTICIDE

(Standard)	P3801-P3812
(Blank - Pesticide)	280014
(Standard)	P3701-P3712
(Spike)	279563/279564
(Standard)	P3901-P3912

(Page Two - Continued)

COMPUCHEM LABORATORIES

CHRONICLE

ITEM NO.	SAMPLE IDENTIFIER	COMPUCHEM® NUMBER	DATE SAMPLE RECEIVED	DATE METALS ANALYZED
1.	828023-03	279569	08/09/89	08/16/89
2.	828023-04	279573	08/09/89	08/16/89
3.	828023-05	279555	08/09/89	08/16/89
4.	828023-06	279574	08/09/89	08/16/89
5.	828023-07	279562	08/09/89	08/16/89

METALS

(Blank - Metals)	280287
(Spike)	279566
(Duplicate)	279567

ITEM NO.	SAMPLE IDENTIFIER	COMPUCHEM® NUMBER	DATE SAMPLE RECEIVED	DATE CYANIDES ANALYZED
1.	828023-03	279569	08/09/89	08/14/89
2.	828023-04	279573	08/09/89	08/14/89
3.	828023-05	279555	08/09/89	08/14/89
4.	828023-06	279574	08/09/89	08/14/89
5.	828023-07	279562	08/09/89	08/14/89

CYANIDES

(Blank - Cyanide)	279970
(Spike)	279570
(Duplicate)	279571

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BUREAU OF
HAZARDOUS SITE CONTROL
DIVISION OF HAZARDOUS
WASTE REMEDIATION

COMPUCHEM
LABORATORIES

Case Narrative - New York D.E.C.
Case # 25550 SDG # 17523A
Contract # 787

Samples: 828023-03, 828023-04, 828023-05, 828023-06, 828023-07

This case consisted of five water samples analyzed for complete HSL metals and cyanide. The samples were received intact on August 9, 1989 with the Chain-of-Custody (COC) Records. The enclosed cover page reflects New York D.E.C. and CompuChem identifiers.

The associated quality control sample spike, 828023-05S, was outside the control limits for mercury, selenium, thallium, and cyanide, therefore the concentrations were flagged with an 'N'. A post digestion spike was performed for cyanide. Please refer to the enclosed laboratory notice concerning post digestion spikes for mercury. The associated quality control duplicate, 828023-07D, was outside the control limits for cyanide, therefore the concentration was flagged with an '*'.

A serial dilution was done on sample 828023-04. The adjusted sample concentrations were within 10% of the original concentrations for all of the elements tested.

In one or more of the samples, the concentration of barium fell between the Instrument Detection Limit (IDL) and the Contract Required Detection Limit (CRDL). The concentrations of calcium, iron, magnesium, manganese, potassium, sodium, zinc, and cyanide were above the CRDLs, while the concentrations of the remaining elements fell below the IDLs.

Anna Feather
Anna Feather
Technical Reviewer
August 24, 1989

Note: This report is paginated for reference and accountability in decreasing numerical sequence.

U.S. EPA - CLP

COVER PAGE - INORGANIC ANALYSES DATA PACKAGE

Lab Name: COMPUCHEM LABORATORIES Contract: 787

Lab Code: COMPU Case No.: 25550 SAS No.: _____ SDG No.: 17523A

SOW No.: 7/87

Client Sample No.	Lab Sample ID.
828023-03	279569
828023-04	279573
828023-05	279555
828023-05S	279570
828023-05S	279566
828023-06	279574
828023-07	279562
828023-07D	279571
828023-07D	279567
LCS	279568
Prep Blank	279970
Prep Blank	280287

Were ICP interelement corrections applied? Yes/No YES

Were ICP background corrections applied? Yes/No YES

If yes-were raw data generated before application of background corrections? Yes/No YES

Comments:

Release of the data contained in this hardcopy data package and in the computer-readable data submitted on floppy diskette has been authorized by the Laboratory Manager or the Manager's designee, as verified by the following signature.

Lab Manager: Bill Kolodnack

Date: 8/23/89

COVER PAGE - IN 7/87

COMPUCHEM LABORATORIES

Case Narrative-Case#17523
SDG NO. 01
Contract# (02-88)-REV
Compuchem Laboratories, Inc.

SAMPLES: 828023-03, 828023-04, 828023-05, 828023-06, 828023-07

Attached are pertinent Quality Assurance notices dealing with the analysis four(4) water samples associated with case 17523 SDG NO. 01. These samples were scheduled for low level water volatile, semivolatile, and pesticide analysis.

The samples all arrived in good condition on the date 8-09-89. The appropriate chains-of-custody were all in order. The samples were logged into the Laboratory Management System and stored at 4 degrees Celsius. There were no irregularities encountered during receipt of the samples.

VOLATILES:
The volatile fractions were all analyzed within the prescribed holding time considerations. All the volatile samples for this case were below the detection limit(BDL) for the presence of target analytes, except one. Sample 828023-07 contained concentrations of the analytes, 1,2-dichloroethene(total), and trichloroethene that were well above the contract required quantitation limit(CRQL). There were no tentatively identified compounds(TICs) present in any of the samples.

SEMIVOLATILES:
The semivolatile fractions for this case also met the necessary holding time requirements. All the samples were BDL for the presence of semivolatile target analytes, with one exception. Sample 828023-07 contained a sole concentration of bis(2-ethylhexyl)phthalate that was just above the CRQL. Tentatively identified compounds were present in number from one(1) to four(4) per analysis when detected. The primary classification present was identified as an unknown.

PESTICIDES:
The pesticide fractions also met the prescribed holding time considerations. There were no pesticide target compounds present in any of the samples. Sample 828023-5, the original for the spike evaluations was analyzed at a 5:1 dilution.

QC SUMMARY:

COMPUCHEM LABORATORIES, INC. P.O. Box 12652 3308 Chapel Hill/Nelson Highway Research Triangle Park, NC 27709 (919) 549-8263

All surrogate recovery criteria were met for all the samples analyzed for this case. The matrix/matrix spike duplicate data generated for the volatile fractions passed QC requirements excellently. The semivolatile spike evaluations also passed QC requirements, but with exception. Pyrene failed the percent recovery criterion in the MS evaluation. In the pesticide spike evaluations, gamma-BHC(Lindane) failed the percent recovery criterion, and this compound plus 4,4'DDT failed the relative percent difference(%RPD) criterion. The blanks associated with the samples in the case also met the prescribed QC requirements excellently.

I certify that this data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed above. Release of the data contained in this hardcopy data package and in the computer-readable data submitted on floppy diskette has been authorized by the Laboratory Manager or his designee, as verified by the following signature.

Toney C. Spruell 8-24-89
TONEY C. SPRUELL 8-24-89
TECHNICAL REVIEWER

Note: This report is paginated for reference and accountability in decreasing numerical sequence.

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

828023-06MS

Lab Name: COMPUCHEM LABS Contract: (2-88)-REVS

Lab Code: COMPU Case No.: 17523 SAS No.: _____ SDG No.: 01

Matrix: (soil/water) WATER Lab Sample ID: 279559

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: CN079559B19

Level: (low/med) LOW Date Received: 08/09/89

% Moisture: not dec. ____ Date Analyzed: 08/13/89

Column: (pack/cap) CAP Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
74-87-3	Chloromethane	10	U
74-83-9	Bromomethane	10	U
75-01-4	Vinyl Chloride	10	U
75-00-3	Chloroethane	10	U
75-09-2	Methylene Chloride	5	U
67-64-1	Acetone	10	U
75-15-0	Carbon Disulfide	5	U
75-35-4	1,1-Dichloroethene	5	U
75-34-3	1,1-Dichloroethane	2	J
540-59-0	1,2-Dichloroethene (total)	5	U
67-66-3	Chloroform	5	U
107-06-2	1,2-Dichloroethane	5	U
78-93-3	2-Butanone	10	U
71-55-6	1,1,1-Trichloroethane	5	U
56-23-5	Carbon Tetrachloride	5	U
108-05-4	Vinyl Acetate	10	U
75-27-4	Bromodichloromethane	5	U
78-87-5	1,2-Dichloropropane	5	U
10061-01-5	cis-1,3-Dichloropropene	5	U
79-01-6	Trichloroethene	5	U
124-48-1	Dibromochloromethane	5	U
79-00-5	1,1,2-Trichloroethane	5	U
71-43-2	Benzene	5	U
10061-02-6	Trans-1,3-Dichloropropene	5	U
75-25-2	Bromoform	5	U
108-10-1	4-Methyl-2-Pentanone	10	U
591-78-6	2-Hexanone	10	U
127-18-4	Tetrachloroethene	5	U
79-34-5	1,1,2,2-Tetrachloroethane	5	U
108-88-3	Toluene	5	U
108-90-7	Chlorobenzene	5	U
100-41-4	Ethylbenzene	5	U
100-42-5	Styrene	5	U
1330-20-7	Total Xylenes	5	U

FORM I VOA 1/87 Rev.

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

828023-06MSD

Lab Name: COMPUCHEM LABS Contract: (2-88)-REVS

Lab Code: COMPU Case No.: 17523 SAS No.: _____ SDG No.: 01

Matrix: (soil/water) WATER Lab Sample ID: 279560

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: CN079560B19

Level: (low/med) LOW Date Received: 08/09/89

% Moisture: not dec. ____ Date Analyzed: 08/13/89

Column: (pack/cap) CAP Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
74-87-3	Chloromethane	10	U
74-83-9	Bromomethane	10	U
75-01-4	Vinyl Chloride	10	U
75-00-3	Chloroethane	10	U
75-09-2	Methylene Chloride	5	U
67-64-1	Acetone	10	U
75-15-0	Carbon Disulfide	5	U
75-35-4	1,1-Dichloroethene	5	U
75-34-3	1,1-Dichloroethane	2	J
540-59-0	1,2-Dichloroethene (total)	5	U
67-66-3	Chloroform	5	U
107-06-2	1,2-Dichloroethane	5	U
78-93-3	2-Butanone	10	U
71-55-6	1,1,1-Trichloroethane	5	U
56-23-5	Carbon Tetrachloride	5	U
108-05-4	Vinyl Acetate	10	U
75-27-4	Bromodichloromethane	5	U
78-87-5	1,2-Dichloropropane	5	U
10061-01-5	cis-1,3-Dichloropropene	5	U
79-01-6	Trichloroethene	5	U
124-48-1	Dibromochloromethane	5	U
79-00-5	1,1,2-Trichloroethane	5	U
71-43-2	Benzene	5	U
10061-02-6	Trans-1,3-Dichloropropene	5	U
75-25-2	Bromoform	5	U
108-10-1	4-Methyl-2-Pentanone	10	U
591-78-6	2-Hexanone	10	U
127-18-4	Tetrachloroethene	5	U
79-34-5	1,1,2,2-Tetrachloroethane	5	U
108-88-3	Toluene	5	U
108-90-7	Chlorobenzene	5	U
100-41-4	Ethylbenzene	5	U
100-42-5	Styrene	5	U
1330-20-7	Total Xylenes	5	U

FORM I VOA 1/87 Rev.

1B
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

828023-07MS

Lab Name: COMPUCHEM LABS Contract: (2-88)-REVS

Lab Code: COMPU Case No.: 17523 SAS No.: _____ SDG No.: 01

Matrix: (soil/water) WATER Lab Sample ID: 279556

Sample wt/vol: 500 (g/mL) ML Lab File ID: GH079556A05

Level: (low/med) LOW Date Received: 08/09/89

% Moisture: not dec. ____ dec. ____ Date Extracted: 08/11/89

Extraction: (SepF/Cont/Sonc) SEPF Date Analyzed: 08/14/89

GPC Cleanup: (Y/N) N pH: _____ Dilution Factor: 0.50

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
108-95-2	Phenol	10	U
111-44-4	bis(2-Chloroethyl)Ether	10	U
95-57-8	2-Chlorophenol	10	U
541-73-1	1,3-Dichlorobenzene	10	U
106-46-7	1,4-Dichlorobenzene	10	U
100-51-6	Benzyl Alcohol	10	U
95-50-1	1,2-Dichlorobenzene	10	U
95-48-7	2-Methylphenol	10	U
39638-32-9	bis(2-Chloroisopropyl)Ether	10	U
106-44-5	4-Methylphenol	10	U
621-64-7	N-Nitroso-Di-n-Propylamine	10	U
67-72-1	Hexachloroethane	10	U
98-95-3	Nitrobenzene	10	U
78-59-1	Isophorone	10	U
88-75-5	2-Nitrophenol	10	U
105-67-9	2,4-Dimethylphenol	10	U
65-85-0	Benzoic Acid	50	U
111-91-1	bis(2-Chloroethoxy)Methane	10	U
120-83-2	2,4-Dichlorophenol	10	U
120-82-1	1,2,4-Trichlorobenzene	10	U
91-20-3	Naphthalene	10	U
106-47-8	4-Chloroaniline	10	U
87-68-3	Hexachlorobutadiene	10	U
59-50-7	4-Chloro-3-Methylphenol	10	U
91-57-6	2-Methylnaphthalene	10	U
77-47-4	Hexachlorocyclopentadiene	10	U
88-06-2	2,4,6-Trichlorophenol	10	U
95-95-4	2,4,5-Trichlorophenol	50	U
91-58-7	2-Chloronaphthalene	10	U
88-74-4	2-Nitroaniline	50	U
131-11-3	Dimethyl Phthalate	10	U
208-96-8	Acenaphthylene	10	U
606-20-2	2,6-Dinitrotoluene	10	U

FORM I SV-1 1/87 Rev.

1C
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

828023-07MS

Lab Name: COMPUCHEM LABS Contract: (2-88)-REVS

Lab Code: COMPU Case No.: 17523 SAS No.: _____ SDG No.: 01

Matrix: (soil/water) WATER Lab Sample ID: 279556

Sample wt/vol: 500 (g/mL) ML Lab File ID: GH079556A05

Level: (low/med) LOW Date Received: 08/09/89

% Moisture: not dec. ____ dec. ____ Date Extracted: 08/11/89

Extraction: (SepF/Cont/Sonc) SEPF Date Analyzed: 08/14/89

GPC Cleanup: (Y/N) N pH: _____ Dilution Factor: 0.50

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
99-09-2	3-Nitroaniline	50	U
83-32-9	Acenaphthene	10	U
51-28-5	2,4-Dinitrophenol	50	U
100-02-7	4-Nitrophenol	50	U
132-64-9	Dibenzofuran	10	U
121-14-2	2,4-Dinitrotoluene	10	U
84-66-2	Diethylphthalate	10	U
7005-72-3	4-Chlorophenyl-phenylether	10	U
86-73-7	Fluorene	10	U
100-01-6	4-Nitroaniline	50	U
534-52-1	4,6-Dinitro-2-Methylphenol	50	U
86-30-6	N-Nitrosodiphenylamine (1)	10	U
101-55-3	4-Bromophenyl-phenylether	10	U
118-74-1	Hexachlorobenzene	10	U
87-86-5	Pentachlorophenol	50	U
85-01-8	Phenanthrene	10	U
120-12-7	Anthracene	10	U
84-74-2	Di-n-Butylphthalate	10	U
206-44-0	Fluoranthene	10	U
129-00-0	Pyrene	10	U
85-68-7	Butylbenzylphthalate	10	U
91-94-1	3,3'-Dichlorobenzidine	20	U
56-55-3	Benzo(a)Anthracene	10	U
218-01-9	Chrysene	10	U
117-81-7	bis(2-Ethylhexyl)Phthalate	2	J
117-84-0	Di-n-Octyl Phthalate	10	U
205-99-2	Benzo(b)Fluoranthene	10	U
207-08-9	Benzo(k)Fluoranthene	10	U
50-32-8	Benzo(a)Pyrene	10	U
193-39-5	Indeno(1,2,3-cd)Pyrene	10	U
53-70-3	Dibenzo(a,h)Anthracene	10	U
191-24-2	Benzo(g,h,i)Perylene	10	U

(1) - Cannot be separated from Diphenylamine

FORM I SV-2 1/87 Rev.

1B
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

828023-07MSD

Lab Name: COMPUCHEM LABS Contract: (2-88)-REVS

Lab Code: COMPU Case No.: 17523 SAS No.: _____ SDG No.: 01

Matrix: (soil/water) WATER Lab Sample ID: 279557

Sample wt/vol: 500 (g/mL) ML Lab File ID: GH079557A05

Level: (low/med) LOW Date Received: 08/09/89

% Moisture: not dec. ____ dec. ____ Date Extracted: 08/11/89

Extraction: (SepF/Cont/Sonc) SEPF Date Analyzed: 08/14/89

GPC Cleanup: (Y/N) N pH: _____ Dilution Factor: 0.50

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
108-95-2	Phenol	10	U
111-44-4	bis(2-Chloroethyl)Ether	10	U
95-57-8	2-Chlorophenol	10	U
541-73-1	1,3-Dichlorobenzene	10	U
106-46-7	1,4-Dichlorobenzene	10	U
100-51-6	Benzyl Alcohol	10	U
95-50-1	1,2-Dichlorobenzene	10	U
95-48-7	2-Methylphenol	10	U
39638-32-9	bis(2-Chloroisopropyl)Ether	10	U
106-44-5	4-Methylphenol	10	U
621-64-7	N-Nitroso-Di-n-Propylamine	10	U
67-72-1	Hexachloroethane	10	U
98-95-3	Nitrobenzene	10	U
78-59-1	Isophorone	10	U
88-75-5	2-Nitrophenol	10	U
105-67-9	2,4-Dimethylphenol	10	U
65-85-0	Benzoic Acid	50	U
111-91-1	bis(2-Chloroethoxy)Methane	10	U
120-83-2	2,4-Dichlorophenol	10	U
120-82-1	1,2,4-Trichlorobenzene	10	U
91-20-3	Naphthalene	10	U
106-47-8	4-Chloroaniline	10	U
87-68-3	Hexachlorobutadiene	10	U
59-50-7	4-Chloro-3-Methylphenol	10	U
91-57-6	2-Methylnaphthalene	10	U
77-47-4	Hexachlorocyclopentadiene	10	U
88-06-2	2,4,6-Trichlorophenol	10	U
95-95-4	2,4,5-Trichlorophenol	50	U
91-58-7	2-Chloronaphthalene	10	U
88-74-4	2-Nitroaniline	50	U
131-11-3	Dimethyl Phthalate	10	U
208-96-8	Acenaphthylene	10	U
606-20-2	2,6-Dinitrotoluene	10	U

FORM I SV-1 1/87 Rev.

1C
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

828023-07MSD

Lab Name: COMPUCHEM LABS Contract: (2-88)-REVS

Lab Code: COMPU Case No.: 17523 SAS No.: _____ SDG No.: 01

Matrix: (soil/water) WATER Lab Sample ID: 279557

Sample wt/vol: 500 (g/mL) ML Lab File ID: GH079557A05

Level: (low/med) LOW Date Received: 08/09/89

% Moisture: not dec. ____ dec. ____ Date Extracted: 08/11/89

Extraction: (SepF/Cont/Sonc) SEPF Date Analyzed: 08/14/89

GPC Cleanup: (Y/N) N pH: _____ Dilution Factor: 0.50

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
99-09-2	3-Nitroaniline	50	U
83-32-9	Acenaphthene	10	U
51-28-5	2,4-Dinitrophenol	50	U
100-02-7	4-Nitrophenol	50	U
132-64-9	Dibenzofuran	10	U
121-14-2	2,4-Dinitrotoluene	10	U
84-66-2	Diethylphthalate	10	U
7005-72-3	4-Chlorophenyl-phenylether	10	U
86-73-7	Fluorene	10	U
100-01-6	4-Nitroaniline	50	U
534-52-1	4,6-Dinitro-2-Methylphenol	50	U
86-30-6	N-Nitrosodiphenylamine (1)	10	U
101-55-3	4-Bromophenyl-phenylether	10	U
118-74-1	Hexachlorobenzene	10	U
87-86-5	Pentachlorophenol	50	U
85-01-8	Phenanthrene	10	U
120-12-7	Anthracene	10	U
84-74-2	Di-n-Butylphthalate	10	U
206-44-0	Fluoranthene	10	U
129-00-0	Pyrene	10	U
85-68-7	Butylbenzylphthalate	10	U
91-94-1	3,3'-Dichlorobenzidine	20	U
56-55-3	Benzo(a)Anthracene	10	U
218-01-9	Chrysene	10	U
117-81-7	bis(2-Ethylhexyl)Phthalate	10	U
117-84-0	Di-n-Octyl Phthalate	10	U
205-99-2	Benzo(b)Fluoranthene	10	U
207-08-9	Benzo(k)Fluoranthene	10	U
50-32-8	Benzo(a)Pyrene	10	U
193-39-5	Indeno(1,2,3-cd)Pyrene	10	U
53-70-3	Dibenzo(a,h)Anthracene	10	U
191-24-2	Benzo(g,h,i)Perylene	10	U

(1) - Cannot be separated from Diphenylamine

FORM I SV-2 1/87 Rev.

1D
PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

828023-05MS

Lab Name: COMPUCHEM LABORATORIES Contract: (2-88)-REVS

Lab Code: COMPU Case No.: 17523 SAS No.: _____ SDG No.: 1

Matrix: (soil/water) WATER Lab Sample ID: 279563

Sample wt/vol: 500 (g/mL) ML Lab File ID: _____

Level: (low/med) LOW Date Received: 08/09/89

% Moisture: not dec. _____ dec. _____ Date Extracted: 08/16/89

Extraction: (SepF/Cont/Sonc) SEPF Date Analyzed: 08/17/89

GPC Cleanup: (Y/N) N pH: _____ Dilution Factor: 0.50

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
319-84-6	alpha-BHC	0.050	U
319-85-7	beta-BHC	0.050	U
319-86-8	delta-BHC	0.050	U
58-89-9	gamma-BHC (Lindane)	0.050	U
76-44-8	Heptachlor	0.050	U
309-00-2	Aldrin	0.050	U
1024-57-3	Heptachlor epoxide	0.050	U
959-98-8	Endosulfan I	0.050	U
60-57-1	Dieldrin	0.10	U
72-55-9	4,4'-DDE	0.10	U
72-20-8	Endrin	0.10	U
33213-65-9	Endosulfan II	0.10	U
72-54-8	4,4'-DDD	0.10	U
1031-07-8	Endosulfan sulfate	0.10	U
50-29-3	4,4'-DDT	0.10	U
72-43-5	Methoxychlor	0.50	U
53494-70-5	Endrin ketone	0.10	U
5103-71-9	alpha-Chlordane	0.50	U
5103-74-2	gamma-Chlordane	0.50	U
8001-35-2	Toxaphene	1.0	U
12674-11-2	Aroclor-1016	0.50	U
11104-28-2	Aroclor-1221	0.50	U
11141-16-5	Aroclor-1232	0.50	U
53469-21-9	Aroclor-1242	0.50	U
12672-29-6	Aroclor-1248	0.50	U
11097-69-1	Aroclor-1254	1.0	U
11096-82-5	Aroclor-1260	1.0	U

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1D
PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

828023-05MSD

Lab Name: COMPUCHEM LABORATORIES Contract: (2-88)-REVS

Lab Code: COMPU Case No.: 17523 SAS No.: _____ SDG No.: 1

Matrix: (soil/water) WATER Lab Sample ID: 279564

Sample wt/vol: 500 (g/mL) ML Lab File ID: _____

Level: (low/med) LOW Date Received: 08/09/89

% Moisture: not dec. _____ dec. _____ Date Extracted: 08/16/89

Extraction: (SepF/Cont/Sonc) SEPF Date Analyzed: 08/17/89

GPC Cleanup: (Y/N) N pH: _____ Dilution Factor: 0.50

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
319-84-6	alpha-BHC	0.050	U
319-85-7	beta-BHC	0.050	U
319-86-8	delta-BHC	0.050	U
58-89-9	gamma-BHC (Lindane)	0.050	U
76-44-8	Heptachlor	0.050	U
309-00-2	Aldrin	0.050	U
1024-57-3	Heptachlor epoxide	0.050	U
959-98-8	Endosulfan I	0.050	U
60-57-1	Dieldrin	0.10	U
72-55-9	4,4'-DDE	0.10	U
72-20-8	Endrin	0.10	U
33213-65-9	Endosulfan II	0.10	U
72-54-8	4,4'-DDD	0.10	U
1031-07-8	Endosulfan sulfate	0.10	U
50-29-3	4,4'-DDT	0.10	U
72-43-5	Methoxychlor	0.50	U
53494-70-5	Endrin ketone	0.10	U
5103-71-9	alpha-Chlordane	0.50	U
5103-74-2	gamma-Chlordane	0.50	U
8001-35-2	Toxaphene	1.0	U
12674-11-2	Aroclor-1016	0.50	U
11104-28-2	Aroclor-1221	0.50	U
11141-16-5	Aroclor-1232	0.50	U
53469-21-9	Aroclor-1242	0.50	U
12672-29-6	Aroclor-1248	0.50	U
11097-69-1	Aroclor-1254	1.0	U
11096-82-5	Aroclor-1260	1.0	U

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COMPUCHEM LABORATORIES

RECEIVED

SEP 12 1989

BUREAU OF
HAZARDOUS SITE CONTROL
DIVISION OF HAZARDOUS
WASTE REMEDIATION

August 30, 1989

Mr. Lawrence Bailey
New York D.E.C.
50 Wolf Road
Albany, NY 12233-3502

Emerson St. Landfill
#828023

Dear Mr. Bailey:

We at CompuChem® are pleased to provide our report for the analysis you requested. Data for the following samples are enclosed:

Your ID Number	Our ID Number	Analysis Code	Order Number	Description of Work Requested
FIELD BLANK	279856	1004	17551/SDG 01	Volatiles (Style 9)
TRIP BLANK	279852			
GW-1 828023-01	279870	1004		Volatiles (Style 9)
GW-2 828023-02	279871	1003		Semi-Volatiles (Style 9)
GW-12 828023-12	279857	1005		Pesticide/PCB's (Style 9)
GW-13 828023-13	279872	867		Metals/Cyanides (Style J)

In this report we have included the analytical results, the method reference, and the quality control summary. To obtain additional technical information concerning this report, please contact your Sales Representative. In addition to resolving your questions, they can provide you with a complete overview of our line of services and assist you in identifying those services which will effectively and efficiently support your monitoring program.

For your convenience, your Customer Service Representative can help you place a new order, obtain information about a sample's status or obtain assistance with sample logistics. Your Sales Representative and your Customer Service Representative can be reached at 1/919-549-8263.

Thank you for choosing CompuChem®. We would like to continue providing you analytical support and services. We would appreciate your comments regarding the quality of services you have received from CompuChem®; client satisfaction is important to us. Please address your comments to your Sales or Customer Service Representative at the address given below.

Sincerely,

Yolanda Lee

for Mary E. Mitchell
Supervisor, Report Deliverables

cc: Ms. Angela Coble
New York D.E.C.
6274 East Avon-Lima Rd.
Avon, NY 14414

Reg 8

cc: Accounting
(Cover letter only)

COMPUCHEM LABORATORIES

Case Narrative - Case# 17551
SDG No. 01
Contract: (2-88)REVS
CompuChem Laboratories, Inc.

SAMPLES: 828023-01, 828023-02, 828023-12, 828023-13, FIELDBLANK, TRIPBLANK

Attached are the pertinent Quality Assurance notices dealing with the analysis of six (06) water samples associated with case 17551, SDG No. 01. The samples were scheduled for volatile, semivolatile and pesticide analysis.

The samples were received via Federal Express in good condition on August 10, 1989 with the chain-of-custody in order. No irregularities were encountered during receipt of the samples. The samples were logged into the Laboratory Management System and stored at 4 degrees Celsius.

VOLATILES:
All volatile fractions were prepared and analyzed within holding time considerations. The associated samples contained zero to three (0-3) Target Compounds, and zero to three (0-3) Tentatively Identified Compounds (TIC). All MS and MSD spike comparisons, along with the surrogate and internal standard recoveries were within the control limits.

SEMIVOLATILES:
The semivolatile portion of the case met all holding time requirements. The associated sample contained zero to two (0-2) target compounds, along with one to nine (1-9) TIC's. The original, MS, and MSD percent recoveries along all internal standard and surrogate recoveries were within the control limits.

PESTICIDES:
The initial extraction of ' ıet holding
time requirements. Howe :overies of
samples 828023-02 / CCN 2 279857, and
828023-13 / CCN 279872 were nd had to be
re-extracted, which was d :s. The re-
extract data was used sin / was met and

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SA !Y 67

SAMPLE DATA SUMMARY 67

the extraction efficiency seemed much better. There were no positive hits in either of the analyses. The data is being reported with reference to a qualifier. There were no confirmed levels of any target compounds. The associated MS and MSD contained five spike compound outliers. These are advisory limits only. All surrogates were within the control limits.

I certify that this data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed above. Release of the data contained in this hardcopy data package and in the computer-readable data submitted on floppy diskette has been authorized by the Laboratory Manager or his designee, as verified by the following signature:

Betty J. Andershock
Technical Reviewer
August 30, 1989

NOTE: This report is paginated for reference and accountability in decreasing numerical sequence.

SAMPLE DATA SUMMARY 66

COMPUCHEM LABORATORIES

RECEIVED

SEP 12 1989

BUREAU OF
HAZARDOUS SITE CONTROL
DIVISION OF HAZARDOUS
WASTE REMEDIATION

Case Narrative - New York D.E.C.
Case # 25550 SDG # 17551A
Contract # 787

Samples: 828023-01, 828023-02, 828023-12, 828023-13

This case consisted of four water samples analyzed for complete HSL metals and cyanide. The samples were received intact on August 10, 1989 with the Chain-of-Custody (COC) Records. The enclosed cover page reflects New York D.E.C. and CompuChem identifiers.

The associated quality control sample spike, 828023-12S, was outside the control limits for arsenic, lead, mercury, selenium, and thallium, therefore the concentrations were flagged with an 'N'. The associated quality control duplicate, 828023-12D, was outside the control limits for nickel and sodium, therefore the concentrations were flagged with an '*'.

A serial dilution was done on sample 828023-02. The adjusted sample concentrations were within 10% of the original concentrations for all of the elements tested.

In one or more of the samples, the concentrations of aluminum, barium, iron, vanadium, and zinc fell between the Instrument Detection Limits (IDLs) and the Contract Required Detection Limits (CRDLs). The concentrations of calcium, magnesium, manganese, and sodium were above the CRDLs, while the concentrations of the remaining elements fell below the IDLs.

Anna Feather
Technical Reviewer
August 30, 1989

Note: This report is paginated for reference and accountability in decreasing numerical sequence.

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

828023-01MS

Lab Name: COMPUCHEM LABS Contract: (2-88)-REVS

Lab Code: COMPU Case No.: 17551 SAS No.: _____ SDG No.: 01

Matrix: (soil/water) WATER Lab Sample ID: 279853

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: CN079853C19

Level: (low/med) LOW Date Received: 08/10/89

% Moisture: not dec. ____ Date Analyzed: 08/14/89

Column: (pack/cap) CAP Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
74-87-3	Chloromethane	10	U
74-83-9	Bromomethane	10	U
75-01-4	Vinyl Chloride	10	U
75-00-3	Chloroethane	10	U
75-09-2	Methylene Chloride	5	U
67-64-1	Acetone	10	U
75-15-0	Carbon Disulfide	5	U
75-35-4	1,1-Dichloroethene	5	U
75-34-3	1,1-Dichloroethane	5	U
540-59-0	1,2-Dichloroethene (total)	5	U
67-66-3	Chloroform	5	U
107-06-2	1,2-Dichloroethane	5	U
78-93-3	2-Butanone	10	U
71-55-6	1,1,1-Trichloroethane	5	U
56-23-5	Carbon Tetrachloride	5	U
108-05-4	Vinyl Acetate	10	U
75-27-4	Bromodichloromethane	5	U
78-87-5	1,2-Dichloropropane	5	U
10061-01-5	cis-1,3-Dichloropropene	5	U
79-01-6	Trichloroethene	5	U
124-48-1	Dibromochloromethane	5	U
79-00-5	1,1,2-Trichloroethane	5	U
71-43-2	Benzene	5	U
10061-02-6	Trans-1,3-Dichloropropene	5	U
75-25-2	Bromoform	5	U
108-10-1	4-Methyl-2-Pentanone	10	U
591-78-6	2-Hexanone	10	U
127-18-4	Tetrachloroethene	5	U
79-34-5	1,1,2,2-Tetrachloroethane	5	U
108-88-3	Toluene	5	U
108-90-7	Chlorobenzene	5	U
100-41-4	Ethylbenzene	5	U
100-42-5	Styrene	5	U
1330-20-7	Total Xylenes	5	U

FORM I VOA 1/87 Rev.

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

828023-01MSD

Lab Name: COMPUCHEM LABS Contract: (2-88)-REVS

Lab Code: COMPU Case No.: 17551 SAS No.: _____ SDG No.: 01

Matrix: (soil/water) WATER Lab Sample ID: 279854

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: CN079854C19

Level: (low/med) LOW Date Received: 08/10/89

% Moisture: not dec. ____ Date Analyzed: 08/14/89

Column: (pack/cap) CAP Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
74-87-3	Chloromethane	10	U
74-83-9	Bromomethane	10	U
75-01-4	Vinyl Chloride	10	U
75-00-3	Chloroethane	10	U
75-09-2	Methylene Chloride	5	U
67-64-1	Acetone	10	U
75-15-0	Carbon Disulfide	5	U
75-35-4	1,1-Dichloroethene	5	U
75-34-3	1,1-Dichloroethane	5	U
540-59-0	1,2-Dichloroethene (total)	5	U
67-66-3	Chloroform	5	U
107-06-2	1,2-Dichloroethane	5	U
78-93-3	2-Butanone	10	U
71-55-6	1,1,1-Trichloroethane	5	U
56-23-5	Carbon Tetrachloride	5	U
108-05-4	Vinyl Acetate	10	U
75-27-4	Bromodichloromethane	5	U
78-87-5	1,2-Dichloropropane	5	U
10061-01-5	cis-1,3-Dichloropropene	5	U
79-01-6	Trichloroethene	5	U
124-48-1	Dibromochloromethane	5	U
79-00-5	1,1,2-Trichloroethane	5	U
71-43-2	Benzene	5	U
10061-02-6	Trans-1,3-Dichloropropene	5	U
75-25-2	Bromoform	5	U
108-10-1	4-Methyl-2-Pentanone	10	U
591-78-6	2-Hexanone	10	U
127-18-4	Tetrachloroethene	5	U
79-34-5	1,1,2,2-Tetrachloroethane	5	U
108-88-3	Toluene	5	U
108-90-7	Chlorobenzene	5	U
100-41-4	Ethylbenzene	5	U
100-42-5	Styrene	5	U
1330-20-7	Total Xylenes	5	U

FORM I VOA 1/87 Rev.

1D
PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

828023-01MS

Lab Name: COMPUCHEM LABORATORIES Contract: (2-88)-REVS

Lab Code: COMPU Case No.: 17551 SAS No.: _____ SDG No.: 1

Matrix: (soil/water) WATER Lab Sample ID: 279861

Sample wt/vol: 500 (g/mL) ML Lab File ID: _____

Level: (low/med) LOW Date Received: 08/10/89

% Moisture: not dec. _____ dec. _____ Date Extracted: 08/18/89

Extraction: (SepF/Cont/Sonc) SEPF Date Analyzed: 08/24/89

GPC Cleanup: (Y/N) N pH: _____ Dilution Factor: 0.50

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
319-84-6	alpha-BHC	0.050	U
319-85-7	beta-BHC	0.050	U
319-86-8	delta-BHC	0.050	U
58-89-9	gamma-BHC (Lindane)	0.050	U
76-44-8	Heptachlor	0.050	U
309-00-2	Aldrin	0.050	U
1024-57-3	Heptachlor epoxide	0.050	U
959-98-8	Endosulfan I	0.050	U
60-57-1	Dieldrin	0.10	U
72-55-9	4,4'-DDE	0.10	U
72-20-8	Endrin	0.10	U
33213-65-9	Endosulfan II	0.10	U
72-54-8	4,4'-DDD	0.10	U
1031-07-8	Endosulfan sulfate	0.10	U
50-29-3	4,4'-DDT	0.10	U
72-43-5	Methoxychlor	0.50	U
53494-70-5	Endrin ketone	0.10	U
5103-71-9	alpha-Chlordane	0.50	U
5103-74-2	gamma-Chlordane	0.50	U
8001-35-2	Toxaphene	1.0	U
12674-11-2	Aroclor-1016	0.50	U
11104-28-2	Aroclor-1221	0.50	U
11141-16-5	Aroclor-1232	0.50	U
53469-21-9	Aroclor-1242	0.50	U
12672-29-6	Aroclor-1248	0.50	U
11097-69-1	Aroclor-1254	1.0	U
11096-82-5	Aroclor-1260	1.0	U

FORM I PEST 1/87 Rev.

1D
PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

828023-01MSD

Lab Name: COMPUCHEM LABORATORIES Contract: (2-88)-REVS

Lab Code: COMPU Case No.: 17551 SAS No.: _____ SDG No.: 1

Matrix: (soil/water) WATER Lab Sample ID: 279862

Sample wt/vol: 500 (g/mL) ML Lab File ID: _____

Level: (low/med) LOW Date Received: 08/10/89

% Moisture: not dec. _____ dec. _____ Date Extracted: 08/18/89

Extraction: (SepF/Cont/Sonc) SEPF Date Analyzed: 08/24/89

GPC Cleanup: (Y/N) N pH: _____ Dilution Factor: 0.50

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
319-84-6	alpha-BHC	0.050	U
319-85-7	beta-BHC	0.050	U
319-86-8	delta-BHC	0.050	U
58-89-9	gamma-BHC (Lindane)	0.050	U
76-44-8	Heptachlor	0.050	U
309-00-2	Aldrin	0.050	U
1024-57-3	Heptachlor epoxide	0.050	U
959-98-8	Endosulfan I	0.050	U
60-57-1	Dieldrin	0.10	U
72-55-9	4,4'-DDE	0.10	U
72-20-8	Endrin	0.10	U
33213-65-9	Endosulfan II	0.10	U
72-54-8	4,4'-DDD	0.10	U
1031-07-8	Endosulfan sulfate	0.10	U
50-29-3	4,4'-DDT	0.10	U
72-43-5	Methoxychlor	0.50	U
53494-70-5	Endrin ketone	0.10	U
5103-71-9	alpha-Chlordane	0.50	U
5103-74-2	gamma-Chlordane	0.50	U
8001-35-2	Toxaphene	1.0	U
12674-11-2	Aroclor-1016	0.50	U
11104-28-2	Aroclor-1221	0.50	U
11141-16-5	Aroclor-1232	0.50	U
53469-21-9	Aroclor-1242	0.50	U
12672-29-6	Aroclor-1248	0.50	U
11097-69-1	Aroclor-1254	1.0	U
11096-82-5	Aroclor-1260	1.0	U

FORM I PEST 1/87 Rev.

1B
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

828023-02MS

Lab Name: COMPUCHEM LABS Contract: (2-88)-REVS

Lab Code: COMPU Case No.: 17551 SAS No.: _____ SDG No.: 01

Matrix: (soil/water) WATER Lab Sample ID: 279858

Sample wt/vol: 500 (g/mL) ML Lab File ID: GH079858B05

Level: (low/med) LOW Date Received: 08/10/89

% Moisture: not dec. ____ dec. ____ Date Extracted: 08/12/89

Extraction: (SepF/Cont/Sonc) SEPF Date Analyzed: 08/12/89

GPC Cleanup: (Y/N) N pH: _____ Dilution Factor: 0.50

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
108-95-2	Phenol	10	U
111-44-4	bis(2-Chloroethyl)Ether	10	U
95-57-8	2-Chlorophenol	10	U
541-73-1	1,3-Dichlorobenzene	10	U
106-46-7	1,4-Dichlorobenzene	10	U
100-51-6	Benzyl Alcohol	10	U
95-50-1	1,2-Dichlorobenzene	10	U
95-48-7	2-Methylphenol	10	U
39638-32-9	bis(2-Chloroisopropyl)Ether	10	U
106-44-5	4-Methylphenol	10	U
621-64-7	N-Nitroso-Di-n-Propylamine	10	U
67-72-1	Hexachloroethane	10	U
98-95-3	Nitrobenzene	10	U
78-59-1	Isophorone	10	U
88-75-5	2-Nitrophenol	10	U
105-67-9	2,4-Dimethylphenol	10	U
65-85-0	Benzoic Acid	50	U
111-91-1	bis(2-Chloroethoxy)Methane	10	U
120-83-2	2,4-Dichlorophenol	10	U
120-82-1	1,2,4-Trichlorobenzene	10	U
91-20-3	Naphthalene	10	U
106-47-8	4-Chloroaniline	10	U
87-68-3	Hexachlorobutadiene	10	U
59-50-7	4-Chloro-3-Methylphenol	10	U
91-57-6	2-Methylnaphthalene	10	U
77-47-4	Hexachlorocyclopentadiene	10	U
88-06-2	2,4,6-Trichlorophenol	10	U
95-95-4	2,4,5-Trichlorophenol	50	U
91-58-7	2-Chloronaphthalene	10	U
88-74-4	2-Nitroaniline	50	U
131-11-3	Dimethyl Phthalate	10	U
208-96-8	Acenaphthylene	10	U
606-20-2	2,6-Dinitrotoluene	10	U

FORM I SV-1 1/87 Rev.

1C
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

828023-02MS

Lab Name: COMPUCHEM LABS Contract: (2-88)-REVS

Lab Code: COMPU Case No.: 17551 SAS No.: _____ SDG No.: 01

Matrix: (soil/water) WATER Lab Sample ID: 279858

Sample wt/vol: 500 (g/mL) ML Lab File ID: GH079858B05

Level: (low/med) LOW Date Received: 08/10/89

% Moisture: not dec. ____ dec. ____ Date Extracted: 08/12/89

Extraction: (SepF/Cont/Sonc) SEPF Date Analyzed: 08/12/89

GPC Cleanup: (Y/N) N pH: _____ Dilution Factor: 0.50

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
99-09-2	3-Nitroaniline	50	U
83-32-9	Acenaphthene	10	U
51-28-5	2,4-Dinitrophenol	50	U
100-02-7	4-Nitrophenol	50	U
132-64-9	Dibenzofuran	10	U
121-14-2	2,4-Dinitrotoluene	10	U
84-66-2	Diethylphthalate	10	U
7005-72-3	4-Chlorophenyl-phenylether	10	U
86-73-7	Fluorene	10	U
100-01-6	4-Nitroaniline	50	U
534-52-1	4,6-Dinitro-2-Methylphenol	50	U
86-30-6	N-Nitrosodiphenylamine (1)	10	U
101-55-3	4-Bromophenyl-phenylether	10	U
118-74-1	Hexachlorobenzene	10	U
87-86-5	Pentachlorophenol	50	U
85-01-8	Phenanthrene	10	U
120-12-7	Anthracene	10	U
84-74-2	Di-n-Butylphthalate	10	U
206-44-0	Fluoranthene	10	U
129-00-0	Pyrene	10	U
85-68-7	Butylbenzylphthalate	10	U
91-94-1	3,3'-Dichlorobenzidine	20	U
56-55-3	Benzo(a)Anthracene	10	U
218-01-9	Chrysene	10	U
117-81-7	bis(2-Ethylhexyl)Phthalate	10	U
117-84-0	Di-n-Octyl Phthalate	10	U
205-99-2	Benzo(b)Fluoranthene	10	U
207-08-9	Benzo(k)Fluoranthene	10	U
50-32-8	Benzo(a)Pyrene	10	U
193-39-5	Indeno(1,2,3-cd)Pyrene	10	U
53-70-3	Dibenzo(a,h)Anthracene	10	U
191-24-2	Benzo(g,h,i)Perylene	10	U

(1) - Cannot be separated from Diphenylamine

FORM I SV-2 1/87 Rev.

1B
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

828023-02MSD

Lab Name: COMPUCHEM LABS Contract: (2-88)-REVS

Lab Code: COMPU Case No.: 17551 SAS No.: _____ SDG No.: 01

Matrix: (soil/water) WATER Lab Sample ID: 279859

Sample wt/vol: 500 (g/mL) ML Lab File ID: GH079859B05

Level: (low/med) LOW Date Received: 08/10/89

% Moisture: not dec. ____ dec. ____ Date Extracted: 08/12/89

Extraction: (SepF/Cont/Sonc) SEPF Date Analyzed: 08/12/89

GPC Cleanup: (Y/N) N pH: _____ Dilution Factor: 0.50

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
108-95-2	Phenol	10	U
111-44-4	bis(2-Chloroethyl)Ether	10	U
95-57-8	2-Chlorophenol	10	U
541-73-1	1,3-Dichlorobenzene	10	U
106-46-7	1,4-Dichlorobenzene	10	U
100-51-6	Benzyl Alcohol	10	U
95-50-1	1,2-Dichlorobenzene	10	U
95-48-7	2-Methylphenol	10	U
39638-32-9	bis(2-Chloroisopropyl)Ether	10	U
106-44-5	4-Methylphenol	10	U
621-64-7	N-Nitroso-Di-n-Propylamine	10	U
67-72-1	Hexachloroethane	10	U
98-95-3	Nitrobenzene	10	U
78-59-1	Isophorone	10	U
88-75-5	2-Nitrophenol	10	U
105-67-9	2,4-Dimethylphenol	10	U
65-85-0	Benzoic Acid	50	U
111-91-1	bis(2-Chloroethoxy)Methane	10	U
120-83-2	2,4-Dichlorophenol	10	U
120-82-1	1,2,4-Trichlorobenzene	10	U
91-20-3	Naphthalene	10	U
106-47-8	4-Chloroaniline	10	U
87-68-3	Hexachlorobutadiene	10	U
59-50-7	4-Chloro-3-Methylphenol	10	U
91-57-6	2-Methylnaphthalene	10	U
77-47-4	Hexachlorocyclopentadiene	10	U
88-06-2	2,4,6-Trichlorophenol	10	U
95-95-4	2,4,5-Trichlorophenol	50	U
91-58-7	2-Chloronaphthalene	10	U
88-74-4	2-Nitroaniline	50	U
131-11-3	Dimethyl Phthalate	10	U
208-96-8	Acenaphthylene	10	U
606-20-2	2,6-Dinitrotoluene	10	U

FORM I SV-1 1/87 Rev.

1C
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

828023-02MSD

Lab Name: COMPUCHEM LABS Contract: (2-88)-REVS

Lab Code: COMPU Case No.: 17551 SAS No.: _____ SDG No.: 01

Matrix: (soil/water) WATER Lab Sample ID: 279859

Sample wt/vol: 500 (g/mL) ML Lab File ID: GH079859B05

Level: (low/med) LOW Date Received: 08/10/89

% Moisture: not dec. ____ dec. ____ Date Extracted: 08/12/89

Extraction: (SepF/Cont/Sonc) SEPF Date Analyzed: 08/12/89

GPC Cleanup: (Y/N) N pH: _____ Dilution Factor: 0.50

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
99-09-2	3-Nitroaniline	50	U
83-32-9	Acenaphthene	10	U
51-28-5	2,4-Dinitrophenol	50	U
100-02-7	4-Nitrophenol	50	U
132-64-9	Dibenzofuran	10	U
121-14-2	2,4-Dinitrotoluene	10	U
84-66-2	Diethylphthalate	10	U
7005-72-3	4-Chlorophenyl-phenylether	10	U
86-73-7	Fluorene	10	U
100-01-6	4-Nitroaniline	50	U
534-52-1	4,6-Dinitro-2-Methylphenol	50	U
86-30-6	N-Nitrosodiphenylamine (1)	10	U
101-55-3	4-Bromophenyl-phenylether	10	U
118-74-1	Hexachlorobenzene	10	U
87-86-5	Pentachlorophenol	50	U
85-01-8	Phenanthrene	10	U
120-12-7	Anthracene	10	U
84-74-2	Di-n-Butylphthalate	10	U
206-44-0	Fluoranthene	10	U
129-00-0	Pyrene	10	U
85-68-7	Butylbenzylphthalate	10	U
91-94-1	3,3'-Dichlorobenzidine	20	U
56-55-3	Benzo(a)Anthracene	10	U
218-01-9	Chrysene	10	U
117-81-7	bis(2-Ethylhexyl)Phthalate	2	J
117-84-0	Di-n-Octyl Phthalate	10	U
205-99-2	Benzo(b)Fluoranthene	10	U
207-08-9	Benzo(k)Fluoranthene	10	U
50-32-8	Benzo(a)Pyrene	10	U
193-39-5	Indeno(1,2,3-cd)Pyrene	10	U
53-70-3	Dibenzo(a,h)Anthracene	10	U
191-24-2	Benzo(g,h,i)Perylene	10	U

(1) - Cannot be separated from Diphenylamine

FORM I SV-2 1/87 Rev.

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

FIELDBLANK

Lab Name: COMPUCHEM LABS Contract: (2-88)-REVS

Lab Code: COMPU Case No.: 17551 SAS No.: _____ SDG No.: 01

Matrix: (soil/water) WATER Lab Sample ID: 279856

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: CN079856B19

Level: (low/med) LOW Date Received: 08/10/89

% Moisture: not dec. ____ Date Analyzed: 08/13/89

Column: (pack/cap) CAP Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
74-87-3	Chloromethane	10	U
74-83-9	Bromomethane	10	U
75-01-4	Vinyl Chloride	10	U
75-00-3	Chloroethane	10	U
75-09-2	Methylene Chloride	2	J
67-64-1	Acetone	10	U
75-15-0	Carbon Disulfide	5	U
75-35-4	1,1-Dichloroethene	5	U
75-34-3	1,1-Dichloroethane	5	U
540-59-0	1,2-Dichloroethene (total)	5	U
67-66-3	Chloroform	5	U
107-06-2	1,2-Dichloroethane	5	U
78-93-3	2-Butanone	10	U
71-55-6	1,1,1-Trichloroethane	5	U
56-23-5	Carbon Tetrachloride	5	U
108-05-4	Vinyl Acetate	10	U
75-27-4	Bromodichloromethane	5	U
78-87-5	1,2-Dichloropropane	5	U
10061-01-5	cis-1,3-Dichloropropene	5	U
79-01-6	Trichloroethene	5	U
124-48-1	Dibromochloromethane	5	U
79-00-5	1,1,2-Trichloroethane	5	U
71-43-2	Benzene	5	U
10061-02-6	Trans-1,3-Dichloropropene	5	U
75-25-2	Bromoform	5	U
108-10-1	4-Methyl-2-Pentanone	10	U
591-78-6	2-Hexanone	10	U
127-18-4	Tetrachloroethene	5	U
79-34-5	1,1,2,2-Tetrachloroethane	5	U
108-88-3	Toluene	5	U
108-90-7	Chlorobenzene	5	U
100-41-4	Ethylbenzene	5	U
100-42-5	Styrene	5	U
1330-20-7	Total Xylenes	5	U

FORM I VOA 1/87 Rev.

1E
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

FIELDBLANK

Lab Name: COMPUCHEM LABS Contract: (2-88)-REVS

Lab Code: COMPU Case No.: 17551 SAS No.: _____ SDG No.: 01

Matrix: (soil/water) WATER Lab Sample ID: 279856

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: CN079856B19

Level: (low/med) LOW Date Received: 08/10/89

% Moisture: not dec. ____ Date Analyzed: 08/13/89

Column (pack/cap) CAP Dilution Factor: 1.0

Number TICs found: 0

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q

FORM I VOA-TIC 1/87 Rev.

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

TRIPBLANK

Lab Name: COMPUCHEM LABS Contract: (2-88)-REVS

Lab Code: COMPU Case No.: 17551 SAS No.: _____ SDG No.: 01

Matrix: (soil/water) WATER Lab Sample ID: 279852

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: CN079852B19

Level: (low/med) LOW Date Received: 08/10/89

% Moisture: not dec. ____ Date Analyzed: 08/13/89

Column: (pack/cap) CAP Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
74-87-3	Chloromethane	10	U
74-83-9	Bromomethane	10	U
75-01-4	Vinyl Chloride	10	U
75-00-3	Chloroethane	10	U
75-09-2	Methylene Chloride	3	J
67-64-1	Acetone	10	U
75-15-0	Carbon Disulfide	5	U
75-35-4	1,1-Dichloroethene	5	U
75-34-3	1,1-Dichloroethane	5	U
540-59-0	1,2-Dichloroethene (total)	5	U
67-66-3	Chloroform	5	U
107-06-2	1,2-Dichloroethane	5	U
78-93-3	2-Butanone	10	U
71-55-6	1,1,1-Trichloroethane	5	U
56-23-5	Carbon Tetrachloride	5	U
108-05-4	Vinyl Acetate	10	U
75-27-4	Bromodichloromethane	5	U
78-87-5	1,2-Dichloropropane	5	U
10061-01-5	cis-1,3-Dichloropropene	5	U
79-01-6	Trichloroethene	5	U
124-48-1	Dibromochloromethane	5	U
79-00-5	1,1,2-Trichloroethane	5	U
71-43-2	Benzene	5	U
10061-02-6	Trans-1,3-Dichloropropene	5	U
75-25-2	Bromoform	5	U
108-10-1	4-Methyl-2-Pentanone	10	U
591-78-6	2-Hexanone	10	U
127-18-4	Tetrachloroethene	5	U
79-34-5	1,1,2,2-Tetrachloroethane	5	U
108-88-3	Toluene	5	U
108-90-7	Chlorobenzene	5	U
100-41-4	Ethylbenzene	5	U
100-42-5	Styrene	5	U
1330-20-7	Total Xylenes	5	U

FORM I VOA 1/87 Rev.

1E
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

TRIPBLANK

Lab Name: COMPUCHEM LABS Contract: (2-88)-REVS

Lab Code: COMPU Case No.: 17551 SAS No.: _____ SDG No.: 01

Matrix: (soil/water) WATER Lab Sample ID: 279852

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: CN079852B19

Level: (low/med) LOW Date Received: 08/10/89

% Moisture: not dec. ____ Date Analyzed: 08/13/89

Column (pack/cap) CAP Dilution Factor: 1.0

Number TICs found: 0

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q

FORM I VOA-TIC 1/87 Rev.

1 of 2

COMPUCHEM LABORATORIES

August 30, 1989

RECEIVED

SEP 12 1989

BUREAU OF HAZARDOUS SITE CONTROL
DIVISION OF HAZARDOUS WASTE REMEDIATION

Mr. Lawrence Bailey
New York D.E.C.
50 Wolf Road
Albany, NY 12233-3502

EMERSON ST. Landfill
#828023

Dear Mr. Bailey:

We at CompuChem® are pleased to provide our report for the analysis you requested. Data for the following samples are enclosed:

	Your ID Number	Our ID Number	Analysis Code	Order Number	Description of Work Requested
GW-8D	828023-08	279372	2000	17508/SDG 01	Semi-Volatiles (Style 9)
GW-9	828023-09	279376			Volatiles (Style 9)
GW-10D	828023-10	279389			Pesticide/PCB's (Style 9)
GW-11	828023-11	279390			
			867		Metals/Cyanides (Style J)

In this report we have included the analytical results, the method reference, and the quality control summary. To obtain additional technical information concerning this report, please contact your Sales Representative. In addition to resolving your questions, they can provide you with a complete overview of our line of services and assist you in identifying those services which will effectively and efficiently support your monitoring program.

For your convenience, your Customer Service Representative can help you place a new order, obtain information about a sample's status or obtain assistance with sample logistics. Your Sales Representative and your Customer Service Representative can be reached at 1/919-549-8263.

Thank you for choosing CompuChem®. We would like to continue providing you analytical support and services. We would appreciate your comments regarding the quality of services you have received from CompuChem®; client satisfaction is important to us. Please address your comments to your Sales or Customer Service Representative at the address given below.

Sincerely,

Yolanda Lee
for Mary E. Mitchell
Supervisor, Report Deliverables

cc: Ms. Angela Coble
New York D.E.C.
6274 East Avon-Lima Rd.
Avon, NY 14414 Reg. 8

cc: Accounting
(Cover letter only)

10/AUG/89

COMPUCHEM LABORATORIES

New York D.E.C.
Attn: Jack Ryan
50 Wolf Road
Albany, NY 12233

Attn: Jack Ryan

Enclosed is information pertaining to sample(s) received at CompuChem Laboratories for analysis. This table provides a cross reference between your sample I.D. and an assigned CompuChem number, analysis scheduled to be performed on the samples received, and the scheduled completion date of the final report for each sample submitted. If this table does not accurately reflect what you expected CompuChem to receive and analyze, please contact your marketing representative. Also enclosed are the original Chain-of-Custody documents received with your samples, if applicable.

Turnaround is scheduled at the time of sample receipt based on lab conditions and capacities. These turnarounds are usually less than the turnaround originally quoted. It is our intent at CompuChem to provide quality data as fast as possible. Should the quoted turnaround time be extended due to quality control or technical reasons, you will be notified in advance and provided with a new completion date. Please note that for CLP organic samples the due date is determined by the last sample received in a sample delivery group.

Thank you for selecting CompuChem Laboratories. We hope that our commitment to service, quality and on time performance will enable CompuChem to continue providing your analytical requirements.

Sincerely,

Production, Planning and Control
CompuChem Laboratories

COMPUCHEM LABORATORIES, INC. P.O. Box 12652 3308 Chapel Hill/Nelson Highway Research Triangle Park, NC 27709 (919) 549-8263

50 Wolf Road
Attn: Jack Ryan
Albany NY
12233

SAMPLES RECEIVED 8/08/89 FOR New York D.E.C.

SAMPLE-ID#	COMPUCHEM#	TAT	ORDER#	DUE-DATE	ANALYSIS
828023-08	279372	28	17508	89/09/05	C.V. MERC. ANAL.; WATER; S
828023-08	279372	28	17508	89/09/05	CYANIDE ANALYSIS; WATER; C
828023-08	279372	28	17508	89/09/05	FUR. AAS; CLP TAL; WATER;
828023-08	279372	28	17508	89/09/05	GC/ECD; PEST/PCB; WATER; E
828023-08	279372	28	17508	89/09/05	GC/MS; S-V; WATER; EPA SOW
828023-08	279372	28	17508	89/09/05	GC/MS; VOA; WATER; EPA SOW
828023-08	279372	28	17508	89/09/05	ICP ANAL.;CLP TAL; WATER;
828023-09	279376	28	17508	89/09/05	C.V. MERC. ANAL.; WATER; S
828023-09	279376	28	17508	89/09/05	CYANIDE ANALYSIS; WATER; C
828023-09	279376	28	17508	89/09/05	FUR. AAS; CLP TAL; WATER;
828023-09	279376	28	17508	89/09/05	GC/ECD; PEST/PCB; WATER; E
828023-09	279376	28	17508	89/09/05	GC/MS; S-V; WATER; EPA SOW
828023-09	279376	28	17508	89/09/05	GC/MS; VOA; WATER; EPA SOW
828023-09	279376	28	17508	89/09/05	ICP ANAL.;CLP TAL; WATER;
828023-10	279389	28	17508	89/09/05	C.V. MERC. ANAL.; WATER; S
828023-10	279389	28	17508	89/09/05	CYANIDE ANALYSIS; WATER; C
828023-10	279389	28	17508	89/09/05	FUR. AAS; CLP TAL; WATER;
828023-10	279389	28	17508	89/09/05	GC/ECD; PEST/PCB; WATER; E
828023-10	279389	28	17508	89/09/05	GC/MS; S-V; WATER; EPA SOW
828023-10	279389	28	17508	89/09/05	GC/MS; VOA; WATER; EPA SOW
828023-10	279389	28	17508	89/09/05	ICP ANAL.;CLP TAL; WATER;
828023-11	279390	28	17508	89/09/05	C.V. MERC. ANAL.; WATER; S
828023-11	279390	28	17508	89/09/05	CYANIDE ANALYSIS; WATER; C
828023-11	279390	28	17508	89/09/05	FUR. AAS; CLP TAL; WATER;
828023-11	279390	28	17508	89/09/05	GC/ECD; PEST/PCB; WATER; E
828023-11	279390	28	17508	89/09/05	GC/MS; S-V; WATER; EPA SOW
828023-11	279390	28	17508	89/09/05	GC/MS; VOA; WATER; EPA SOW
828023-11	279390	28	17508	89/09/05	ICP ANAL.;CLP TAL; WATER;

COMPUCHEM LABORATORIES

CLP CASE NARRATIVE--CASE #17508
Contract No. 2-88 (REVS) SDG No. 1
CompuChem Laboratories, Inc.

Sample Numbers: 828023-08, 828023-09, 828023-10, 828023-11

This portion of Case #17508 consisted of 4 water samples for volatile, semivolatile, and pesticide analysis. The samples were received intact via Federal Express on 8-8-89 in properly sealed shipping containers with chain-of-custody documents. The remainder of this narrative pertains only to the volatile and semivolatile sections of the case.

VOLATILES:
All volatile fractions were analyzed within holding time requirements. TCL compounds were present in all the samples and included methylene chloride, vinyl chloride, 1,1-dichloroethene, 1,1-dichloroethane, 1,2-dichloroethene, trichloroethene, and chloroform. None of the samples contained any tentatively identified compounds. Methylene chloride and acetone were present at acceptable levels in the associated method blank. Sample 828023-09 was analyzed using only 3.2 ML due to the high level of 1,2-dichloroethene present. All surrogate recovery criteria were met. The QC matrix spike/matrix spike duplicate results were acceptable.

SEMIVOLATILES:
All semivolatile fractions were extracted and analyzed within holding time requirements. Below contract required quantitation limit levels of bis(2-ethylhexyl)phthalate and/or pentachlorophenol were present in three of the samples. Two of the samples contained tentatively identified compounds. All surrogate recovery criteria were met. The QC matrix spike/matrix spike duplicate results were acceptable. The 2,4-dinitrotoluene recovery exceeded QC limits in the MSD.

I certify that this data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed above. Release of the data contained in this hardcopy data package has been authorized by the Laboratory Manager or his designee, as verified by the following signature.

Note: This report was paginated for reference and accountability in decreasing numerical sequence.

Janet C. Garrett 8-23-89
Janet C. Garrett 8-23-89
Technical Reviewer

COMPUCHEM LABORATORIES, INC P.O. Box 12652 3308 Chapel Hill/Nelson Highway Research Triangle Park, NC 27709 (919) 549-8263

COMPUCHEM LABORATORIES

Case Narrative #17508
SDG #001
Contract #2-88-REVS
CompuChem Laboratories, Inc.

SAMPLE IDENTIFICATIONS: 828023-08, 828023-09, 828023-10, 828023-11

PESTICIDES:
No target compound list analytes were confirmed above the contract required quantitation limits in these samples. The associated method blanks, matrix spike (MS), and matrix spike duplicate (MSD) met all quality control requirements. The percent recoveries of three spike analytes in the MS were flagged as outliers. The relative percent difference of one spike analyte was outside of the specified limits. Note that the spikes are advisory and are reported because these data demonstrate that the analytical system is in control.

I certify that this data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than conditions detailed above. Release of the data contained in the hardcopy data package has been authorized by the Laboratory Manager or his designee, as verified by the following signature.

Daniel E. Boone 08/21/89
Daniel E. Boone, Jr. DATE 08/21/89
TECHNICAL REVIEWER

Note: This report is paginated for reference and accountability in decreasing numerical sequence.

COMPUCHEM LABORATORIES, INC. P.O. Box 12652 3308 Chapel Hill/Nelson Highway Research Triangle Park, NC 27709 (919) 549-8263

RECEIVED

SEP 12 1989

BUREAU OF
HAZARDOUS SITE CONTROL
DIVISION OF HAZARDOUS
WASTE REMEDIATION

COMPUCHEM
LABORATORIES

Case Narrative - New York D.E.C.
Case # 25550 SDG # 17508A
Contract # 787

Samples: 828023-08, 828023-09, 828023-10, 828023-11

This case consisted of four water samples analyzed for complete HSL metals and cyanide. The samples were received intact on August 8, 1989 with the Chain-of-Custody (COC) Records. The enclosed cover page reflects New York D.E.C. and CompuChem identifiers.

The associated quality control sample spike, 828023-08S, was outside the control limits for lead, selenium, and thallium, therefore the concentrations were flagged with an 'N'. The associated quality control duplicate, 828023-09D, was outside the control limits for mercury, therefore the concentration was flagged with an '*'.

A serial dilution was done on sample 828023-10. The adjusted sample concentrations were within 10% of the original concentrations for all of the elements tested.

In one or more of the samples, the concentrations of barium and lead fell between the Instrument Detection Limits (IDLs) and the Contract Required Detection Limits (CRDLs). The concentrations of aluminum, calcium, iron, magnesium, manganese, potassium, sodium, cyanide, and zinc were above the CRDLs, while the concentrations of the remaining elements fell below the IDLs.

Anna Feather
Technical Reviewer
August 30, 1989

Note: This report is paginated for reference and accountability in decreasing numerical sequence.

U.S. EPA - CLP

COVER PAGE - INORGANIC ANALYSES DATA PACKAGE

Lab Name: COMPUCHEM LABORATORIES Contract: 787

Lab Code: COMPU Case No.: 25550 SAS No.: _____ SDG No.: 17508A

SOW No.: 7/87

Client Sample No.	Lab Sample ID.
828023-08	279372
828023-08S	279386
828023-08S	279383
828023-09	279376
828023-09D	279384
828023-09D	279387
828023-10	279389
828023-11	279390
LCS	279385
Prep Blank	280288
Prep Blank	279969

Were ICP interelement corrections applied? Yes/No YES

Were ICP background corrections applied? Yes/No YES

If yes-were raw data generated before application of background corrections? Yes/No YES

Comments:

Release of the data contained in this hardcopy data package and in the computer-readable data submitted on floppy diskette has been authorized by the Laboratory Manager or the Manager's designee, as verified by the following signature.

Lab Manager: [illegible]

Date: 8/20/89

COVER PAGE - IN 7/87

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

828023-10MS

Lab Name: COMPUCHEM LABS Contract: (2-88)-REVS

Lab Code: COMPU Case No.: 17508 SAS No.: _____ SDG No.: 01

Matrix: (soil/water) WATER Lab Sample ID: 279377

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: CN079377B14

Level: (low/med) LOW Date Received: 08/08/89

% Moisture: not dec. ____ Date Analyzed: 08/11/89

Column: (pack/cap) CAP Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
74-87-3	Chloromethane	10	U
74-83-9	Bromomethane	10	U
75-01-4	Vinyl Chloride	10	U
75-00-3	Chloroethane	10	U
75-09-2	Methylene Chloride	2	BJ
67-64-1	Acetone	10	U
75-15-0	Carbon Disulfide	5	U
75-35-4	1,1-Dichloroethene	5	U
75-34-3	1,1-Dichloroethane	5	U
540-59-0	1,2-Dichloroethene (total)	1	J
67-66-3	Chloroform	5	U
107-06-2	1,2-Dichloroethane	5	U
78-93-3	2-Butanone	10	U
71-55-6	1,1,1-Trichloroethane	5	U
56-23-5	Carbon Tetrachloride	5	U
108-05-4	Vinyl Acetate	10	U
75-27-4	Bromodichloromethane	5	U
78-87-5	1,2-Dichloropropane	5	U
10061-01-5	cis-1,3-Dichloropropene	5	U
79-01-6	Trichloroethene	5	U
124-48-1	Dibromochloromethane	5	U
79-00-5	1,1,2-Trichloroethane	5	U
71-43-2	Benzene	5	U
10061-02-6	Trans-1,3-Dichloropropene	5	U
75-25-2	Bromoform	5	U
108-10-1	4-Methyl-2-Pentanone	10	U
591-78-6	2-Hexanone	10	U
127-18-4	Tetrachloroethene	5	U
79-34-5	1,1,2,2-Tetrachloroethane	5	U
108-88-3	Toluene	5	U
108-90-7	Chlorobenzene	5	U
100-41-4	Ethylbenzene	5	U
100-42-5	Styrene	5	U
1330-20-7	Total Xylenes	5	U

FORM I VOA 1/87 Rev

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

828023-10MSD

Lab Name: COMPUCHEM LABS Contract: (2-88)-REVS

Lab Code: COMPU Case No.: 17508 SAS No.: _____ SDG No.: 01

Matrix: (soil/water) WATER Lab Sample ID: 279378

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: CN079378B14

Level: (low/med) LOW Date Received: 08/08/89

% Moisture: not dec. ____ Date Analyzed: 08/11/89

Column: (pack/cap) CAP Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
74-87-3	Chloromethane	10	U
74-83-9	Bromomethane	10	U
75-01-4	Vinyl Chloride	10	U
75-00-3	Chloroethane	10	U
75-09-2	Methylene Chloride	3	BJ
67-64-1	Acetone	10	U
75-15-0	Carbon Disulfide	5	U
75-35-4	1,1-Dichloroethene	5	U
75-34-3	1,1-Dichloroethane	5	U
540-59-0	1,2-Dichloroethene (total)	5	U
67-66-3	Chloroform	5	U
107-06-2	1,2-Dichloroethane	5	U
78-93-3	2-Butanone	10	U
71-55-6	1,1,1-Trichloroethane	5	U
56-23-5	Carbon Tetrachloride	5	U
108-05-4	Vinyl Acetate	10	U
75-27-4	Bromodichloromethane	5	U
78-87-5	1,2-Dichloropropane	5	U
10061-01-5	cis-1,3-Dichloropropene	5	U
79-01-6	Trichloroethene	5	U
124-48-1	Dibromochloromethane	5	U
79-00-5	1,1,2-Trichloroethane	5	U
71-43-2	Benzene	5	U
10061-02-6	Trans-1,3-Dichloropropene	5	U
75-25-2	Bromoform	5	U
108-10-1	4-Methyl-2-Pentanone	10	U
591-78-6	2-Hexanone	10	U
127-18-4	Tetrachloroethene	5	U
79-34-5	1,1,2,2-Tetrachloroethane	5	U
108-88-3	Toluene	5	U
108-90-7	Chlorobenzene	5	U
100-41-4	Ethylbenzene	5	U
100-42-5	Styrene	5	U
1330-20-7	Total Xylenes	5	U

FORM I VOA 1/87 Rev.

1B
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

828023-08MS

Lab Name: COMPUCHEM LABS Contract: (2-88)-REVS

Lab Code: COMPU Case No.: 17508 SAS No.: _____ SDG No.: 01

Matrix: (soil/water) WATER Lab Sample ID: 279373

Sample wt/vol: 1000 (g/mL) ML Lab File ID: GH079373A05

Level: (low/med) LOW Date Received: 08/08/89

% Moisture: not dec. ____ dec. ____ Date Extracted: 08/09/89

Extraction: (SepF/Cont/Sonc) SEPF Date Analyzed: 08/11/89

GPC Cleanup: (Y/N) N pH: _____ Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
108-95-2	Phenol	10	U
111-44-4	bis(2-Chloroethyl)Ether	10	U
95-57-8	2-Chlorophenol	10	U
541-73-1	1,3-Dichlorobenzene	10	U
106-46-7	1,4-Dichlorobenzene	10	U
100-51-6	Benzyl Alcohol	10	U
95-50-1	1,2-Dichlorobenzene	10	U
95-48-7	2-Methylphenol	10	U
39638-32-9	bis(2-Chloroisopropyl)Ether	10	U
106-44-5	4-Methylphenol	10	U
621-64-7	N-Nitroso-Di-n-Propylamine	10	U
67-72-1	Hexachloroethane	10	U
98-95-3	Nitrobenzene	10	U
78-59-1	Isophorone	10	U
88-75-5	2-Nitrophenol	10	U
105-67-9	2,4-Dimethylphenol	10	U
65-85-0	Benzoic Acid	50	U
111-91-1	bis(2-Chloroethoxy)Methane	10	U
120-83-2	2,4-Dichlorophenol	10	U
120-82-1	1,2,4-Trichlorobenzene	10	U
91-20-3	Naphthalene	10	U
106-47-8	4-Chloroaniline	10	U
87-68-3	Hexachlorobutadiene	10	U
59-50-7	4-Chloro-3-Methylphenol	10	U
91-57-6	2-Methylnaphthalene	10	U
77-47-4	Hexachlorocyclopentadiene	10	U
88-06-2	2,4,6-Trichlorophenol	10	U
95-95-4	2,4,5-Trichlorophenol	50	U
91-58-7	2-Chloronaphthalene	10	U
88-74-4	2-Nitroaniline	50	U
131-11-3	Dimethyl Phthalate	10	U
208-96-8	Acenaphthylene	10	U
606-20-2	2,6-Dinitrotoluene	10	U

FORM I SV-1 1/87 Rev.

1C
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

828023-08MS

Lab Name: COMPUCHEM LABS Contract: (2-88)-REVS

Lab Code: COMPU Case No.: 17508 SAS No.: _____ SDG No.: 01

Matrix: (soil/water) WATER Lab Sample ID: 279373

Sample wt/vol: 1000 (g/mL) ML Lab File ID: GH079373A05

Level: (low/med) LOW Date Received: 08/08/89

% Moisture: not dec. ____ dec. ____ Date Extracted: 08/09/89

Extraction: (SepF/Cont/Sonc) SEPF Date Analyzed: 08/11/89

GPC Cleanup: (Y/N) N pH: _____ Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
99-09-2	3-Nitroaniline	50	U
83-32-9	Acenaphthene	10	U
51-28-5	2,4-Dinitrophenol	50	U
100-02-7	4-Nitrophenol	50	U
132-64-9	Dibenzofuran	10	U
121-14-2	2,4-Dinitrotoluene	10	U
84-66-2	Diethylphthalate	10	U
7005-72-3	4-Chlorophenyl-phenylether	10	U
86-73-7	Fluorene	10	U
100-01-6	4-Nitroaniline	50	U
534-52-1	4,6-Dinitro-2-Methylphenol	50	U
86-30-6	N-Nitrosodiphenylamine (1)	10	U
101-55-3	4-Bromophenyl-phenylether	10	U
118-74-1	Hexachlorobenzene	10	U
87-86-5	Pentachlorophenol	50	U
85-01-8	Phenanthrene	10	U
120-12-7	Anthracene	10	U
84-74-2	Di-n-Butylphthalate	10	U
206-44-0	Fluoranthene	10	U
129-00-0	Pyrene	10	U
85-68-7	Butylbenzylphthalate	10	U
91-94-1	3,3'-Dichlorobenzidine	20	U
56-55-3	Benzo(a)Anthracene	10	U
218-01-9	Chrysene	10	U
117-81-7	bis(2-Ethylhexyl)Phthalate	2	J
117-84-0	Di-n-Octyl Phthalate	10	U
205-99-2	Benzo(b)Fluoranthene	10	U
207-08-9	Benzo(k)Fluoranthene	10	U
50-32-8	Benzo(a)Pyrene	10	U
193-39-5	Indeno(1,2,3-cd)Pyrene	10	U
53-70-3	Dibenzo(a,h)Anthracene	10	U
191-24-2	Benzo(g,h,i)Perylene	10	U

(1) - Cannot be separated from Diphenylamine

FORM I SV-2 1/87 Rev.

1B
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

828023-08MSD

Lab Name: COMPUCHEM LABS Contract: (2-88)-REVS

Lab Code: COMPU Case No.: 17508 SAS No.: _____ SDG No.: 01

Matrix: (soil/water) WATER Lab Sample ID: 279374

Sample wt/vol: 1000 (g/mL) ML Lab File ID: GH079374A05

Level: (low/med) LOW Date Received: 08/08/89

% Moisture: not dec. ____ dec. ____ Date Extracted: 08/09/89

Extraction: (SepF/Cont/Sonc) SEPF Date Analyzed: 08/11/89

GPC Cleanup: (Y/N) N pH: _____ Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
108-95-2	Phenol	10	U
111-44-4	bis(2-Chloroethyl)Ether	10	U
95-57-8	2-Chlorophenol	10	U
541-73-1	1,3-Dichlorobenzene	10	U
106-46-7	1,4-Dichlorobenzene	10	U
100-51-6	Benzyl Alcohol	10	U
95-50-1	1,2-Dichlorobenzene	10	U
95-48-7	2-Methylphenol	10	U
39638-32-9	bis(2-Chloroisopropyl)Ether	10	U
106-44-5	4-Methylphenol	10	U
621-64-7	N-Nitroso-Di-n-Propylamine	10	U
67-72-1	Hexachloroethane	10	U
98-95-3	Nitrobenzene	10	U
78-59-1	Isophorone	10	U
88-75-5	2-Nitrophenol	10	U
105-67-9	2,4-Dimethylphenol	10	U
65-85-0	Benzoic Acid	50	U
111-91-1	bis(2-Chloroethoxy)Methane	10	U
120-83-2	2,4-Dichlorophenol	10	U
120-82-1	1,2,4-Trichlorobenzene	10	U
91-20-3	Naphthalene	10	U
106-47-8	4-Chloroaniline	10	U
87-68-3	Hexachlorobutadiene	10	U
59-50-7	4-Chloro-3-Methylphenol	10	U
91-57-6	2-Methylnaphthalene	10	U
77-47-4	Hexachlorocyclopentadiene	10	U
88-06-2	2,4,6-Trichlorophenol	10	U
95-95-4	2,4,5-Trichlorophenol	50	U
91-58-7	2-Chloronaphthalene	10	U
88-74-4	2-Nitroaniline	50	U
131-11-3	Dimethyl Phthalate	10	U
208-96-8	Acenaphthylene	10	U
606-20-2	2,6-Dinitrotoluene	10	U

FORM I SV-1 1/87 Rev.

1C
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

828023-08MSD

Lab Name: COMPUCHEM LABS Contract: (2-88)-REVS

Lab Code: COMPU Case No.: 17508 SAS No.: _____ SDG No.: 01

Matrix: (soil/water) WATER Lab Sample ID: 279374

Sample wt/vol: 1000 (g/mL) ML Lab File ID: GH079374A05

Level: (low/med) LOW Date Received: 08/08/89

% Moisture: not dec. ____ dec. ____ Date Extracted: 08/09/89

Extraction: (SepF/Cont/Sonc) SEPF Date Analyzed: 08/11/89

GPC Cleanup: (Y/N) N pH: _____ Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
99-09-2	3-Nitroaniline	50	U
83-32-9	Acenaphthene	10	U
51-28-5	2,4-Dinitrophenol	50	U
100-02-7	4-Nitrophenol	50	U
132-64-9	Dibenzofuran	10	U
121-14-2	2,4-Dinitrotoluene	10	U
84-66-2	Diethylphthalate	10	U
7005-72-3	4-Chlorophenyl-phenylether	10	U
86-73-7	Fluorene	10	U
100-01-6	4-Nitroaniline	50	U
534-52-1	4,6-Dinitro-2-Methylphenol	50	U
86-30-6	N-Nitrosodiphenylamine (1)	10	U
101-55-3	4-Bromophenyl-phenylether	10	U
118-74-1	Hexachlorobenzene	10	U
87-86-5	Pentachlorophenol	50	U
85-01-8	Phenanthrene	10	U
120-12-7	Anthracene	10	U
84-74-2	Di-n-Butylphthalate	10	U
206-44-0	Fluoranthene	10	U
129-00-0	Pyrene	10	U
85-68-7	Butylbenzylphthalate	10	U
91-94-1	3,3'-Dichlorobenzidine	20	U
56-55-3	Benzo(a)Anthracene	10	U
218-01-9	Chrysene	10	U
117-81-7	bis(2-Ethylhexyl)Phthalate	4	J
117-84-0	Di-n-Octyl Phthalate	10	U
205-99-2	Benzo(b)Fluoranthene	10	U
207-08-9	Benzo(k)Fluoranthene	10	U
50-32-8	Benzo(a)Pyrene	10	U
193-39-5	Indeno(1,2,3-cd)Pyrene	10	U
53-70-3	Dibenzo(a,h)Anthracene	10	U
191-24-2	Benzo(g,h,i)Perylene	10	U

(1) - Cannot be separated from Diphenylamine

FORM I SV-2 1/87 Rev.

1D
PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

828023-08MS

Lab Name: COMPUCHEM LABORATORIES Contract: (2-88)-REVS

Lab Code: COMPU Case No.: 17508 SAS No.: _____ SDG No.: 1

Matrix: (soil/water) WATER Lab Sample ID: 279380

Sample wt/vol: 500 (g/mL) ML Lab File ID: _____

Level: (low/med) LOW Date Received: 08/08/89

% Moisture: not dec. _____ dec. _____ Date Extracted: 08/09/89

Extraction: (SepF/Cont/Sonc) SEPF Date Analyzed: 08/10/89

GPC Cleanup: (Y/N) N pH: _____ Dilution Factor: 0.50

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
319-84-6	alpha-BHC	0.050	U
319-85-7	beta-BHC	0.050	U
319-86-8	delta-BHC	0.050	U
58-89-9	gamma-BHC (Lindane)	0.050	U
76-44-8	Heptachlor	0.050	U
309-00-2	Aldrin	0.050	U
1024-57-3	Heptachlor epoxide	0.050	U
959-98-8	Endosulfan I	0.050	U
60-57-1	Dieldrin	0.10	U
72-55-9	4,4'-DDE	0.10	U
72-20-8	Endrin	0.10	U
33213-65-9	Endosulfan II	0.10	U
72-54-8	4,4'-DDD	0.10	U
1031-07-8	Endosulfan sulfate	0.10	U
50-29-3	4,4'-DDT	0.10	U
72-43-5	Methoxychlor	0.50	U
53494-70-5	Endrin ketone	0.10	U
5103-71-9	alpha-Chlordane	0.50	U
5103-74-2	gamma-Chlordane	0.50	U
8001-35-2	Toxaphene	1.0	U
12674-11-2	Aroclor-1016	0.50	U
11104-28-2	Aroclor-1221	0.50	U
11141-16-5	Aroclor-1232	0.50	U
53469-21-9	Aroclor-1242	0.50	U
12672-29-6	Aroclor-1248	0.50	U
11097-69-1	Aroclor-1254	1.0	U
11096-82-5	Aroclor-1260	1.0	U

FORM I PEST 1/87 Rev.

1D
PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

828023-08MSD

Lab Name: COMPUCHEM LABORATORIES Contract: (2-88)-REVS

Lab Code: COMPU Case No.: 17508 SAS No.: _____ SDG No.: 1

Matrix: (soil/water) WATER Lab Sample ID: 279381

Sample wt/vol: 500 (g/mL) ML Lab File ID: _____

Level: (low/med) LOW Date Received: 08/08/89

% Moisture: not dec. _____ dec. _____ Date Extracted: 08/09/89

Extraction: (SepF/Cont/Sonc) SEPF Date Analyzed: 08/10/89

GPC Cleanup: (Y/N) N pH: _____ Dilution Factor: 0.50

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
319-84-6	alpha-BHC	0.050	U
319-85-7	beta-BHC	0.050	U
319-86-8	delta-BHC	0.050	U
58-89-9	gamma-BHC (Lindane)	0.050	U
76-44-8	Heptachlor	0.050	U
309-00-2	Aldrin	0.050	U
1024-57-3	Heptachlor epoxide	0.050	U
959-98-8	Endosulfan I	0.050	U
60-57-1	Dieldrin	0.10	U
72-55-9	4,4'-DDE	0.10	U
72-20-8	Endrin	0.10	U
33213-65-9	Endosulfan II	0.10	U
72-54-8	4,4'-DDD	0.10	U
1031-07-8	Endosulfan sulfate	0.10	U
50-29-3	4,4'-DDT	0.10	U
72-43-5	Methoxychlor	0.50	U
53494-70-5	Endrin ketone	0.10	U
5103-71-9	alpha-Chlordane	0.50	U
5103-74-2	gamma-Chlordane	0.50	U
8001-35-2	Toxaphene	1.0	U
12674-11-2	Aroclor-1016	0.50	U
11104-28-2	Aroclor-1221	0.50	U
11141-16-5	Aroclor-1232	0.50	U
53469-21-9	Aroclor-1242	0.50	U
12672-29-6	Aroclor-1248	0.50	U
11097-69-1	Aroclor-1254	1.0	U
11096-82-5	Aroclor-1260	1.0	U

FORM I PEST 1/87 Rev.

№ 012238

1756

COMPUCHEM LABORATORIES

CHAIN OF CUSTODY RECORD

PROJ. NO.: 576-005

PROJECT NAME: Emerson Street

SAMPLERS: (Signature) [signature]

STA. NO.	DATE	TIME	COMP.	GRAB	STATION LOCATION	NO. OF CONTAINERS	VOA	BN/AE	Metals	Cyanide	PCB	Pest	REMARKS
GW-11	8/7/89	1520-1640		✓	514589 0807 828023 -11	8	2	3	1	1	1		279390

Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
[signature]	8/7/89 1850				
Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
Relinquished by: (Signature)	Date / Time	Received for Laboratory by: (Signature)	Date / Time	Remarks	
		Joan Purdie	8-8-89 0830	RECEIVED IN GOOD CONDITION	

Distribution: Original Accompanies Shipment; Copy to Field Files

№ 012211

COMPUCHEM LABORATORIES

CHAIN OF CUSTODY RECORD

PROJ. NO.: 576 005

PROJECT NAME: Emerson Street

SAMPLERS: (Signature) [signature]

STA. NO.	DATE	TIME	COMP.	GRAB	STATION LOCATION	NO. OF CONTAINERS	VOA	BN/AE	Metals	Cyanide	PCB	Pest	REMARKS
GW-11	8/7/89	1520-1540		✓	SH889 0807 828023-11	1					1		279390
GW-8	8/7/89	1600-1615		✓	SH889 0807 828023-8	1					1		279372
GW-10	8/7/89	1650-1700		✓	SH889 0807 828023-10	1					1		279389
GW-9	8/7/89	1720-1745		✓	SH889 0807 828023-09	1					1		279376
					Id's used in system: 828023-9, 828023-10, 828023-11, 828023-8								

Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
[signature]	8/7/89 1845				
Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
Relinquished by: (Signature)	Date / Time	Received for Laboratory by: (Signature) Joan Purdie	Date / Time 8-8-89 0830	Remarks RECEIVED IN GOOD CONDITION	

Distribution: Original Accompanies Shipment; Copy to Field Files

№ 012768

COMPUCHEM LABORATORIES

CHAIN OF CUSTODY RECORD

PROJ. NO.	PROJECT NAME
576-005	Emerson Street

SAMPLERS: (Signature) [signature]

STA. NO.	DATE	TIME	COMP.	GRAB	STATION LOCATION	NO. OF CONTAINERS	VOA	BN/AE	Metals	Cyan Re	PCB/Pest.		REMARKS
GW-10	8/7/89	1650-1700		✓	SH889 0807 828023-10	8	2	3	1	1	1		279389
					Id used in system	828023-10							

Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
[signature]	8/7/89 1850				
Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)

Relinquished by: (Signature)	Date / Time	Received for Laboratory by: (Signature)	Date / Time	Remarks
		Joan Purdie	8.8.89 0830	RECEIVED IN GOOD CONDITION

Distribution: Original Accompanies Shipment; Copy to Field Files

№ 012214

COMPUCHEM LABORATORIES

CHAIN OF CUSTODY RECORD

PROJ. NO.: 576-005

PROJECT NAME: Emerson Street

SAMPLERS: (Signature) [signature]

STA. NO.	DATE	TIME	COMP.	GRAB	STATION LOCATION	NO. OF CONTAINERS	VOA	BN/AE	Metals	Cyanide	PCB/Pest.		REMARKS
SW-8	8/7/89	1600-1615		✓	SH889 0807 828023-08	8	2	3	1	1	1		279 372
					old used in system: 828023-08								

Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
[signature]	8/7/89 1845				
Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
Relinquished by: (Signature)	Date / Time	Received for Laboratory by: (Signature)	Date / Time	Remarks	
		Joan Purdie	8-8-89 0830	RECEIVED IN GOOD CONDITION	

Distribution: Original Accompanies Shipment; Copy to Field Files

№ 012237

COMPUCHEM LABORATORIES

CHAIN OF CUSTODY RECORD

PROJ. NO.	PROJECT NAME
576005	Emerson Street

SAMPLERS: (Signature) [signature]

STA. NO.	DATE	TIME	COMP.	GRAB	STATION LOCATION	NO. OF CONTAINERS	VOA	BN/PAH	Metals	Cyanide	PCB/Pest		REMARKS
GW-9	8/7/89	1725 1745		X	548889 0807 828023-09	8	2	3	1	1	1		279376
					Old used in system: 828023-09								

Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
[signature]	8/7/89 1840				
Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
Relinquished by: (Signature)	Date / Time	Received for Laboratory by: (Signature) Joan Purdie	Date / Time 8-8-89 0830	Remarks RECEIVED IN GOOD CONDITION	

Distribution: Original Accompanies Shipment; Copy to Field Files

Send This Sheet with Sample to Contract Lab

Part 2

74-15-1 (10/87)—9a

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION

CONTRACT LAB SAMPLE INFORMATION SHEET

Print legibly

279372

COLLECTED BY: Todd Caffoe	TELEPHONE NUMBER: (716) 226-2466		REGION NO: 8
CONTRACT LAB: CompuChem	COUNTY: Monroe	SAMPLING DATE: 8/7/89	TIME: 4:00 ☐ AM ☒ PM
SAMPLING POINT	OUTFALL NUMBER	CHECK IF SAMPLING IS PART OF INSPECTION ☐	
	SPDES NUMBER	FLOW MGD	
CASE NUMBER: SH889	SDG NUMBER: 0807	SAMPLE NUMBER: 828023-08	TYPE OF SAMPLE: ☒ Grab ☐ Composite Term ____ hrs

SAMPLE MATRIX: ☐ Air ☐ Soil/Sediment ☒ Groundwater ☐ Surface Water ☐ Wastewater ☐ Other (Specify) ____

CHECK THE BOX PRECEDING THE REQUESTED ANALYSIS

PRIORITY POLLUTANTS (Water Part 136)—SPDES

- ☐ 1. All (SPDES)—Includes 2-6
- ☐ 2. 13 PP Metals
- ☐ 3. Volatiles—USEPA 624 (GC/MS)
- ☐ 4. Acids Base/Neutrals (USEPA 625-GC/MS)
- ☐ 5. Cyanide
- ☐ 6. Pesticides/PCB's (USEPA 608-GC)
- ☐ 7. Halogenated Volatiles (USEPA 601-GC)
- ☐ 8. Aromatic Volatiles (USEPA 602-GC)
- ☐ 9. BOD
- ☐ 10. pH
- ☐ 11. COD
- ☐ 12. TSS
- ☐ 13. Settleable Solids
- ☐ 14. TKN
- ☐ 15. Ammonia
- ☐ 16. Nitrate/Nitrite
- ☐ 17. Total Phosphrous
- ☐ 18. Reactive Phosphrous
- ☐ 19. Oil/Grease
- ☐ 20. TOC
- ☐ 21. Total Phenols
- ☐ 22. Other ____

CONTRACT LABORATORY PROTOCOLS

- ☒ 23. (ALL)—Water—Includes 24-28
- ☐ 24. Base/Neutral/Acid (B/N/A)—Water—GC-MS
- ☐ 25. Volatile Organic Analysis VOA—Water—GC-MS
- ☐ 26. Pesticides/PCB's—Water—GC
- ☐ 27. Metals—Water
- ☐ 28. Cyanide—Water
- ☐ 29. (ALL)—Soil/Sediments—Includes 30-34
- ☐ 30. B/N/A/—Soils/Sediment—GC-MS
- ☐ 31. VOA—Soils/Sediments—GC-MS
- ☐ 32. Pesticides/PCB's—Soils/Sediment—GC
- ☐ 33. Metals—Soil/Sediment
- ☐ 34. Cyanide—Soils/Sediment
- ☐ 35. Other ____

HAZARDOUS WASTES/RCRA ANALYSIS SW-846

- ☐ 36. EP Toxicity
- ☐ 37. EP Toxicity (Metals Only)
- ☐ 38. Ignitability
- ☐ 39. Corrosivity
- ☐ 40. [illegible]
- ☐ 41. [illegible]
- ☐ 42. Pesticides/PCB's (USEPA 8080)
- ☐ 43. [illegible]
- ☐ 44. [illegible]
- ☐ 45. Reactivity
- ☐ 46. Dioxin (USEPA [illegible]
- ☐ 47. [illegible]
- ☐ 48. Other ____

MUNICIPAL SLUDGE

- ☐ 49. [illegible]
- ☐ [illegible]

[illegible]

Place [illegible]

Sheet with Sample to Contract Lab

Part 2

74-15-1 (10 87)—9a

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION

CONTRACT LAB SAMPLE INFORMATION SHEET

Print legibly

279376

COLLECTED BY: Todd Caffoe		TELEPHONE NUMBER: (716) 226-2466	REGION NO: 8
CONTRACT LAB: CompuChem	COUNTY: Monroe	SAMPLING DATE: 8/7/89	TIME: 5:25 ☒ AM ☐ PM
SAMPLING POINT		OUTFALL NUMBER	CHECK IF SAMPLING IS PART OF INSPECTION ☐
		SPDES NUMBER	FLOW MGD
CASE NUMBER: SH889	SDG NUMBER: 0807	SAMPLE NUMBER: 828023-09	TYPE OF SAMPLE: ☒ Grab ☐ Composite Term ____ hrs

SAMPLE MATRIX: ☐ Air ☐ Soil/Sediment ☒ Groundwater ☐ Surface Water ☐ Wastewater ☐ Other (Specify) ____

CHECK THE BOX PRECEDING THE REQUESTED ANALYSIS

PRIORITY POLLUTANTS (Water Part 136)—SPDES

- ☐ 1. All (SPDES)—Includes 2-6
- ☐ 2. 13 PP Metals
- ☐ 3. Volatiles—USEPA 624 (GC/MS)
- ☐ 4. Acids Base/Neutrals (USEPA 625-GC/MS)
- ☐ 5. Cyanide
- ☐ 6. Pesticides/PCB's (USEPA 608-GC)
- ☐ 7. Halogenated Volatiles (USEPA 601-GC)
- ☐ 8. Aromatic Volatiles (USEPA 602-GC)
- ☐ 9. BOD
- ☐ 10. pH
- ☐ 11. COD
- ☐ 12. TSS
- ☐ 13. Settleable Solids
- ☐ 14. TKN
- ☐ 15. Ammonia
- ☐ 16. Nitrate/Nitrite
- ☐ 17. Total Phosphrous
- ☐ 18. Reactive Phosphrous
- ☐ 19 Oil/Grease
- ☐ 20 TOC
- ☐ 21. Total Phenols
- ☐ 22 Other ____

CONTRACT LABORATORY PROTOCOLS

- ☒ 23. (ALL)—Water—Includes 24-28
- ☐ 24 Base/Neutral/Acid (B/N/A)—Water—GC-MS
- ☐ 25 Volatile Organic Analysis VOA—Water—GC-MS
- ☐ 26. Pesticides/PCB's—Water—GC
- ☐ 27. Metals—Water
- ☐ 28. Cyanide—Water
- ☐ 29. (ALL)—Soil/Sediments—Includes 30-34
- ☐ 30. B/N/A/—Solls/Sediment—GC-MS
- ☐ 31. VOA—Solls/Sediments—GC-MS
- ☐ 32. Pesticides/PCB's—Solls/Sediment—GC
- ☐ 33. Metals—Soil/Sediment
- ☐ 34. Cyanide—Solls/Sediment
- ☐ 35. Other ____

HAZARDOUS WASTES/RCRA ANALYSIS SW-846

- ☐ 36. EP Toxicity
- ☐ 37. EP Toxicity (Metals Only)
- ☐ 38. Ignitability
- ☐ 39. Corrosivity
- ☐ 40. VOA—(USEPA 8240)
- ☐ 41. BNA—(USEPA [illegible]
- ☐ 42. Pesticides/PCB's (USEPA 8080)
- ☐ 43. TCLP
- ☐ 44. TCLP (Metals Only)
- ☐ 45. Reactivity
- ☐ 46. Dioxin (USEPA 8280)
- ☐ 47. Appendix IX
- ☐ 48. Other ____

MUNICIPAL SLUDGE

- ☐ 49. RSGB-01
- ☐ 50. [illegible]
- ☐ 51. [illegible]
- ☐ 54. [illegible]

CAUTION: [illegible]

[illegible] sample [illegible]

[illegible] hazardous [illegible]

Place QA Label Here

Sheet ... Sample to Contract Lab Part 2

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION

CONTRACT LAB SAMPLE INFORMATION SHEET

Print legibly

279389

COLLECTED BY: Todd Caffee	TELEPHONE NUMBER: (716) 226-2466		REGION NO: 8
CONTRACT LAB:	COUNTY:	SAMPLING DATE: 8/7/89	TIME: 4:50 ☐ AM ☒ PM
SAMPLING POINT	OUTFALL NUMBER	CHECK IF SAMPLING IS PART OF INSPECTION ☐	
	SPDES NUMBER	FLOW MGD	
CASE NUMBER: SH889	SDG NUMBER: 0807	SAMPLE NUMBER: 828023-10	TYPE OF SAMPLE: ☒ Grab ☐ Composite Time ___ hrs

SAMPLE MATRIX: ☐ Air ☐ Soil/Sediment ☒ Groundwater ☐ Surface Water ☐ Wastewater ☐ Other (Specify) ___

CHECK THE BOX PRECEDING THE REQUESTED ANALYSIS

PRIORITY POLLUTANTS (Water Part 136)—SPDES

- ☐ 1. All (SPDES)—Includes 2-6
- ☐ 2. 13 PP Metals
- ☐ 3. Volatiles—USEPA 624 (GC/MS)
- ☐ 4. Acids Base/Neutrals (USEPA 625-GC/MS)
- ☐ 5. Cyanide
- ☐ 6. Pesticides/PCB's (USEPA 608-GC)
- ☐ 7. Halogenated Volatiles (USEPA 601-GC)
- ☐ 8. Aromatic Volatiles (USEPA 602-GC)
- ☐ 9. BOD
- ☐ 10. pH
- ☐ 11. COD
- ☐ 12. TSS
- ☐ 13. Settleable Solids
- ☐ 14. TKN
- ☐ 15. Ammonia
- ☐ 16. Nitrate/Nitrite
- ☐ 17. Total Phosphrous
- ☐ 18. Reactive Phosphrous
- ☐ 19. Oil/Grease
- ☐ 20. TOC
- ☐ 21. Total Phenols
- ☐ 22. Other ___

CONTRACT LABORATORY PROTOCOLS

- ☒ 23. (ALL)—Water—Includes 24-28
- ☐ 24. Base/Neutral/Acid (B/N/A)—Water—GC-MS
- ☐ 25. Volatile Organic Analysis VOA—Water—GC-MS
- ☐ 26. Pesticides/PCB's—Water—GC
- ☐ 27. Metals—Water
- ☐ 28. Cyanide—Water
- ☐ 29. (ALL)—Soil/Sediments—Includes 30-34
- ☐ 30. B/N/A/—Soils/Sediment—GC-MS
- ☐ 31. VOA—Soils/Sediments—GC-MS
- ☐ 32. Pesticides/PCB's—Soils/Sediment—GC
- ☐ 33. Metals—Soil/Sediment
- ☐ 34. Cyanide—Soils/Sediment
- ☐ 35. Other ___

HAZARDOUS WASTES/RCRA ANALYSIS SW-846

- ☐ 36. EP Toxicity
- ☐ 37. EP Toxicity (Metals Only)
- ☐ 38. Ignitability
- ☐ 39. Corrosivity
- ☐ 40. VOA—(USEPA 8240)
- ☐ 41. BNA—(USEPA [illegible])
- ☐ 42. Pesticides/PCB's (USEPA 8080)
- ☐ 43. TCLP
- ☐ 44. TCLP (Metals [illegible])
- ☐ [illegible]
- ☐ [illegible]

MUNICIPAL SLUDGE

- ☐ [illegible]
- ☐ [illegible]

[illegible] of hazardous and/or [illegible]

Place QA Label Here

Sample Data Sheet with Sample to Contract Lab

74-15-1 (10/87)—9a

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION

CONTRACT LAB SAMPLE INFORMATION SHEET

Print legibly

279390

COLLECTED BY: Todd Caffoe	TELEPHONE NUMBER: (716) 226-2466	REGION NO: 8	
CONTRACT LAB: Comarthen	COUNTY: Monroe	SAMPLING DATE: 8/7/89	TIME: 3:20 ☐ AM ☒ PM
SAMPLING POINT:	OUTFALL NUMBER:	CHECK IF SAMPLING IS PART OF INSPECTION:	
	SPDES NUMBER:	FLOW: MGD	
CASE NUMBER: SH889	SDG NUMBER: 0807	SAMPLE NUMBER: 828023-11	TYPE OF SAMPLE: ☒ Grab ☐ Composite Term ____ hrs

SAMPLE MATRIX: ☐ Air ☐ Soil/Sediment ☒ Groundwater ☐ Surface Water ☐ Wastewater ☐ Other (Specify) ____

CHECK THE BOX PRECEDING THE REQUESTED ANALYSIS

PRIORITY POLLUTANTS (Water Part 136)—SPDES

- ☐ 1. All (SPDES)—includes 2-6
- ☐ 2. 13 PP Metals
- ☐ 3. Volatiles—USEPA 624 (GC/MS)
- ☐ 4. Acids Base/Neutrals (USEPA 625-GC/MS)
- ☐ 5. Cyanide
- ☐ 6. Pesticides/PCB's (USEPA 608-GC)
- ☐ 7. Halogenated Volatiles (USEPA 601-GC)
- ☐ 8. Aromatic Volatiles (USEPA 602-GC)
- ☐ 9. BOD
- ☐ 10. pH
- ☐ 11. COD
- ☐ 12. TSS
- ☐ 13. Settleable Solids
- ☐ 14. TKN
- ☐ 15. Ammonia
- ☐ 16. Nitrate/Nitrite
- ☐ 17. Total Phosphrous
- ☐ 18. Reactive Phosphrous
- ☐ 19. Oil/Grease
- ☐ 20. TOC
- ☐ 21. Total Phenols
- ☐ 22. Other ____

CONTRACT LABORATORY PROTOCOLS

- ☒ 23. (ALL)—Water—Includes 24-28
- ☐ 24. Base/Neutral/Acid (B/N/A)—Water—GC-MS
- ☐ 25. Volatile Organic Analysis VOA—Water—GC-MS
- ☐ 26. Pesticides/PCB's—Water—GC
- ☐ 27. Metals—Water
- ☐ 28. Cyanide—Water
- ☐ 29. (ALL)—Soil/Sediments—Includes 30-34
- ☐ 30. B/N/A/—Soils/Sediment—GC-MS
- ☐ 31. VOA—Soils/Sediments—GC-MS
- ☐ 32. Pesticides/PCB's—Soils/Sediment—GC
- ☐ 33. Metals—Soil/Sediment
- ☐ 34. Cyanide—Soils/Sediment
- ☐ 35. Other ____

HAZARDOUS WASTES/RCRA ANALYSIS SW-846

- ☐ 36. EP Toxicity
- ☐ 37. EP Toxicity (Metals Only)
- ☐ 38. Ignitability
- ☐ 39. Corrosivity
- ☐ 40. VOA—(USEPA 8240)
- ☐ 41. BNA—[illegible]
- ☐ 42. Pesticides/PCB's (USEPA 8080)
- ☐ 43. TOLP [illegible]
- ☐ 44. TOLP [illegible]
- ☐ 45. [illegible]
- ☐ 46. Dioxin (USEPA [illegible])
- ☐ 47. [illegible]
- ☐ 48. [illegible]

MUNICIPAL [illegible]

- ☐ 49. [illegible]
- ☐ 50. [illegible]

[illegible] sample since [illegible] of hazardous [illegible]

Place DA Label Here

SAMPLE DATA PACKAGE

№ 012232

COMPUCHEM LABORATORIES

CHAIN OF CUSTODY RECORD

PROJECT NAME: Emerson Street

PROJ. NO.: 5K 005

SAMPLERS: (Signature)

STA. NO.	DATE	TIME	COMP.	GRAB	STATION LOCATION	NO. OF CONTAINERS	PCB/Pest	VOA						REMARKS
GW-02	8/9/89	1320-1330		✓	SH889 0809 828023-02	1	1							CC# 279871
GW-01	8/9/89	1405-1415		✓	SH889 0809 828023-01	1	1							~~279868~~ 279870
GW-13	8/9/89	1433-1442		✓	SH889 0809 828023-13	1	1							279872
GW-12	8/9/89	1500-1513		✓	SH889 0809 828023-12	1	1							279857
Trip Blank	8/8-8/9/89			✓	Trip Blank	1			1					279852
Field Blank	8/9/89	1455		✓	Field Blank	1			1					279856

Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
	8/9/89 1540				
Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
Relinquished by: (Signature)	Date / Time	Received for Laboratory by: (Signature)	Date / Time	Remarks	
			8/10/89 8:00	RECEIVED IN GOOD CONDITION	

Distribution: Original Accompanies Shipment; Copy to Field Files

887

CONTENTS NOTED PACKAGE

№ 012234

COMPUCHEM LABORATORIES

CHAIN OF CUSTODY RECORD

PROJ. NO.	PROJECT NAME
576-005	Emerson Street

SAMPLERS: (Signature) [signature]

STA. NO.	DATE	TIME	COMP.	GRAB	STATION LOCATION	NO. OF CONTAINERS	VOA	Bil/Pes	PCB/Pest	Metals	Cyanide		REMARKS
GW-12	8/9/89	1500-1513		✓	SH889 0809 828023-12	8	2	3	1	1	1		CC# 279857

Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
[signature]	8/9/89 1530				
Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
Relinquished by: (Signature)	Date / Time	Received for Laboratory by: (Signature)	Date / Time	Remarks	
		[signature]	8/10/89 8:00	RECEIVED IN GOOD CONDITION	

Distribution: Original Accompanies Shipment; Copy to Field Files

№ 012771

COMPUCHEM LABORATORIES

CHAIN OF CUSTODY RECORD

PROJ. NO.	PROJECT NAME
576 005	Emerson Street

SAMPLERS: (Signature) [signature]

STA. NO.	DATE	TIME	COMP.	GRAB	STATION LOCATION	NO. OF CONTAINERS	JOM	BNA	PCB/Pest.	Metals	Cyanides		REMARKS
GW-01	8/9/89	1405-1415		✓	SH889 0809 828023-01	8	2	3	1	1	1		279870

Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
[signature]	8/9/89 1535				
Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
Relinquished by: (Signature)	Date / Time	Received for Laboratory by: (Signature)	Date / Time	Remarks	
		[signature]	8/10/89 8:00	RECEIVED IN GOOD CONDITION	

Distribution: Original Accompanies Shipment; Copy to Field Files

№ 012808

COMPUCHEM LABORATORIES

CHAIN OF CUSTODY RECORD

PROJ. NO.	PROJECT NAME
576.005	Emerson Street

SAMPLERS: (Signature) [signature]

STA. NO.	DATE	TIME	COMP.	GRAB	STATION LOCATION	NO. OF CONTAINERS	VOA	BN/AE	PCB/Pest	Metals	Cyanide		REMARKS
[illegible]	[illegible]	1320-1330		✓	SH887 [illegible]	8	2	3	1	1	1		CC# 279871

Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
[signature]	8/9/89 1345				
Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
Relinquished by: (Signature)	Date / Time	Received for Laboratory by: (Signature) [signature]	Date / Time 8/10/89 8:00	Remarks RECEIVED IN GOOD CONDITION	

Distribution: Original Accompanies Shipment; Copy to Field Files

SAMPLE DATA PACKAGE 884

COMPLE DATA PACKAGE

№ 012236

COMPUCHEM LABORATORIES

CHAIN OF CUSTODY RECORD

PROJ. NO.	PROJECT NAME
576 005	Emerson Street

SAMPLERS: (Signature) [signature]

STA. NO.	DATE	TIME	COMP.	GRAB	STATION LOCATION	NO. OF CONTAINERS	VOA	BN/Pris	Cyanide	Metal	PCB/Pest		REMARKS
GW-13	8/9/89	1435-1443		✓	54889 0809 828023-13	8	2	3	1	1	1		CC# 279872

Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
[signature]	8/9/89 1530				
Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
Relinquished by: (Signature)	Date / Time	Received for Laboratory by: (Signature) [signature]	Date / Time 8/10/89 8:00	Remarks RECEIVED IN GOOD CONDITION	

Distribution: Original Accompanies Shipment; Copy to Field Files

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

828023-01

Lab Name: COMPUCHEM LABS Contract: (2-88)-REVS

Lab Code: COMPU Case No.: 17551 SAS No.: _____ SDG No.: 01

Matrix: (soil/water) WATER Lab Sample ID: 279870

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: CN079870C19

Level: (low/med) LOW Date Received: 08/10/89

% Moisture: not dec. ____ Date Analyzed: 08/14/89

Column: (pack/cap) CAP Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
74-87-3	Chloromethane	10	U
74-83-9	Bromomethane	10	U
75-01-4	Vinyl Chloride	10	U
75-00-3	Chloroethane	10	U
75-09-2	Methylene Chloride	5	U
67-64-1	Acetone	10	U
75-15-0	Carbon Disulfide	5	U
75-35-4	1,1-Dichloroethene	5	U
75-34-3	1,1-Dichloroethane	5	U
540-59-0	1,2-Dichloroethene (total)	5	U
67-66-3	Chloroform	5	U
107-06-2	1,2-Dichloroethane	5	U
78-93-3	2-Butanone	10	U
71-55-6	1,1,1-Trichloroethane	5	U
56-23-5	Carbon Tetrachloride	5	U
108-05-4	Vinyl Acetate	10	U
75-27-4	Bromodichloromethane	5	U
78-87-5	1,2-Dichloropropane	5	U
10061-01-5	cis-1,3-Dichloropropene	5	U
79-01-6	Trichloroethene	5	U
124-48-1	Dibromochloromethane	5	U
79-00-5	1,1,2-Trichloroethane	5	U
71-43-2	Benzene	5	U
10061-02-6	Trans-1,3-Dichloropropene	5	U
75-25-2	Bromoform	5	U
108-10-1	4-Methyl-2-Pentanone	10	U
591-78-6	2-Hexanone	10	U
127-18-4	Tetrachloroethene	5	U
79-34-5	1,1,2,2-Tetrachloroethane	5	U
108-88-3	Toluene	5	U
108-90-7	Chlorobenzene	5	U
100-41-4	Ethylbenzene	5	U
100-42-5	Styrene	5	U
1330-20-7	Total Xylenes	5	U

FORM I VOA 1/87 Rev.

1E
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

828023-01

Lab Name: COMPUCHEM LABS Contract: (2-88)-REVS

Lab Code: COMPU Case No.: 17551 SAS No.: _____ SDG No.: 01

Matrix: (soil/water) WATER Lab Sample ID: 279870

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: CN079870C19

Level: (low/med) LOW Date Received: 08/10/89

% Moisture: not dec. ____ Date Analyzed: 08/14/89

Column (pack/cap) CAP Dilution Factor: 1.0

Number TICs found: 0

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q

FORM I VOA-TIC 1/87 Rev.

1B
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

828023-01

Lab Name: COMPUCHEM LABS Contract: (2-88)-REVS

Lab Code: COMPU Case No.: 17551 SAS No.: _____ SDG No.: 01

Matrix: (soil/water) WATER Lab Sample ID: 279870

Sample wt/vol: 1000 (g/mL) ML Lab File ID: GH079870B05

Level: (low/med) LOW Date Received: 08/10/89

% Moisture: not dec. ____ dec. ____ Date Extracted: 08/12/89

Extraction: (SepF/Cont/Sonc) SEPF Date Analyzed: 08/12/89

GPC Cleanup: (Y/N) N pH: _____ Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
108-95-2	Phenol	10	U
111-44-4	bis(2-Chloroethyl)Ether	10	U
95-57-8	2-Chlorophenol	10	U
541-73-1	1,3-Dichlorobenzene	10	U
106-46-7	1,4-Dichlorobenzene	10	U
100-51-6	Benzyl Alcohol	10	U
95-50-1	1,2-Dichlorobenzene	10	U
95-48-7	2-Methylphenol	10	U
39638-32-9	bis(2-Chloroisopropyl)Ether	10	U
106-44-5	4-Methylphenol	10	U
621-64-7	N-Nitroso-Di-n-Propylamine	10	U
67-72-1	Hexachloroethane	10	U
98-95-3	Nitrobenzene	10	U
78-59-1	Isophorone	10	U
88-75-5	2-Nitrophenol	10	U
105-67-9	2,4-Dimethylphenol	10	U
65-85-0	Benzoic Acid	50	U
111-91-1	bis(2-Chloroethoxy)Methane	10	U
120-83-2	2,4-Dichlorophenol	10	U
120-82-1	1,2,4-Trichlorobenzene	10	U
91-20-3	Naphthalene	10	U
106-47-8	4-Chloroaniline	10	U
87-68-3	Hexachlorobutadiene	10	U
59-50-7	4-Chloro-3-Methylphenol	10	U
91-57-6	2-Methylnaphthalene	10	U
77-47-4	Hexachlorocyclopentadiene	10	U
88-06-2	2,4,6-Trichlorophenol	10	U
95-95-4	2,4,5-Trichlorophenol	50	U
91-58-7	2-Chloronaphthalene	10	U
88-74-4	2-Nitroaniline	50	U
131-11-3	Dimethyl Phthalate	10	U
208-96-8	Acenaphthylene	10	U
606-20-2	2,6-Dinitrotoluene	10	U

FORM I SV-1 1/87 Rev.

1C
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

828023-01

Lab Name: COMPUCHEM LABS Contract: (2-88)-REVS

Lab Code: COMPU Case No.: 17551 SAS No.: _____ SDG No.: 01

Matrix: (soil/water) WATER Lab Sample ID: 279870

Sample wt/vol: 1000 (g/mL) ML Lab File ID: GH079870B05

Level: (low/med) LOW Date Received: 08/10/89

% Moisture: not dec. ____ dec. ____ Date Extracted: 08/12/89

Extraction: (SepF/Cont/Sonc) SEPF Date Analyzed: 08/12/89

GPC Cleanup: (Y/N) N pH: _____ Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
99-09-2	3-Nitroaniline	50	U
83-32-9	Acenaphthene	10	U
51-28-5	2,4-Dinitrophenol	50	U
100-02-7	4-Nitrophenol	50	U
132-64-9	Dibenzofuran	10	U
121-14-2	2,4-Dinitrotoluene	10	U
84-66-2	Diethylphthalate	10	U
7005-72-3	4-Chlorophenyl-phenylether	10	U
86-73-7	Fluorene	10	U
100-01-6	4-Nitroaniline	50	U
534-52-1	4,6-Dinitro-2-Methylphenol	50	U
86-30-6	N-Nitrosodiphenylamine (1)	10	U
101-55-3	4-Bromophenyl-phenylether	10	U
118-74-1	Hexachlorobenzene	10	U
87-86-5	Pentachlorophenol	50	U
85-01-8	Phenanthrene	10	U
120-12-7	Anthracene	10	U
84-74-2	Di-n-Butylphthalate	10	U
206-44-0	Fluoranthene	10	U
129-00-0	Pyrene	10	U
85-68-7	Butylbenzylphthalate	10	U
91-94-1	3,3'-Dichlorobenzidine	20	U
56-55-3	Benzo(a)Anthracene	10	U
218-01-9	Chrysene	10	U
117-81-7	bis(2-Ethylhexyl)Phthalate	10	U
117-84-0	Di-n-Octyl Phthalate	10	U
205-99-2	Benzo(b)Fluoranthene	10	U
207-08-9	Benzo(k)Fluoranthene	10	U
50-32-8	Benzo(a)Pyrene	10	U
193-39-5	Indeno(1,2,3-cd)Pyrene	10	U
53-70-3	Dibenzo(a,h)Anthracene	10	U
191-24-2	Benzo(g,h,i)Perylene	10	U

(1) - Cannot be separated from Diphenylamine

FORM I SV-2 1/87 Rev.

1F
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

828023-01

Lab Name: COMPUCHEM LABS Contract: (2-88)-REVS

Lab Code: COMPU Case No.: 17551 SAS No.: _____ SDG No.: 01

Matrix: (soil/water) WATER Lab Sample ID: 279870

Sample wt/vol: 1000 (g/mL) ML Lab File ID: GH079870B05

Level: (low/med) LOW Date Received: 08/10/89

% Moisture: not dec. _____ dec. _____ Date Extracted: 08/12/89

Extraction: (SepF/Cont/Sonc) SEPF Date Analyzed: 08/12/89

GPC Cleanup: (Y/N) N pH: _____ Dilution Factor: 1.0

Number TICs found: 1

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	UNKNOWN	23.02	20	J

FORM I SV-TIC 1/87 Rev.

1D
PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

828023-01

Lab Name: COMPUCHEM LABORATORIES Contract: (2-88)-REVS

Lab Code: COMPU Case No.: 17551 SAS No.: _____ SDG No.: 1

Matrix: (soil/water) WATER Lab Sample ID: 279870

Sample wt/vol: 1000 (g/mL) ML Lab File ID: _____

Level: (low/med) LOW Date Received: 08/10/89

% Moisture: not dec. _____ dec. _____ Date Extracted: 08/11/89

Extraction: (SepF/Cont/Sonc) SEPF Date Analyzed: 08/26/89

GPC Cleanup: (Y/N) N pH: _____ Dilution Factor: 1.00

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
319-84-6	alpha-BHC	0.050	U
319-85-7	beta-BHC	0.050	U
319-86-8	delta-BHC	0.050	U
58-89-9	gamma-BHC (Lindane)	0.050	U
76-44-8	Heptachlor	0.050	U
309-00-2	Aldrin	0.050	U
1024-57-3	Heptachlor epoxide	0.050	U
959-98-8	Endosulfan I	0.050	U
60-57-1	Dieldrin	0.10	U
72-55-9	4,4'-DDE	0.10	U
72-20-8	Endrin	0.10	U
33213-65-9	Endosulfan II	0.10	U
72-54-8	4,4'-DDD	0.10	U
1031-07-8	Endosulfan sulfate	0.10	U
50-29-3	4,4'-DDT	0.10	U
72-43-5	Methoxychlor	0.50	U
53494-70-5	Endrin ketone	0.10	U
5103-71-9	alpha-Chlordane	0.50	U
5103-74-2	gamma-Chlordane	0.50	U
8001-35-2	Toxaphene	1.0	U
12674-11-2	Aroclor-1016	0.50	U
11104-28-2	Aroclor-1221	0.50	U
11141-16-5	Aroclor-1232	0.50	U
53469-21-9	Aroclor-1242	0.50	U
12672-29-6	Aroclor-1248	0.50	U
11097-69-1	Aroclor-1254	1.0	U
11096-82-5	Aroclor-1260	1.0	U

FORM I PEST 1/87 Rev.

U.S. EPA - CLP

1

INORGANIC ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

828023-01

Lab Name: COMPUCHEM LABORATORIES Contract: 787

Lab Code: COMPU Case No.: 25550 SAS No.: _____ SDG No.: 17551A

Matrix (soil/water): WATER Lab Sample ID: 279870

Level (low/med): LOW Date Received: 08/10/89

% Solids: 0.0

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

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	30.4	B		P
7440-36-0	Antimony	50.2	U		P
7440-38-2	Arsenic	2.2	U	WN	F
7440-39-3	Barium	30.1	B		P
7440-41-7	Beryllium	.70	U		P
7440-43-9	Cadmium	4.4	U		P
7440-70-2	Calcium	227000			P
7440-47-3	Chromium	6.2	U		P
7440-48-4	Cobalt	3.9	U		P
7440-50-8	Copper	7.2	U		P
7439-89-6	Iron	51.0	B		P
7439-92-1	Lead	1.1	U	WN	F
7439-95-4	Magnesium	84300			P
7439-96-5	Manganese	226			P
7439-97-6	Mercury	.20	U	N	CV
7440-02-0	Nickel	35.8	U	*	P
7440-09-7	Potassium	2020	U		P
7782-49-2	Selenium	16.0	U	WN	F
7440-22-4	Silver	5.7	U		P
7440-23-5	Sodium	81900		*	P
7440-28-0	Thallium	1.3	U	WN	F
7440-62-2	Vanadium	4.5	B		P
7440-66-6	Zinc	19.7	B		P
	Cyanide	10.0	U		AS

Color Before: COLORLESS Clarity Before: CLEAR Texture: _____

Color After: COLORLESS Clarity After: CLEAR Artifacts: _____

Comments:

FORM 1 - PAGE 2

FORM I - IN 7/87

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

828023-02

Lab Name: COMPUCHEM LABS Contract: (2-88)-REVS

Lab Code: COMPU Case No.: 17551 SAS No.: _____ SDG No.: 01

Matrix: (soil/water) WATER Lab Sample ID: 279871

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: CN079871C19

Level: (low/med) LOW Date Received: 08/10/89

% Moisture: not dec. ____ Date Analyzed: 08/14/89

Column: (pack/cap) CAP Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
74-87-3	Chloromethane	10	U
74-83-9	Bromomethane	10	U
75-01-4	Vinyl Chloride	10	U
75-00-3	Chloroethane	10	U
75-09-2	Methylene Chloride	5	U
67-64-1	Acetone	10	U
75-15-0	Carbon Disulfide	5	U
75-35-4	1,1-Dichloroethene	5	U
75-34-3	1,1-Dichloroethane	5	U
540-59-0	1,2-Dichloroethene (total)	5	U
67-66-3	Chloroform	5	U
107-06-2	1,2-Dichloroethane	5	U
78-93-3	2-Butanone	10	U
71-55-6	1,1,1-Trichloroethane	5	U
56-23-5	Carbon Tetrachloride	5	U
108-05-4	Vinyl Acetate	10	U
75-27-4	Bromodichloromethane	5	U
78-87-5	1,2-Dichloropropane	5	U
10061-01-5	cis-1,3-Dichloropropene	5	U
79-01-6	Trichloroethene	5	U
124-48-1	Dibromochloromethane	5	U
79-00-5	1,1,2-Trichloroethane	5	U
71-43-2	Benzene	4	J
10061-02-6	Trans-1,3-Dichloropropene	5	U
75-25-2	Bromoform	5	U
108-10-1	4-Methyl-2-Pentanone	10	U
591-78-6	2-Hexanone	10	U
127-18-4	Tetrachloroethene	5	U
79-34-5	1,1,2,2-Tetrachloroethane	5	U
108-88-3	Toluene	1	J
108-90-7	Chlorobenzene	5	U
100-41-4	Ethylbenzene	5	U
100-42-5	Styrene	5	U
1330-20-7	Total Xylenes	1	J

FORM I VOA 1/87 Rev.

1E
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

828023-02

Lab Name: COMPUCHEM LABS Contract: (2-88)-REVS

Lab Code: COMPU Case No.: 17551 SAS No.: _____ SDG No.: 01

Matrix: (soil/water) WATER Lab Sample ID: 279871

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: CN079871C19

Level: (low/med) LOW Date Received: 08/10/89

% Moisture: not dec. ____ Date Analyzed: 08/14/89

Column (pack/cap) CAP Dilution Factor: 1.0

Number TICs found: 3

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1. 78-78-4	BUTANE,2-METHYL-	2.50	10	J
2.	UNKNOWN	2.57	4.0	J
3.	UNKNOWN	2.60	13	J

FORM I VOA-TIC 1/87 Rev.

1B
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

828023-02

Lab Name: COMPUCHEM LABS Contract: (2-88)-REVS

Lab Code: COMPU Case No.: 17551 SAS No.: _____ SDG No.: 01

Matrix: (soil/water) WATER Lab Sample ID: 279871

Sample wt/vol: 1000 (g/mL) ML Lab File ID: GH079871B05

Level: (low/med) LOW Date Received: 08/10/89

% Moisture: not dec. ____ dec. ____ Date Extracted: 08/12/89

Extraction: (SepF/Cont/Sonc) SEPF Date Analyzed: 08/12/89

GPC Cleanup: (Y/N) N pH: _____ Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
108-95-2	Phenol	10	U
111-44-4	bis(2-Chloroethyl)Ether	10	U
95-57-8	2-Chlorophenol	10	U
541-73-1	1,3-Dichlorobenzene	10	U
106-46-7	1,4-Dichlorobenzene	10	U
100-51-6	Benzyl Alcohol	10	U
95-50-1	1,2-Dichlorobenzene	10	U
95-48-7	2-Methylphenol	10	U
39638-32-9	bis(2-Chloroisopropyl)Ether	10	U
106-44-5	4-Methylphenol	10	U
621-64-7	N-Nitroso-Di-n-Propylamine	10	U
67-72-1	Hexachloroethane	10	U
98-95-3	Nitrobenzene	10	U
78-59-1	Isophorone	10	U
88-75-5	2-Nitrophenol	10	U
105-67-9	2,4-Dimethylphenol	10	U
65-85-0	Benzoic Acid	50	U
111-91-1	bis(2-Chloroethoxy)Methane	10	U
120-83-2	2,4-Dichlorophenol	10	U
120-82-1	1,2,4-Trichlorobenzene	10	U
91-20-3	Naphthalene	10	U
106-47-8	4-Chloroaniline	10	U
87-68-3	Hexachlorobutadiene	10	U
59-50-7	4-Chloro-3-Methylphenol	10	U
91-57-6	2-Methylnaphthalene	10	U
77-47-4	Hexachlorocyclopentadiene	10	U
88-06-2	2,4,6-Trichlorophenol	10	U
95-95-4	2,4,5-Trichlorophenol	50	U
91-58-7	2-Chloronaphthalene	10	U
88-74-4	2-Nitroaniline	50	U
131-11-3	Dimethyl Phthalate	10	U
208-96-8	Acenaphthylene	10	U
606-20-2	2,6-Dinitrotoluene	10	U

FORM I SV-1 1/87 Rev.

1C
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

828023-02

Lab Name: COMPUCHEM LABS Contract: (2-88)-REVS

Lab Code: COMPU Case No.: 17551 SAS No.: _____ SDG No.: 01

Matrix: (soil/water) WATER Lab Sample ID: 279871

Sample wt/vol: 1000 (g/mL) ML Lab File ID: GH079871B05

Level: (low/med) LOW Date Received: 08/10/89

% Moisture: not dec. ____ dec. ____ Date Extracted: 08/12/89

Extraction: (SepF/Cont/Sonc) SEPF Date Analyzed: 08/12/89

GPC Cleanup: (Y/N) N pH: _____ Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
99-09-2	3-Nitroaniline	50	U
83-32-9	Acenaphthene	10	U
51-28-5	2,4-Dinitrophenol	50	U
100-02-7	4-Nitrophenol	50	U
132-64-9	Dibenzofuran	10	U
121-14-2	2,4-Dinitrotoluene	10	U
84-66-2	Diethylphthalate	10	U
7005-72-3	4-Chlorophenyl-phenylether	10	U
86-73-7	Fluorene	10	U
100-01-6	4-Nitroaniline	50	U
534-52-1	4,6-Dinitro-2-Methylphenol	50	U
86-30-6	N-Nitrosodiphenylamine (1)	10	U
101-55-3	4-Bromophenyl-phenylether	10	U
118-74-1	Hexachlorobenzene	10	U
87-86-5	Pentachlorophenol	50	U
85-01-8	Phenanthrene	10	U
120-12-7	Anthracene	10	U
84-74-2	Di-n-Butylphthalate	10	U
206-44-0	Fluoranthene	10	U
129-00-0	Pyrene	10	U
85-68-7	Butylbenzylphthalate	10	U
91-94-1	3,3'-Dichlorobenzidine	20	U
56-55-3	Benzo(a)Anthracene	10	U
218-01-9	Chrysene	10	U
117-81-7	bis(2-Ethylhexyl)Phthalate	10	U
117-84-0	Di-n-Octyl Phthalate	10	U
205-99-2	Benzo(b)Fluoranthene	10	U
207-08-9	Benzo(k)Fluoranthene	10	U
50-32-8	Benzo(a)Pyrene	10	U
193-39-5	Indeno(1,2,3-cd)Pyrene	10	U
53-70-3	Dibenzo(a,h)Anthracene	10	U
191-24-2	Benzo(g,h,i)Perylene	10	U

(1) - Cannot be separated from Diphenylamine

FORM I SV-2 1/87 Rev.

1F
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

828023-02

Lab Name: COMPUCHEM LABS Contract: (2-88)-REVS

Lab Code: COMPU Case No.: 17551 SAS No.: _____ SDG No.: 01

Matrix: (soil/water) WATER Lab Sample ID: 279871

Sample wt/vol: 1000 (g/mL) ML Lab File ID: GH079871B05

Level: (low/med) LOW Date Received: 08/10/89

% Moisture: not dec. ____ dec. ____ Date Extracted: 08/12/89

Extraction: (SepF/Cont/Sonc) SEPF Date Analyzed: 08/12/89

GPC Cleanup: (Y/N) N pH: _____ Dilution Factor: 1.0

Number TICs found: 1

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1. 10544-50-0	SULFUR,MOL.(S8)	14.94	2000	J

FORM I SV-TIC 1/87 Rev.

1D
PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

828023-02

Lab Name: COMPUCHEM LABORATORIES Contract: (2-88)-REVS

Lab Code: COMPU Case No.: 17551 SAS No.: _____ SDG No.: 1

Matrix: (soil/water) WATER Lab Sample ID: 279871

Sample wt/vol: 500 (g/mL) ML Lab File ID: _____

Level: (low/med) LOW Date Received: 08/10/89

% Moisture: not dec. _____ dec. _____ Date Extracted: 08/18/89

Extraction: (SepF/Cont/Sonc) SEPF Date Analyzed: 08/18/89

GPC Cleanup: (Y/N) N pH: _____ Dilution Factor: 0.50

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
319-84-6	alpha-BHC	0.050	U
319-85-7	beta-BHC	0.050	U
319-86-8	delta-BHC	0.050	U
58-89-9	gamma-BHC (Lindane)	0.050	U
76-44-8	Heptachlor	0.050	U
309-00-2	Aldrin	0.050	U
1024-57-3	Heptachlor epoxide	0.050	U
959-98-8	Endosulfan I	0.050	U
60-57-1	Dieldrin	0.10	U
72-55-9	4,4'-DDE	0.10	U
72-20-8	Endrin	0.10	U
33213-65-9	Endosulfan II	0.10	U
72-54-8	4,4'-DDD	0.10	U
1031-07-8	Endosulfan sulfate	0.10	U
50-29-3	4,4'-DDT	0.10	U
72-43-5	Methoxychlor	0.50	U
53494-70-5	Endrin ketone	0.10	U
5103-71-9	alpha-Chlordane	0.50	U
5103-74-2	gamma-Chlordane	0.50	U
8001-35-2	Toxaphene	1.0	U
12674-11-2	Aroclor-1016	0.50	U
11104-28-2	Aroclor-1221	0.50	U
11141-16-5	Aroclor-1232	0.50	U
53469-21-9	Aroclor-1242	0.50	U
12672-29-6	Aroclor-1248	0.50	U
11097-69-1	Aroclor-1254	1.0	U
11096-82-5	Aroclor-1260	1.0	U

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U.S. EPA - CLP

1

INORGANIC ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

828023-02

Lab Name: COMPUCHEM LABORATORIES Contract: 787

Lab Code: COMPU Case No.: 25550 SAS No.: _____ SDG No.: 17551A

Matrix (soil/water): WATER Lab Sample ID: 279871

Level (low/med): LOW Date Received: 08/10/89

% Solids: 0.0

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

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	55.6	B		P
7440-36-0	Antimony	50.2	U		P
7440-38-2	Arsenic	2.2	U	N	F
7440-39-3	Barium	46.8	B		P
7440-41-7	Beryllium	.70	U		P
7440-43-9	Cadmium	4.4	U		P
7440-70-2	Calcium	172000			P
7440-47-3	Chromium	6.2	U		P
7440-48-4	Cobalt	3.9	U		P
7440-50-8	Copper	7.2	U		P
7439-89-6	Iron	635			P
7439-92-1	Lead	1.1	U	WN	F
7439-95-4	Magnesium	57900			P
7439-96-5	Manganese	38.3			P
7439-97-6	Mercury	.20	U	N	CV
7440-02-0	Nickel	35.8	U	*	P
7440-09-7	Potassium	19400			P
7782-49-2	Selenium	16.0	U	N	F
7440-22-4	Silver	5.7	U		P
7440-23-5	Sodium	366000		*	P
7440-28-0	Thallium	1.3	U	WN	F
7440-62-2	Vanadium	2.6	B		P
7440-66-6	Zinc	17.9	B		P
	Cyanide	10.0	U		AS

Color Before: COLORLESS Clarity Before: CLEAR Texture: _____

Color After: COLORLESS Clarity After: CLEAR Artifacts: _____

Comments:

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FORM I - IN 7/87

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

828023-03

Lab Name: COMPUCHEM LABS Contract: (2-88)-REVS

Lab Code: COMPU Case No.: 17523 SAS No.: _____ SDG No.: 01

Matrix: (soil/water) WATER Lab Sample ID: 279569

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: CN079569A19

Level: (low/med) LOW Date Received: 08/09/89

% Moisture: not dec. ____ Date Analyzed: 08/13/89

Column: (pack/cap) CAP Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
74-87-3	Chloromethane	10	U
74-83-9	Bromomethane	10	U
75-01-4	Vinyl Chloride	10	U
75-00-3	Chloroethane	10	U
75-09-2	Methylene Chloride	5	U
67-64-1	Acetone	10	U
75-15-0	Carbon Disulfide	5	U
75-35-4	1,1-Dichloroethene	5	U
75-34-3	1,1-Dichloroethane	5	U
540-59-0	1,2-Dichloroethene (total)	5	U
67-66-3	Chloroform	5	U
107-06-2	1,2-Dichloroethane	5	U
78-93-3	2-Butanone	10	U
71-55-6	1,1,1-Trichloroethane	5	U
56-23-5	Carbon Tetrachloride	5	U
108-05-4	Vinyl Acetate	10	U
75-27-4	Bromodichloromethane	5	U
78-87-5	1,2-Dichloropropane	5	U
10061-01-5	cis-1,3-Dichloropropene	5	U
79-01-6	Trichloroethene	5	U
124-48-1	Dibromochloromethane	5	U
79-00-5	1,1,2-Trichloroethane	5	U
71-43-2	Benzene	5	U
10061-02-6	Trans-1,3-Dichloropropene	5	U
75-25-2	Bromoform	5	U
108-10-1	4-Methyl-2-Pentanone	10	U
591-78-6	2-Hexanone	10	U
127-18-4	Tetrachloroethene	5	U
79-34-5	1,1,2,2-Tetrachloroethane	5	U
108-88-3	Toluene	5	U
108-90-7	Chlorobenzene	5	U
100-41-4	Ethylbenzene	5	U
100-42-5	Styrene	5	U
1330-20-7	Total Xylenes	5	U

FORM I VOA 1/87 Rev.

1E
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

828023-03

Lab Name: COMPUCHEM LABS Contract: (2-88)-REVS

Lab Code: COMPU Case No.: 17523 SAS No.: _____ SDG No.: 01

Matrix: (soil/water) WATER Lab Sample ID: 279569

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: CN079569A19

Level: (low/med) LOW Date Received: 08/09/89

% Moisture: not dec. ____ Date Analyzed: 08/13/89

Column (pack/cap) CAP Dilution Factor: 1.0

Number TICs found: 0

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q

FORM I VOA-TIC 1/87 Rev.

1B
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

828023-03

Lab Name: COMPUCHEM LABS Contract: (2-88)-REVS

Lab Code: COMPU Case No.: 17523 SAS No.: _____ SDG No.: 01

Matrix: (soil/water) WATER Lab Sample ID: 279569

Sample wt/vol: 1000 (g/mL) ML Lab File ID: GH079569A05

Level: (low/med) LOW Date Received: 08/09/89

% Moisture: not dec. ____ dec. ____ Date Extracted: 08/11/89

Extraction: (SepF/Cont/Sonc) SEPF Date Analyzed: 08/14/89

GPC Cleanup: (Y/N) N pH: _____ Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
108-95-2	Phenol	10	U
111-44-4	bis(2-Chloroethyl)Ether	10	U
95-57-8	2-Chlorophenol	10	U
541-73-1	1,3-Dichlorobenzene	10	U
106-46-7	1,4-Dichlorobenzene	10	U
100-51-6	Benzyl Alcohol	10	U
95-50-1	1,2-Dichlorobenzene	10	U
95-48-7	2-Methylphenol	10	U
39638-32-9	bis(2-Chloroisopropyl)Ether	10	U
106-44-5	4-Methylphenol	10	U
621-64-7	N-Nitroso-Di-n-Propylamine	10	U
67-72-1	Hexachloroethane	10	U
98-95-3	Nitrobenzene	10	U
78-59-1	Isophorone	10	U
88-75-5	2-Nitrophenol	10	U
105-67-9	2,4-Dimethylphenol	10	U
65-85-0	Benzoic Acid	50	U
111-91-1	bis(2-Chloroethoxy)Methane	10	U
120-83-2	2,4-Dichlorophenol	10	U
120-82-1	1,2,4-Trichlorobenzene	10	U
91-20-3	Naphthalene	10	U
106-47-8	4-Chloroaniline	10	U
87-68-3	Hexachlorobutadiene	10	U
59-50-7	4-Chloro-3-Methylphenol	10	U
91-57-6	2-Methylnaphthalene	10	U
77-47-4	Hexachlorocyclopentadiene	10	U
88-06-2	2,4,6-Trichlorophenol	10	U
95-95-4	2,4,5-Trichlorophenol	50	U
91-58-7	2-Chloronaphthalene	10	U
88-74-4	2-Nitroaniline	50	U
131-11-3	Dimethyl Phthalate	10	U
208-96-8	Acenaphthylene	10	U
606-20-2	2,6-Dinitrotoluene	10	U

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1C
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

828023-03

Lab Name: COMPUCHEM LABS Contract: (2-88)-REVS

Lab Code: COMPU Case No.: 17523 SAS No.: _____ SDG No.: 01

Matrix: (soil/water) WATER Lab Sample ID: 279569

Sample wt/vol: 1000 (g/mL) ML Lab File ID: GH079569A05

Level: (low/med) LOW Date Received: 08/09/89

% Moisture: not dec. ____ dec. ____ Date Extracted: 08/11/89

Extraction: (SepF/Cont/Sonc) SEPF Date Analyzed: 08/14/89

GPC Cleanup: (Y/N) N pH: _____ Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
99-09-2	3-Nitroaniline	50	U
83-32-9	Acenaphthene	10	U
51-28-5	2,4-Dinitrophenol	50	U
100-02-7	4-Nitrophenol	50	U
132-64-9	Dibenzofuran	10	U
121-14-2	2,4-Dinitrotoluene	10	U
84-66-2	Diethylphthalate	10	U
7005-72-3	4-Chlorophenyl-phenylether	10	U
86-73-7	Fluorene	10	U
100-01-6	4-Nitroaniline	50	U
534-52-1	4,6-Dinitro-2-Methylphenol	50	U
86-30-6	N-Nitrosodiphenylamine (1)	10	U
101-55-3	4-Bromophenyl-phenylether	10	U
118-74-1	Hexachlorobenzene	10	U
87-86-5	Pentachlorophenol	50	U
85-01-8	Phenanthrene	10	U
120-12-7	Anthracene	10	U
84-74-2	Di-n-Butylphthalate	10	U
206-44-0	Fluoranthene	10	U
129-00-0	Pyrene	10	U
85-68-7	Butylbenzylphthalate	10	U
91-94-1	3,3'-Dichlorobenzidine	20	U
56-55-3	Benzo(a)Anthracene	10	U
218-01-9	Chrysene	10	U
117-81-7	bis(2-Ethylhexyl)Phthalate	10	U
117-84-0	Di-n-Octyl Phthalate	10	U
205-99-2	Benzo(b)Fluoranthene	10	U
207-08-9	Benzo(k)Fluoranthene	10	U
50-32-8	Benzo(a)Pyrene	10	U
193-39-5	Indeno(1,2,3-cd)Pyrene	10	U
53-70-3	Dibenzo(a,h)Anthracene	10	U
191-24-2	Benzo(g,h,i)Perylene	10	U

(1) - Cannot be separated from Diphenylamine

FORM I SV-2 1/87 Rev.

1F
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

828023-03

Lab Name: COMPUCHEM LABS Contract: (2-88)-REVS

Lab Code: COMPU Case No.: 17523 SAS No.: _____ SDG No.: 01

Matrix: (soil/water) WATER Lab Sample ID: 279569

Sample wt/vol: 1000 (g/mL) ML Lab File ID: GH079569A05

Level: (low/med) LOW Date Received: 08/09/89

% Moisture: not dec. ____ dec. ____ Date Extracted: 08/11/89

Extraction: (SepF/Cont/Sonc) SEPF Date Analyzed: 08/14/89

GPC Cleanup: (Y/N) N pH: _____ Dilution Factor: 1.0

Number TICs found: 0

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q

FORM I SV-TIC 1/87 Rev.

1D
PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

828023-03

Lab Name: COMPUCHEM LABORATORIES Contract: (2-88)-REVS

Lab Code: COMPU Case No.: 17523 SAS No.: _____ SDG No.: 1

Matrix: (soil/water) WATER Lab Sample ID: 279569

Sample wt/vol: 1000 (g/mL) ML Lab File ID: _____

Level: (low/med) LOW Date Received: 08/09/89

% Moisture: not dec. _____ dec. _____ Date Extracted: 08/11/89

Extraction: (SepF/Cont/Sonc) SEPF Date Analyzed: 08/18/89

GPC Cleanup: (Y/N) N pH: _____ Dilution Factor: 1.00

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
319-84-6	alpha-BHC	0.050	U
319-85-7	beta-BHC	0.050	U
319-86-8	delta-BHC	0.050	U
58-89-9	gamma-BHC (Lindane)	0.050	U
76-44-8	Heptachlor	0.050	U
309-00-2	Aldrin	0.050	U
1024-57-3	Heptachlor epoxide	0.050	U
959-98-8	Endosulfan I	0.050	U
60-57-1	Dieldrin	0.10	U
72-55-9	4,4'-DDE	0.10	U
72-20-8	Endrin	0.10	U
33213-65-9	Endosulfan II	0.10	U
72-54-8	4,4'-DDD	0.10	U
1031-07-8	Endosulfan sulfate	0.10	U
50-29-3	4,4'-DDT	0.10	U
72-43-5	Methoxychlor	0.50	U
53494-70-5	Endrin ketone	0.10	U
5103-71-9	alpha-Chlordane	0.50	U
5103-74-2	gamma-Chlordane	0.50	U
8001-35-2	Toxaphene	1.0	U
12674-11-2	Aroclor-1016	0.50	U
11104-28-2	Aroclor-1221	0.50	U
11141-16-5	Aroclor-1232	0.50	U
53469-21-9	Aroclor-1242	0.50	U
12672-29-6	Aroclor-1248	0.50	U
11097-69-1	Aroclor-1254	1.0	U
11096-82-5	Aroclor-1260	1.0	U

FORM I PEST 1/87 Rev.

U.S. EPA - CLP

1

INORGANIC ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

828023-03

Lab Name: COMPUCHEM LABORATORIES Contract: 787

Lab Code: COMPU Case No.: 25550 SAS No.: _____ SDG No.: 17523A

Matrix (soil/water): WATER Lab Sample ID: 279569

Level (low/med): LOW Date Received: 08/09/89

% Solids: 0.0

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

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	427			P
7440-36-0	Antimony	50.2	U		P
7440-38-2	Arsenic	4.7	B		F
7440-39-3	Barium	56.0	B		P
7440-41-7	Beryllium	.70	U		P
7440-43-9	Cadmium	4.4	U		P
7440-70-2	Calcium	168000			P
7440-47-3	Chromium	6.2	U		P
7440-48-4	Cobalt	3.9	U		P
7440-50-8	Copper	7.2	U		P
7439-89-6	Iron	761			P
7439-92-1	Lead	1.1	U	W	F
7439-95-4	Magnesium	132000			P
7439-96-5	Manganese	26.6			P
7439-97-6	Mercury	.20	U	N	CV
7440-02-0	Nickel	35.8	U		P
7440-09-7	Potassium	8570			P
7782-49-2	Selenium	16.0	U	WN	F
7440-22-4	Silver	5.7	U		P
7440-23-5	Sodium	557000			P
7440-28-0	Thallium	1.3	U	WN	F
7440-62-2	Vanadium	2.5	B		P
7440-66-6	Zinc	31.1			P
	Cyanide	12.4		N*	AS

Color Before: COLORLESS Clarity Before: CLOUDY Texture: _____

Color After: COLORLESS Clarity After: CLEAR Artifacts: _____

Comments:
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1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

828023-04

Lab Name: COMPUCHEM LABS Contract: (2-88)-REVS

Lab Code: COMPU Case No.: 17523 SAS No.: _____ SDG No.: 01

Matrix: (soil/water) WATER Lab Sample ID: 279573

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: CN079573A19

Level: (low/med) LOW Date Received: 08/09/89

% Moisture: not dec. ____ Date Analyzed: 08/13/89

Column: (pack/cap) CAP Dilution Factor: 1.0

CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L

CAS NO.	COMPOUND		Q
74-87-3	Chloromethane	10	U
74-83-9	Bromomethane	10	U
75-01-4	Vinyl Chloride	10	U
75-00-3	Chloroethane	10	U
75-09-2	Methylene Chloride	5	U
67-64-1	Acetone	10	U
75-15-0	Carbon Disulfide	5	U
75-35-4	1,1-Dichloroethene	5	U
75-34-3	1,1-Dichloroethane	5	U
540-59-0	1,2-Dichloroethene (total)	5	U
67-66-3	Chloroform	5	U
107-06-2	1,2-Dichloroethane	5	U
78-93-3	2-Butanone	10	U
71-55-6	1,1,1-Trichloroethane	5	U
56-23-5	Carbon Tetrachloride	5	U
108-05-4	Vinyl Acetate	10	U
75-27-4	Bromodichloromethane	5	U
78-87-5	1,2-Dichloropropane	5	U
10061-01-5	cis-1,3-Dichloropropene	5	U
79-01-6	Trichloroethene	5	U
124-48-1	Dibromochloromethane	5	U
79-00-5	1,1,2-Trichloroethane	5	U
71-43-2	Benzene	5	U
10061-02-6	Trans-1,3-Dichloropropene	5	U
75-25-2	Bromoform	5	U
108-10-1	4-Methyl-2-Pentanone	10	U
591-78-6	2-Hexanone	10	U
127-18-4	Tetrachloroethene	5	U
79-34-5	1,1,2,2-Tetrachloroethane	5	U
108-88-3	Toluene	5	U
108-90-7	Chlorobenzene	5	U
100-41-4	Ethylbenzene	5	U
100-42-5	Styrene	5	U
1330-20-7	Total Xylenes	5	U

FORM I VOA 1/87 Rev.

1E
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

828023-04

Lab Name: COMPUCHEM LABS Contract: (2-88)-REVS

Lab Code: COMPU Case No.: 17523 SAS No.: _____ SDG No.: 01

Matrix: (soil/water) WATER Lab Sample ID: 279573

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: CN079573A19

Level: (low/med) LOW Date Received: 08/09/89

% Moisture: not dec. ____ Date Analyzed: 08/13/89

Column (pack/cap) CAP Dilution Factor: 1.0

Number TICs found: 0

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q

FORM I VOA-TIC

1/87 Re

1B
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

828023-04

Lab Name: COMPUCHEM LABS Contract: (2-88)-REVS

Lab Code: COMPU Case No.: 17523 SAS No.: _____ SDG No.: 01

Matrix: (soil/water) WATER Lab Sample ID: 279573

Sample wt/vol: 1000 (g/mL) ML Lab File ID: GH079573A05

Level: (low/med) LOW Date Received: 08/09/89

% Moisture: not dec. ____ dec. ____ Date Extracted: 08/11/89

Extraction: (SepF/Cont/Sonc) SEPF Date Analyzed: 08/14/89

GPC Cleanup: (Y/N) N pH: _____ Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
108-95-2	Phenol	10	U
111-44-4	bis(2-Chloroethyl)Ether	10	U
95-57-8	2-Chlorophenol	10	U
541-73-1	1,3-Dichlorobenzene	10	U
106-46-7	1,4-Dichlorobenzene	10	U
100-51-6	Benzyl Alcohol	10	U
95-50-1	1,2-Dichlorobenzene	10	U
95-48-7	2-Methylphenol	10	U
39638-32-9	bis(2-Chloroisopropyl)Ether	10	U
106-44-5	4-Methylphenol	10	U
621-64-7	N-Nitroso-Di-n-Propylamine	10	U
67-72-1	Hexachloroethane	10	U
98-95-3	Nitrobenzene	10	U
78-59-1	Isophorone	10	U
88-75-5	2-Nitrophenol	10	U
105-67-9	2,4-Dimethylphenol	10	U
65-85-0	Benzoic Acid	50	U
111-91-1	bis(2-Chloroethoxy)Methane	10	U
120-83-2	2,4-Dichlorophenol	10	U
120-82-1	1,2,4-Trichlorobenzene	10	U
91-20-3	Naphthalene	10	U
106-47-8	4-Chloroaniline	10	U
87-68-3	Hexachlorobutadiene	10	U
59-50-7	4-Chloro-3-Methylphenol	10	U
91-57-6	2-Methylnaphthalene	10	U
77-47-4	Hexachlorocyclopentadiene	10	U
88-06-2	2,4,6-Trichlorophenol	10	U
95-95-4	2,4,5-Trichlorophenol	50	U
91-58-7	2-Chloronaphthalene	10	U
88-74-4	2-Nitroaniline	50	U
131-11-3	Dimethyl Phthalate	10	U
208-96-8	Acenaphthylene	10	U
606-20-2	2,6-Dinitrotoluene	10	U

FORM I SV-1 1/87 Rev.

1C
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

828023-04

Lab Name: COMPUCHEM LABS Contract: (2-88)-REVS

Lab Code: COMPU Case No.: 17523 SAS No.: _____ SDG No.: 01

Matrix: (soil/water) WATER Lab Sample ID: 279573

Sample wt/vol: 1000 (g/mL) ML Lab File ID: GH079573A05

Level: (low/med) LOW Date Received: 08/09/89

% Moisture: not dec. ____ dec. ____ Date Extracted: 08/11/89

Extraction: (SepF/Cont/Sonc) SEPF Date Analyzed: 08/14/89

GPC Cleanup: (Y/N) N pH: _____ Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
99-09-2	3-Nitroaniline	50	U
83-32-9	Acenaphthene	10	U
51-28-5	2,4-Dinitrophenol	50	U
100-02-7	4-Nitrophenol	50	U
132-64-9	Dibenzofuran	10	U
121-14-2	2,4-Dinitrotoluene	10	U
84-66-2	Diethylphthalate	10	U
7005-72-3	4-Chlorophenyl-phenylether	10	U
86-73-7	Fluorene	10	U
100-01-6	4-Nitroaniline	50	U
534-52-1	4,6-Dinitro-2-Methylphenol	50	U
86-30-6	N-Nitrosodiphenylamine (1)	10	U
101-55-3	4-Bromophenyl-phenylether	10	U
118-74-1	Hexachlorobenzene	10	U
87-86-5	Pentachlorophenol	50	U
85-01-8	Phenanthrene	10	U
120-12-7	Anthracene	10	U
84-74-2	Di-n-Butylphthalate	10	U
206-44-0	Fluoranthene	10	U
129-00-0	Pyrene	10	U
85-68-7	Butylbenzylphthalate	10	U
91-94-1	3,3'-Dichlorobenzidine	20	U
56-55-3	Benzo(a)Anthracene	10	U
218-01-9	Chrysene	10	U
117-81-7	bis(2-Ethylhexyl)Phthalate	10	U
117-84-0	Di-n-Octyl Phthalate	10	U
205-99-2	Benzo(b)Fluoranthene	10	U
207-08-9	Benzo(k)Fluoranthene	10	U
50-32-8	Benzo(a)Pyrene	10	U
193-39-5	Indeno(1,2,3-cd)Pyrene	10	U
53-70-3	Dibenzo(a,h)Anthracene	10	U
191-24-2	Benzo(g,h,i)Perylene	10	U

(1) - Cannot be separated from Diphenylamine

FORM I SV-2 1/87 Rev.

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

828023-04

Lab Name: COMPUCHEM LABS Contract: (2-88)-REVS

Lab Code: COMPU Case No.: 17523 SAS No.: _____ SDG No.: 01

Matrix: (soil/water) WATER Lab Sample ID: 279573

Sample wt/vol: 1000 (g/mL) ML Lab File ID: GH079573A05

Level: (low/med) LOW Date Received: 08/09/89

% Moisture: not dec. ____ dec. ____ Date Extracted: 08/11/89

Extraction: (SepF/Cont/Sonc) SEPF Date Analyzed: 08/14/89

GPC Cleanup: (Y/N) N pH: _____ Dilution Factor: 1.0

Number TICs found: 1

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	UNKNOWN	23.04	20	J

FORM I SV-TIC

1/87 Rev.

1D
PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

828023-04

Lab Name: COMPUCHEM LABORATORIES Contract: (2-88)-REVS

Lab Code: COMPU Case No.: 17523 SAS No.: _____ SDG No.: 1

Matrix: (soil/water) WATER Lab Sample ID: 279573

Sample wt/vol: 1000 (g/mL) ML Lab File ID: _____

Level: (low/med) LOW Date Received: 08/09/89

% Moisture: not dec. _____ dec. _____ Date Extracted: 08/11/89

Extraction: (SepF/Cont/Sonc) SEPF Date Analyzed: 08/14/89

GPC Cleanup: (Y/N) N pH: _____ Dilution Factor: 1.00

CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L

CAS NO.	COMPOUND		Q
319-84-6	alpha-BHC	0.050	U
319-85-7	beta-BHC	0.050	U
319-86-8	delta-BHC	0.050	U
58-89-9	gamma-BHC (Lindane)	0.050	U
76-44-8	Heptachlor	0.050	U
309-00-2	Aldrin	0.050	U
1024-57-3	Heptachlor epoxide	0.050	U
959-98-8	Endosulfan I	0.050	U
60-57-1	Dieldrin	0.10	U
72-55-9	4,4'-DDE	0.10	U
72-20-8	Endrin	0.10	U
33213-65-9	Endosulfan II	0.10	U
72-54-8	4,4'-DDD	0.10	U
1031-07-8	Endosulfan sulfate	0.10	U
50-29-3	4,4'-DDT	0.10	U
72-43-5	Methoxychlor	0.50	U
53494-70-5	Endrin ketone	0.10	U
5103-71-9	alpha-Chlordane	0.50	U
5103-74-2	gamma-Chlordane	0.50	U
8001-35-2	Toxaphene	1.0	U
12674-11-2	Aroclor-1016	0.50	U
11104-28-2	Aroclor-1221	0.50	U
11141-16-5	Aroclor-1232	0.50	U
53469-21-9	Aroclor-1242	0.50	U
12672-29-6	Aroclor-1248	0.50	U
11097-69-1	Aroclor-1254	1.0	U
11096-82-5	Aroclor-1260	1.0	U

FORM I PEST 1/87 Rev.

U.S. EPA - CLP

1

INORGANIC ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

828023-04

Lab Name: COMPUCHEM LABORATORIES Contract: 787

Lab Code: COMPU Case No.: 25550 SAS No.: _____ SDG No.: 17523A

Matrix (soil/water): WATER Lab Sample ID: 279573

Level (low/med): LOW Date Received: 08/09/89

% Solids: 0.0

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

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	23.0	U		P
7440-36-0	Antimony	50.2	U		P
7440-38-2	Arsenic	2.2	U		F
7440-39-3	Barium	237			P
7440-41-7	Beryllium	.70	U		P
7440-43-9	Cadmium	4.4	U		P
7440-70-2	Calcium	199000			P
7440-47-3	Chromium	6.2	U		P
7440-48-4	Cobalt	3.9	U		P
7440-50-8	Copper	7.2	U		P
7439-89-6	Iron	15300			P
7439-92-1	Lead	1.1	U	W	F
7439-95-4	Magnesium	64400			P
7439-96-5	Manganese	398			P
7439-97-6	Mercury	.20	U	N	CV
7440-02-0	Nickel	35.8	U		P
7440-09-7	Potassium	11100			P
7782-49-2	Selenium	16.0	U	WN	F
7440-22-4	Silver	5.7	U		P
7440-23-5	Sodium	588000			P
7440-28-0	Thallium	1.3	U	WN	F
7440-62-2	Vanadium	2.3	B		P
7440-66-6	Zinc	1.6	U		P
	Cyanide	19.7		N*	AS

Color Before: COLORLESS Clarity Before: CLEAR Texture: _____

Color After: YELLOW Clarity After: CLEAR Artifacts: _____

Comments:
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FORM I - IN 7/87

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

828023-05

Lab Name: COMPUCHEM LABS Contract: (2-88)-REVS

Lab Code: COMPU Case No.: 17523 SAS No.: _____ SDG No.: 01

Matrix: (soil/water) WATER Lab Sample ID: 279555

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: CN079555A19

Level: (low/med) LOW Date Received: 08/09/89

% Moisture: not dec. ____ Date Analyzed: 08/13/89

Column: (pack/cap) CAP Dilution Factor: 1.0

CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L

CAS NO.	COMPOUND		Q
74-87-3	Chloromethane	10	U
74-83-9	Bromomethane	10	U
75-01-4	Vinyl Chloride	10	U
75-00-3	Chloroethane	10	U
75-09-2	Methylene Chloride	5	U
67-64-1	Acetone	10	U
75-15-0	Carbon Disulfide	5	U
75-35-4	1,1-Dichloroethene	5	U
75-34-3	1,1-Dichloroethane	5	U
540-59-0	1,2-Dichloroethene (total)	5	U
67-66-3	Chloroform	5	U
107-06-2	1,2-Dichloroethane	5	U
78-93-3	2-Butanone	10	U
71-55-6	1,1,1-Trichloroethane	5	U
56-23-5	Carbon Tetrachloride	5	U
108-05-4	Vinyl Acetate	10	U
75-27-4	Bromodichloromethane	5	U
78-87-5	1,2-Dichloropropane	5	U
10061-01-5	cis-1,3-Dichloropropene	5	U
79-01-6	Trichloroethene	5	U
124-48-1	Dibromochloromethane	5	U
79-00-5	1,1,2-Trichloroethane	5	U
71-43-2	Benzene	5	U
10061-02-6	Trans-1,3-Dichloropropene	5	U
75-25-2	Bromoform	5	U
108-10-1	4-Methyl-2-Pentanone	10	U
591-78-6	2-Hexanone	10	U
127-18-4	Tetrachloroethene	5	U
79-34-5	1,1,2,2-Tetrachloroethane	5	U
108-88-3	Toluene	5	U
108-90-7	Chlorobenzene	5	U
100-41-4	Ethylbenzene	5	U
100-42-5	Styrene	5	U
1330-20-7	Total Xylenes	5	U

FORM I VOA 1/87 Rev.

1E
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

828023-05

Lab Name: COMPUCHEM LABS Contract: (2-88)-REVS

Lab Code: COMPU Case No.: 17523 SAS No.: _____ SDG No.: 01

Matrix: (soil/water) WATER Lab Sample ID: 279555

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: CN079555A19

Level: (low/med) LOW Date Received: 08/09/89

% Moisture: not dec. ____ Date Analyzed: 08/13/89

Column (pack/cap) CAP Dilution Factor: 1.0

Number TICs found: 0

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q

FORM I VOA-TIC

1/87 Rev

1B
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

828023-05

Lab Name: COMPUCHEM LABS Contract: (2-88)-REVS

Lab Code: COMPU Case No.: 17523 SAS No.: _____ SDG No.: 01

Matrix: (soil/water) WATER Lab Sample ID: 279555

Sample wt/vol: 1000 (g/mL) ML Lab File ID: GH079555A05

Level: (low/med) LOW Date Received: 08/09/89

% Moisture: not dec. ____ dec. ____ Date Extracted: 08/11/89

Extraction: (SepF/Cont/Sonc) SEPF Date Analyzed: 08/14/89

GPC Cleanup: (Y/N) N pH: _____ Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
108-95-2	Phenol	10	U
111-44-4	bis(2-Chloroethyl)Ether	10	U
95-57-8	2-Chlorophenol	10	U
541-73-1	1,3-Dichlorobenzene	10	U
106-46-7	1,4-Dichlorobenzene	10	U
100-51-6	Benzyl Alcohol	10	U
95-50-1	1,2-Dichlorobenzene	10	U
95-48-7	2-Methylphenol	10	U
39638-32-9	bis(2-Chloroisopropyl)Ether	10	U
106-44-5	4-Methylphenol	10	U
621-64-7	N-Nitroso-Di-n-Propylamine	10	U
67-72-1	Hexachloroethane	10	U
98-95-3	Nitrobenzene	10	U
78-59-1	Isophorone	10	U
88-75-5	2-Nitrophenol	10	U
105-67-9	2,4-Dimethylphenol	10	U
65-85-0	Benzoic Acid	50	U
111-91-1	bis(2-Chloroethoxy)Methane	10	U
120-83-2	2,4-Dichlorophenol	10	U
120-82-1	1,2,4-Trichlorobenzene	10	U
91-20-3	Naphthalene	10	U
106-47-8	4-Chloroaniline	10	U
87-68-3	Hexachlorobutadiene	10	U
59-50-7	4-Chloro-3-Methylphenol	10	U
91-57-6	2-Methylnaphthalene	10	U
77-47-4	Hexachlorocyclopentadiene	10	U
88-06-2	2,4,6-Trichlorophenol	10	U
95-95-4	2,4,5-Trichlorophenol	50	U
91-58-7	2-Chloronaphthalene	10	U
88-74-4	2-Nitroaniline	50	U
131-11-3	Dimethyl Phthalate	10	U
208-96-8	Acenaphthylene	10	U
606-20-2	2,6-Dinitrotoluene	10	U

FORM I SV-1 1/87 Rev.

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

828023-05

Lab Name: COMPUCHEM LABS Contract: (2-88)-REVS

Lab Code: COMPU Case No.: 17523 SAS No.: _____ SDG No.: 01

Matrix: (soil/water) WATER Lab Sample ID: 279555

Sample wt/vol: 1000 (g/mL) ML Lab File ID: GH079555A05

Level: (low/med) LOW Date Received: 08/09/89

% Moisture: not dec. ____ dec. ____ Date Extracted: 08/11/89

Extraction: (SepF/Cont/Sonc) SEPF Date Analyzed: 08/14/89

GPC Cleanup: (Y/N) N pH: _____ Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
99-09-2	3-Nitroaniline	50	U
83-32-9	Acenaphthene	10	U
51-28-5	2,4-Dinitrophenol	50	U
100-02-7	4-Nitrophenol	50	U
132-64-9	Dibenzofuran	10	U
121-14-2	2,4-Dinitrotoluene	10	U
84-66-2	Diethylphthalate	10	U
7005-72-3	4-Chlorophenyl-phenylether	10	U
86-73-7	Fluorene	10	U
100-01-6	4-Nitroaniline	50	U
534-52-1	4,6-Dinitro-2-Methylphenol	50	U
86-30-6	N-Nitrosodiphenylamine (1)	10	U
101-55-3	4-Bromophenyl-phenylether	10	U
118-74-1	Hexachlorobenzene	10	U
87-86-5	Pentachlorophenol	50	U
85-01-8	Phenanthrene	10	U
120-12-7	Anthracene	10	U
84-74-2	Di-n-Butylphthalate	10	U
206-44-0	Fluoranthene	10	U
129-00-0	Pyrene	10	U
85-68-7	Butylbenzylphthalate	10	U
91-94-1	3,3'-Dichlorobenzidine	20	U
56-55-3	Benzo(a)Anthracene	10	U
218-01-9	Chrysene	10	U
117-81-7	bis(2-Ethylhexyl)Phthalate	10	U
117-84-0	Di-n-Octyl Phthalate	10	U
205-99-2	Benzo(b)Fluoranthene	10	U
207-08-9	Benzo(k)Fluoranthene	10	U
50-32-8	Benzo(a)Pyrene	10	U
193-39-5	Indeno(1,2,3-cd)Pyrene	10	U
53-70-3	Dibenzo(a,h)Anthracene	10	U
191-24-2	Benzo(g,h,i)Perylene	10	U

(1) - Cannot be separated from Diphenylamine

FORM I SV-2

1/87 Rev.

1F
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

828023-05

Lab Name: COMPUCHEM LABS Contract: (2-88)-REVS

Lab Code: COMPU Case No.: 17523 SAS No.: _____ SDG No.: 01

Matrix: (soil/water) WATER Lab Sample ID: 279555

Sample wt/vol: 1000 (g/mL) ML Lab File ID: GH079555A05

Level: (low/med) LOW Date Received: 08/09/89

% Moisture: not dec. ____ dec. ____ Date Extracted: 08/11/89

Extraction: (SepF/Cont/Sonc) SEPF Date Analyzed: 08/14/89

GPC Cleanup: (Y/N) N pH: _____ Dilution Factor: 1.0

Number TICs found: 4

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	UNKNOWN	7.17	62	J
2.	UNKNOWN	10.30	88	J
3.	UNKNOWN	11.54	10	J
4.	UNKNOWN	23.04	22	J

FORM I SV-TIC 1/87 Rev.

1D
PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

828023-05

Lab Name: COMPUCHEM LABORATORIES Contract: (2-88)-REVS

Lab Code: COMPU Case No.: 17523 SAS No.: _____ SDG No.: 1

Matrix: (soil/water) WATER Lab Sample ID: 279555

Sample wt/vol: 1000 (g/mL) ML Lab File ID: _____

Level: (low/med) LOW Date Received: 08/09/89

% Moisture: not dec. _____ dec. _____ Date Extracted: 08/11/89

Extraction: (SepF/Cont/Sonc) SEPF Date Analyzed: 08/18/89

GPC Cleanup: (Y/N) N pH: _____ Dilution Factor: 1.00

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
319-84-6	alpha-BHC	0.050	U
319-85-7	beta-BHC	0.050	U
319-86-8	delta-BHC	0.050	U
58-89-9	gamma-BHC (Lindane)	0.050	U
76-44-8	Heptachlor	0.050	U
309-00-2	Aldrin	0.050	U
1024-57-3	Heptachlor epoxide	0.050	U
959-98-8	Endosulfan I	0.050	U
60-57-1	Dieldrin	0.10	U
72-55-9	4,4'-DDE	0.10	U
72-20-8	Endrin	0.10	U
33213-65-9	Endosulfan II	0.10	U
72-54-8	4,4'-DDD	0.10	U
1031-07-8	Endosulfan sulfate	0.10	U
50-29-3	4,4'-DDT	0.10	U
72-43-5	Methoxychlor	0.50	U
53494-70-5	Endrin ketone	0.10	U
5103-71-9	alpha-Chlordane	0.50	U
5103-74-2	gamma-Chlordane	0.50	U
8001-35-2	Toxaphene	1.0	U
12674-11-2	Aroclor-1016	0.50	U
11104-28-2	Aroclor-1221	0.50	U
11141-16-5	Aroclor-1232	0.50	U
53469-21-9	Aroclor-1242	0.50	U
12672-29-6	Aroclor-1248	0.50	U
11097-69-1	Aroclor-1254	1.0	U
11096-82-5	Aroclor-1260	1.0	U

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U.S. EPA - CLP

1

INORGANIC ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

828023-05

Lab Name: COMPUCHEM LABORATORIES Contract: 787

Lab Code: COMPU Case No.: 25550 SAS No.: _____ SDG No.: 17523A

Matrix (soil/water): WATER Lab Sample ID: 279555

Level (low/med): LOW Date Received: 08/09/89

% Solids: 0.0

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

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	23.0	U		P
7440-36-0	Antimony	50.2	U		P
7440-38-2	Arsenic	2.2	U		F
7440-39-3	Barium	138	B		P
7440-41-7	Beryllium	.70	U		P
7440-43-9	Cadmium	4.4	U		P
7440-70-2	Calcium	130000			P
7440-47-3	Chromium	6.2	U		P
7440-48-4	Cobalt	3.9	U		P
7440-50-8	Copper	7.2	U		P
7439-89-6	Iron	948			P
7439-92-1	Lead	1.1	U		F
7439-95-4	Magnesium	57600			P
7439-96-5	Manganese	26.6			P
7439-97-6	Mercury	.20	U	N	CV
7440-02-0	Nickel	35.8	U		P
7440-09-7	Potassium	7190			P
7782-49-2	Selenium	16.0	U	WN	F
7440-22-4	Silver	5.7	U		P
7440-23-5	Sodium	223000			P
7440-28-0	Thallium	1.3	U	WN	F
7440-62-2	Vanadium	2.1	U		P
7440-66-6	Zinc	39.7			P
	Cyanide	49.2		N*	AS

Color Before: COLORLESS Clarity Before: CLEAR Texture: _____

Color After: COLORLESS Clarity After: CLEAR Artifacts: _____

Comments:
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FORM I - IN 7/87

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

828023-06

Lab Name: COMPUCHEM LABS Contract: (2-88)-REVS

Lab Code: COMPU Case No.: 17523 SAS No.: _____ SDG No.: 01

Matrix: (soil/water) WATER Lab Sample ID: 279574

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: CN079574A19

Level: (low/med) LOW Date Received: 08/09/89

% Moisture: not dec. ____ Date Analyzed: 08/13/89

Column: (pack/cap) CAP Dilution Factor: 1.0

CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L

CAS NO.	COMPOUND		Q
74-87-3	Chloromethane	10	U
74-83-9	Bromomethane	10	U
75-01-4	Vinyl Chloride	10	U
75-00-3	Chloroethane	10	U
75-09-2	Methylene Chloride	5	U
67-64-1	Acetone	10	U
75-15-0	Carbon Disulfide	5	U
75-35-4	1,1-Dichloroethene	5	U
75-34-3	1,1-Dichloroethane	5	U
540-59-0	1,2-Dichloroethene (total)	5	U
67-66-3	Chloroform	5	U
107-06-2	1,2-Dichloroethane	5	U
78-93-3	2-Butanone	10	U
71-55-6	1,1,1-Trichloroethane	5	U
56-23-5	Carbon Tetrachloride	5	U
108-05-4	Vinyl Acetate	10	U
75-27-4	Bromodichloromethane	5	U
78-87-5	1,2-Dichloropropane	5	U
10061-01-5	cis-1,3-Dichloropropene	5	U
79-01-6	Trichloroethene	5	U
124-48-1	Dibromochloromethane	5	U
79-00-5	1,1,2-Trichloroethane	5	U
71-43-2	Benzene	5	U
10061-02-6	Trans-1,3-Dichloropropene	5	U
75-25-2	Bromoform	5	U
108-10-1	4-Methyl-2-Pentanone	10	U
591-78-6	2-Hexanone	10	U
127-18-4	Tetrachloroethene	5	U
79-34-5	1,1,2,2-Tetrachloroethane	5	U
108-88-3	Toluene	5	U
108-90-7	Chlorobenzene	5	U
100-41-4	Ethylbenzene	5	U
100-42-5	Styrene	5	U
1330-20-7	Total Xylenes	5	U

FORM I VOA 1/87 Rev

1E
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

828023-06

Lab Name: COMPUCHEM LABS Contract: (2-88)-REVS

Lab Code: COMPU Case No.: 17523 SAS No.: _____ SDG No.: 01

Matrix: (soil/water) WATER Lab Sample ID: 279574

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: CN079574A19

Level: (low/med) LOW Date Received: 08/09/89

% Moisture: not dec. ____ Date Analyzed: 08/13/89

Column (pack/cap) CAP Dilution Factor: 1.0

Number TICs found: 0

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q

FORM I VOA-TIC

1/87 Re

1B
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

828023-06

Lab Name: COMPUCHEM LABS Contract: (2-88)-REVS

Lab Code: COMPU Case No.: 17523 SAS No.: _____ SDG No.: 01

Matrix: (soil/water) WATER Lab Sample ID: 279574

Sample wt/vol: 1000 (g/mL) ML Lab File ID: GH079574A05

Level: (low/med) LOW Date Received: 08/09/89

% Moisture: not dec. ____ dec. ____ Date Extracted: 08/11/89

Extraction: (SepF/Cont/Sonc) SEPF Date Analyzed: 08/14/89

GPC Cleanup: (Y/N) N pH: _____ Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
108-95-2	Phenol	10	U
111-44-4	bis(2-Chloroethyl)Ether	10	U
95-57-8	2-Chlorophenol	10	U
541-73-1	1,3-Dichlorobenzene	10	U
106-46-7	1,4-Dichlorobenzene	10	U
100-51-6	Benzyl Alcohol	10	U
95-50-1	1,2-Dichlorobenzene	10	U
95-48-7	2-Methylphenol	10	U
39638-32-9	bis(2-Chloroisopropyl)Ether	10	U
106-44-5	4-Methylphenol	10	U
621-64-7	N-Nitroso-Di-n-Propylamine	10	U
67-72-1	Hexachloroethane	10	U
98-95-3	Nitrobenzene	10	U
78-59-1	Isophorone	10	U
88-75-5	2-Nitrophenol	10	U
105-67-9	2,4-Dimethylphenol	10	U
65-85-0	Benzoic Acid	50	U
111-91-1	bis(2-Chloroethoxy)Methane	10	U
120-83-2	2,4-Dichlorophenol	10	U
120-82-1	1,2,4-Trichlorobenzene	10	U
91-20-3	Naphthalene	10	U
106-47-8	4-Chloroaniline	10	U
87-68-3	Hexachlorobutadiene	10	U
59-50-7	4-Chloro-3-Methylphenol	10	U
91-57-6	2-Methylnaphthalene	10	U
77-47-4	Hexachlorocyclopentadiene	10	U
88-06-2	2,4,6-Trichlorophenol	10	U
95-95-4	2,4,5-Trichlorophenol	50	U
91-58-7	2-Chloronaphthalene	10	U
88-74-4	2-Nitroaniline	50	U
131-11-3	Dimethyl Phthalate	10	U
208-96-8	Acenaphthylene	10	U
606-20-2	2,6-Dinitrotoluene	10	U

FORM I SV-1 1/87 Rev.

1C
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

828023-06

Lab Name: COMPUCHEM LABS Contract: (2-88)-REVS

Lab Code: COMPU Case No.: 17523 SAS No.: _____ SDG No.: 01

Matrix: (soil/water) WATER Lab Sample ID: 279574

Sample wt/vol: 1000 (g/mL) ML Lab File ID: GH079574A05

Level: (low/med) LOW Date Received: 08/09/89

% Moisture: not dec. ____ dec. ____ Date Extracted: 08/11/89

Extraction: (SepF/Cont/Sonc) SEPF Date Analyzed: 08/14/89

GPC Cleanup: (Y/N) N pH: _____ Dilution Factor: 1.0

CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L

CAS NO.	COMPOUND		Q
99-09-2	3-Nitroaniline	50	U
83-32-9	Acenaphthene	10	U
51-28-5	2,4-Dinitrophenol	50	U
100-02-7	4-Nitrophenol	50	U
132-64-9	Dibenzofuran	10	U
121-14-2	2,4-Dinitrotoluene	10	U
84-66-2	Diethylphthalate	10	U
7005-72-3	4-Chlorophenyl-phenylether	10	U
86-73-7	Fluorene	10	U
100-01-6	4-Nitroaniline	50	U
534-52-1	4,6-Dinitro-2-Methylphenol	50	U
86-30-6	N-Nitrosodiphenylamine (1)	10	U
101-55-3	4-Bromophenyl-phenylether	10	U
118-74-1	Hexachlorobenzene	10	U
87-86-5	Pentachlorophenol	50	U
85-01-8	Phenanthrene	10	U
120-12-7	Anthracene	10	U
84-74-2	Di-n-Butylphthalate	10	U
206-44-0	Fluoranthene	10	U
129-00-0	Pyrene	10	U
85-68-7	Butylbenzylphthalate	10	U
91-94-1	3,3'-Dichlorobenzidine	20	U
56-55-3	Benzo(a)Anthracene	10	U
218-01-9	Chrysene	10	U
117-81-7	bis(2-Ethylhexyl)Phthalate	10	U
117-84-0	Di-n-Octyl Phthalate	10	U
205-99-2	Benzo(b)Fluoranthene	10	U
207-08-9	Benzo(k)Fluoranthene	10	U
50-32-8	Benzo(a)Pyrene	10	U
193-39-5	Indeno(1,2,3-cd)Pyrene	10	U
53-70-3	Dibenzo(a,h)Anthracene	10	U
191-24-2	Benzo(g,h,i)Perylene	10	U

(1) - Cannot be separated from Diphenylamine

FORM I SV-2 1/87 Rev.

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

828023-06

Lab Name: COMPUCHEM LABS Contract: (2-88)-REVS

Lab Code: COMPU Case No.: 17523 SAS No.: _____ SDG No.: 01

Matrix: (soil/water) WATER Lab Sample ID: 279574

Sample wt/vol: 1000 (g/mL) ML Lab File ID: GH079574A05

Level: (low/med) LOW Date Received: 08/09/89

% Moisture: not dec. ____ dec. ____ Date Extracted: 08/11/89

Extraction: (SepF/Cont/Sonc) SEPF Date Analyzed: 08/14/89

GPC Cleanup: (Y/N) N pH: _____ Dilution Factor: 1.0

Number TICs found: 0

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q

FORM I SV-TIC 1/87 Rev.

1D
PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

828023-06

Lab Name: COMPUCHEM LABORATORIES Contract: (2-88)-REVS

Lab Code: COMPU Case No.: 17523 SAS No.: _____ SDG No.: 1

Matrix: (soil/water) WATER Lab Sample ID: 279574

Sample wt/vol: 1000 (g/mL) ML Lab File ID: _____

Level: (low/med) LOW Date Received: 08/09/89

% Moisture: not dec. _____ dec. _____ Date Extracted: 08/11/89

Extraction: (SepF/Cont/Sonc) SEPF Date Analyzed: 08/14/89

GPC Cleanup: (Y/N) N pH: _____ Dilution Factor: 1.00

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
319-84-6	alpha-BHC	0.050	U
319-85-7	beta-BHC	0.050	U
319-86-8	delta-BHC	0.050	U
58-89-9	gamma-BHC (Lindane)	0.050	U
76-44-8	Heptachlor	0.050	U
309-00-2	Aldrin	0.050	U
1024-57-3	Heptachlor epoxide	0.050	U
959-98-8	Endosulfan I	0.050	U
60-57-1	Dieldrin	0.10	U
72-55-9	4,4'-DDE	0.10	U
72-20-8	Endrin	0.10	U
33213-65-9	Endosulfan II	0.10	U
72-54-8	4,4'-DDD	0.10	U
1031-07-8	Endosulfan sulfate	0.10	U
50-29-3	4,4'-DDT	0.10	U
72-43-5	Methoxychlor	0.50	U
53494-70-5	Endrin ketone	0.10	U
5103-71-9	alpha-Chlordane	0.50	U
5103-74-2	gamma-Chlordane	0.50	U
8001-35-2	Toxaphene	1.0	U
12674-11-2	Aroclor-1016	0.50	U
11104-28-2	Aroclor-1221	0.50	U
11141-16-5	Aroclor-1232	0.50	U
53469-21-9	Aroclor-1242	0.50	U
12672-29-6	Aroclor-1248	0.50	U
11097-69-1	Aroclor-1254	1.0	U
11096-82-5	Aroclor-1260	1.0	U

FORM I PEST 1/87 Rev.

U.S. EPA - CLP

1

INORGANIC ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

828023-06

Lab Name: COMPUCHEM LABORATORIES Contract: 787

Lab Code: COMPU Case No.: 25550 SAS No.: _____ SDG No.: 17523A

Matrix (soil/water): WATER Lab Sample ID: 279574

Level (low/med): LOW Date Received: 08/09/89

% Solids: 0.0

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

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	29.9	B		P
7440-36-0	Antimony	50.2	U		P
7440-38-2	Arsenic	2.2	U		F
7440-39-3	Barium	154	B		P
7440-41-7	Beryllium	.70	U		P
7440-43-9	Cadmium	4.4	U		P
7440-70-2	Calcium	189000			P
7440-47-3	Chromium	6.2	U		P
7440-48-4	Cobalt	3.9	U		P
7440-50-8	Copper	7.2	U		P
7439-89-6	Iron	131			P
7439-92-1	Lead	1.2	B	W	F
7439-95-4	Magnesium	84400			P
7439-96-5	Manganese	30.8			P
7439-97-6	Mercury	.20	U	N	CV
7440-02-0	Nickel	35.8	U		P
7440-09-7	Potassium	17800			P
7782-49-2	Selenium	16.0	U	WN	F
7440-22-4	Silver	5.7	U		P
7440-23-5	Sodium	312000			P
7440-28-0	Thallium	1.3	U	WN	F
7440-62-2	Vanadium	2.1	U		P
7440-66-6	Zinc	34.3			P
	Cyanide	45.0		N*	AS

Color Before: COLORLESS Clarity Before: CLEAR Texture: _____

Color After: COLORLESS Clarity After: CLEAR Artifacts: _____

Comments:
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FORM I - IN 7/87

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

828023-07

Lab Name: COMPUCHEM LABS Contract: (2-88)-REVS

Lab Code: COMPU Case No.: 17523 SAS No.: _____ SDG No.: 01

Matrix: (soil/water) WATER Lab Sample ID: 279562

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: CN079562A19

Level: (low/med) LOW Date Received: 08/09/89

% Moisture: not dec. ____ Date Analyzed: 08/13/89

Column: (pack/cap) CAP Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
74-87-3	Chloromethane	10	U
74-83-9	Bromomethane	10	U
75-01-4	Vinyl Chloride	10	U
75-00-3	Chloroethane	10	U
75-09-2	Methylene Chloride	5	U
67-64-1	Acetone	10	U
75-15-0	Carbon Disulfide	5	U
75-35-4	1,1-Dichloroethene	5	U
75-34-3	1,1-Dichloroethane	5	U
540-59-0	1,2-Dichloroethene (total)	180	
67-66-3	Chloroform	5	U
107-06-2	1,2-Dichloroethane	5	U
78-93-3	2-Butanone	10	U
71-55-6	1,1,1-Trichloroethane	5	U
56-23-5	Carbon Tetrachloride	5	U
108-05-4	Vinyl Acetate	10	U
75-27-4	Bromodichloromethane	5	U
78-87-5	1,2-Dichloropropane	5	U
10061-01-5	cis-1,3-Dichloropropene	5	U
79-01-6	Trichloroethene	190	
124-48-1	Dibromochloromethane	5	U
79-00-5	1,1,2-Trichloroethane	5	U
71-43-2	Benzene	5	U
10061-02-6	Trans-1,3-Dichloropropene	5	U
75-25-2	Bromoform	5	U
108-10-1	4-Methyl-2-Pentanone	10	U
591-78-6	2-Hexanone	10	U
127-18-4	Tetrachloroethene	5	U
79-34-5	1,1,2,2-Tetrachloroethane	5	U
108-88-3	Toluene	5	U
108-90-7	Chlorobenzene	5	U
100-41-4	Ethylbenzene	5	U
100-42-5	Styrene	5	U
1330-20-7	Total Xylenes	5	U

FORM I VOA 1/87 Rev.

1E
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

828023-07

Lab Name: COMPUCHEM LABS Contract: (2-88)-REVS

Lab Code: COMPU Case No.: 17523 SAS No.: _____ SDG No.: 01

Matrix: (soil/water) WATER Lab Sample ID: 279562

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: CN079562A19

Level: (low/med) LOW Date Received: 08/09/89

% Moisture: not dec. ____ Date Analyzed: 08/13/89

Column (pack/cap) CAP Dilution Factor: 1.0

Number TICs found: 0

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q

FORM I VOA-TIC

1/87 Re

1B
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

828023-07

Lab Name: COMPUCHEM LABS Contract: (2-88)-REVS

Lab Code: COMPU Case No.: 17523 SAS No.: _____ SDG No.: 01

Matrix: (soil/water) WATER Lab Sample ID: 279562

Sample wt/vol: 1000 (g/mL) ML Lab File ID: GH079562A05

Level: (low/med) LOW Date Received: 08/09/89

% Moisture: not dec. ____ dec. ____ Date Extracted: 08/11/89

Extraction: (SepF/Cont/Sonc) SEPF Date Analyzed: 08/14/89

GPC Cleanup: (Y/N) N pH: ____ Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
108-95-2	Phenol	10	U
111-44-4	bis(2-Chloroethyl)Ether	10	U
95-57-8	2-Chlorophenol	10	U
541-73-1	1,3-Dichlorobenzene	10	U
106-46-7	1,4-Dichlorobenzene	10	U
100-51-6	Benzyl Alcohol	10	U
95-50-1	1,2-Dichlorobenzene	10	U
95-48-7	2-Methylphenol	10	U
39638-32-9	bis(2-Chloroisopropyl)Ether	10	U
106-44-5	4-Methylphenol	10	U
621-64-7	N-Nitroso-Di-n-Propylamine	10	U
67-72-1	Hexachloroethane	10	U
98-95-3	Nitrobenzene	10	U
78-59-1	Isophorone	10	U
88-75-5	2-Nitrophenol	10	U
105-67-9	2,4-Dimethylphenol	10	U
65-85-0	Benzoic Acid	50	U
111-91-1	bis(2-Chloroethoxy)Methane	10	U
120-83-2	2,4-Dichlorophenol	10	U
120-82-1	1,2,4-Trichlorobenzene	10	U
91-20-3	Naphthalene	10	U
106-47-8	4-Chloroaniline	10	U
87-68-3	Hexachlorobutadiene	10	U
59-50-7	4-Chloro-3-Methylphenol	10	U
91-57-6	2-Methylnaphthalene	10	U
77-47-4	Hexachlorocyclopentadiene	10	U
88-06-2	2,4,6-Trichlorophenol	10	U
95-95-4	2,4,5-Trichlorophenol	50	U
91-58-7	2-Chloronaphthalene	10	U
88-74-4	2-Nitroaniline	50	U
131-11-3	Dimethyl Phthalate	10	U
208-96-8	Acenaphthylene	10	U
606-20-2	2,6-Dinitrotoluene	10	U

FORM I SV-1 1/87 Rev.

1C
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

828023-07

Lab Name: COMPUCHEM LABS Contract: (2-88)-REVS

Lab Code: COMPU Case No.: 17523 SAS No.: _____ SDG No.: 01

Matrix: (soil/water) WATER Lab Sample ID: 279562

Sample wt/vol: 1000 (g/mL) ML Lab File ID: GH079562A05

Level: (low/med) LOW Date Received: 08/09/89

% Moisture: not dec. ____ dec. ____ Date Extracted: 08/11/89

Extraction: (SepF/Cont/Sonc) SEPF Date Analyzed: 08/14/89

GPC Cleanup: (Y/N) N pH: _____ Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
99-09-2	3-Nitroaniline	50	U
83-32-9	Acenaphthene	10	U
51-28-5	2,4-Dinitrophenol	50	U
100-02-7	4-Nitrophenol	50	U
132-64-9	Dibenzofuran	10	U
121-14-2	2,4-Dinitrotoluene	10	U
84-66-2	Diethylphthalate	10	U
7005-72-3	4-Chlorophenyl-phenylether	10	U
86-73-7	Fluorene	10	U
100-01-6	4-Nitroaniline	50	U
534-52-1	4,6-Dinitro-2-Methylphenol	50	U
86-30-6	N-Nitrosodiphenylamine (1)	10	U
101-55-3	4-Bromophenyl-phenylether	10	U
118-74-1	Hexachlorobenzene	10	U
87-86-5	Pentachlorophenol	50	U
85-01-8	Phenanthrene	10	U
120-12-7	Anthracene	10	U
84-74-2	Di-n-Butylphthalate	10	U
206-44-0	Fluoranthene	10	U
129-00-0	Pyrene	10	U
85-68-7	Butylbenzylphthalate	10	U
91-94-1	3,3'-Dichlorobenzidine	20	U
56-55-3	Benzo(a)Anthracene	10	U
218-01-9	Chrysene	10	U
117-81-7	bis(2-Ethylhexyl)Phthalate	10	
117-84-0	Di-n-Octyl Phthalate	10	U
205-99-2	Benzo(b)Fluoranthene	10	U
207-08-9	Benzo(k)Fluoranthene	10	U
50-32-8	Benzo(a)Pyrene	10	U
193-39-5	Indeno(1,2,3-cd)Pyrene	10	U
53-70-3	Dibenzo(a,h)Anthracene	10	U
191-24-2	Benzo(g,h,i)Perylene	10	U

(1) - Cannot be separated from Diphenylamine

FORM I SV-2 1/87 Rev.

1F
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

828023-07

Lab Name: COMPUCHEM LABS Contract: (2-88)-REVS

Lab Code: COMPU Case No.: 17523 SAS No.: _____ SDG No.: 01

Matrix: (soil/water) WATER Lab Sample ID: 279562

Sample wt/vol: 1000 (g/mL) ML Lab File ID: GH079562A05

Level: (low/med) LOW Date Received: 08/09/89

% Moisture: not dec. ____ dec. ____ Date Extracted: 08/11/89

Extraction: (SepF/Cont/Sonc) SEPF Date Analyzed: 08/14/89

GPC Cleanup: (Y/N) N pH: _____ Dilution Factor: 1.0

Number TICs found: 3

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	UNKNOWN	6.48	10	J
2.	UNKNOWN	8.13	20	J
3.	UNKNOWN	10.59	880	J

FORM I SV-TIC 1/87 Rev.

1D
PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

828023-07

Lab Name: COMPUCHEM LABORATORIES Contract: (2-88)-REVS

Lab Code: COMPU Case No.: 17523 SAS No.: _____ SDG No.: 1

Matrix: (soil/water) WATER Lab Sample ID: 279562

Sample wt/vol: 1000 (g/mL) ML Lab File ID: _____

Level: (low/med) LOW Date Received: 08/09/89

% Moisture: not dec. _____ dec. _____ Date Extracted: 08/11/89

Extraction: (SepF/Cont/Sonc) SEPF Date Analyzed: 08/16/89

GPC Cleanup: (Y/N) N pH: _____ Dilution Factor: 1.00

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
319-84-6	alpha-BHC	0.050	U
319-85-7	beta-BHC	0.050	U
319-86-8	delta-BHC	0.050	U
58-89-9	gamma-BHC (Lindane)	0.050	U
76-44-8	Heptachlor	0.050	U
309-00-2	Aldrin	0.050	U
1024-57-3	Heptachlor epoxide	0.050	U
959-98-8	Endosulfan I	0.050	U
60-57-1	Dieldrin	0.10	U
72-55-9	4,4'-DDE	0.10	U
72-20-8	Endrin	0.10	U
33213-65-9	Endosulfan II	0.10	U
72-54-8	4,4'-DDD	0.10	U
1031-07-8	Endosulfan sulfate	0.10	U
50-29-3	4,4'-DDT	0.10	U
72-43-5	Methoxychlor	0.50	U
53494-70-5	Endrin ketone	0.10	U
5103-71-9	alpha-Chlordane	0.50	U
5103-74-2	gamma-Chlordane	0.50	U
8001-35-2	Toxaphene	1.0	U
12674-11-2	Aroclor-1016	0.50	U
11104-28-2	Aroclor-1221	0.50	U
11141-16-5	Aroclor-1232	0.50	U
53469-21-9	Aroclor-1242	0.50	U
12672-29-6	Aroclor-1248	0.50	U
11097-69-1	Aroclor-1254	1.0	U
11096-82-5	Aroclor-1260	1.0	U

FORM I PEST 1/87 Rev.

U.S. EPA - CLP

1

INORGANIC ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

828023-07

Lab Name: COMPUCHEM LABORATORIES Contract: 787

Lab Code: COMPU Case No.: 25550 SAS No.: _____ SDG No.: 17523A

Matrix (soil/water): WATER Lab Sample ID: 279562

Level (low/med): LOW Date Received: 08/09/89

% Solids: 0.0

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

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	23.0	U		P
7440-36-0	Antimony	50.2	U		P
7440-38-2	Arsenic	2.3	B		F
7440-39-3	Barium	152	B		P
7440-41-7	Beryllium	.70	U		P
7440-43-9	Cadmium	4.4	U		P
7440-70-2	Calcium	95700			P
7440-47-3	Chromium	6.2	U		P
7440-48-4	Cobalt	3.9	U		P
7440-50-8	Copper	7.2	U		P
7439-89-6	Iron	1990			P
7439-92-1	Lead	1.1	U		F
7439-95-4	Magnesium	35800			P
7439-96-5	Manganese	351			P
7439-97-6	Mercury	.20	U	N	CV
7440-02-0	Nickel	35.8	U		P
7440-09-7	Potassium	6860			P
7782-49-2	Selenium	16.0	U	WN	F
7440-22-4	Silver	5.7	U		P
7440-23-5	Sodium	76700			P
7440-28-0	Thallium	1.3	U	WN	F
7440-62-2	Vanadium	2.1	U		P
7440-66-6	Zinc	7.6	B		P
	Cyanide	34.2		N*	AS

Color Before: COLORLESS Clarity Before: CLEAR Texture: _____

Color After: COLORLESS Clarity After: CLEAR Artifacts: _____

Comments:

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FORM I - IN 7/87

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

828023-08

Lab Name: COMPUCHEM LABS Contract: (2-88)-REVS

Lab Code: COMPU Case No.: 17508 SAS No.: _____ SDG No.: 01

Matrix: (soil/water) WATER Lab Sample ID: 279372

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: CN079372B14

Level: (low/med) LOW Date Received: 08/08/89

% Moisture: not dec. ____ Date Analyzed: 08/11/89

Column: (pack/cap) CAP Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
74-87-3	Chloromethane	10	U
74-83-9	Bromomethane	10	U
75-01-4	Vinyl Chloride	10	U
75-00-3	Chloroethane	10	U
75-09-2	Methylene Chloride	2	BJ
67-64-1	Acetone	10	U
75-15-0	Carbon Disulfide	5	U
75-35-4	1,1-Dichloroethene	5	U
75-34-3	1,1-Dichloroethane	5	U
540-59-0	1,2-Dichloroethene (total)	1	J
67-66-3	Chloroform	5	U
107-06-2	1,2-Dichloroethane	5	U
78-93-3	2-Butanone	10	U
71-55-6	1,1,1-Trichloroethane	5	U
56-23-5	Carbon Tetrachloride	5	U
108-05-4	Vinyl Acetate	10	U
75-27-4	Bromodichloromethane	5	U
78-87-5	1,2-Dichloropropane	5	U
10061-01-5	cis-1,3-Dichloropropene	5	U
79-01-6	Trichloroethene	5	U
124-48-1	Dibromochloromethane	5	U
79-00-5	1,1,2-Trichloroethane	5	U
71-43-2	Benzene	5	U
10061-02-6	Trans-1,3-Dichloropropene	5	U
75-25-2	Bromoform	5	U
108-10-1	4-Methyl-2-Pentanone	10	U
591-78-6	2-Hexanone	10	U
127-18-4	Tetrachloroethene	5	U
79-34-5	1,1,2,2-Tetrachloroethane	5	U
108-88-3	Toluene	5	U
108-90-7	Chlorobenzene	5	U
100-41-4	Ethylbenzene	5	U
100-42-5	Styrene	5	U
1330-20-7	Total Xylenes	5	U

FORM I VOA 1/87 Rev.

1E
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

828023-08

Lab Name: COMPUCHEM LABS Contract: (2-88)-REVS

Lab Code: COMPU Case No.: 17508 SAS No.: _____ SDG No.: 01

Matrix: (soil/water) WATER Lab Sample ID: 279372

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: CN079372B14

Level: (low/med) LOW Date Received: 08/08/89

% Moisture: not dec. ____ Date Analyzed: 08/11/89

Column (pack/cap) CAP Dilution Factor: 1.0

Number TICs found: 0

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q

FORM I VOA-TIC 1/87 Rev.

1B
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

828023-08

Lab Name: COMPUCHEM LABS Contract: (2-88)-REVS

Lab Code: COMPU Case No.: 17508 SAS No.: _____ SDG No.: 01

Matrix: (soil/water) WATER Lab Sample ID: 279272

Sample wt/vol: 1000 (g/mL) ML Lab File ID: GH079372A05

Level: (low/med) LOW Date Received: 08/08/89

% Moisture: not dec. ____ dec. ____ Date Extracted: 08/09/89

Extraction: (SepF/Cont/Sonc) SEPF Date Analyzed: 08/11/89

GPC Cleanup: (Y/N) N pH: _____ Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
108-95-2	Phenol	10	U
111-44-4	bis(2-Chloroethyl)Ether	10	U
95-57-8	2-Chlorophenol	10	U
541-73-1	1,3-Dichlorobenzene	10	U
106-46-7	1,4-Dichlorobenzene	10	U
100-51-6	Benzyl Alcohol	10	U
95-50-1	1,2-Dichlorobenzene	10	U
95-48-7	2-Methylphenol	10	U
39638-32-9	bis(2-Chloroisopropyl)Ether	10	U
106-44-5	4-Methylphenol	10	U
621-64-7	N-Nitroso-Di-n-Propylamine	10	U
67-72-1	Hexachloroethane	10	U
98-95-3	Nitrobenzene	10	U
78-59-1	Isophorone	10	U
88-75-5	2-Nitrophenol	10	U
105-67-9	2,4-Dimethylphenol	10	U
65-85-0	Benzoic Acid	50	U
111-91-1	bis(2-Chloroethoxy)Methane	10	U
120-83-2	2,4-Dichlorophenol	10	U
120-82-1	1,2,4-Trichlorobenzene	10	U
91-20-3	Naphthalene	10	U
106-47-8	4-Chloroaniline	10	U
87-68-3	Hexachlorobutadiene	10	U
59-50-7	4-Chloro-3-Methylphenol	10	U
91-57-6	2-Methylnaphthalene	10	U
77-47-4	Hexachlorocyclopentadiene	10	U
88-06-2	2,4,6-Trichlorophenol	50	U
95-95-4	2,4,5-Trichlorophenol	10	U
91-58-7	2-Chloronaphthalene	50	U
88-74-4	2-Nitroaniline	10	U
131-11-3	Dimethyl Phthalate	10	U
208-96-8	Acenaphthylene	10	U
606-20-2	2,6-Dinitrotoluene	10	U

FORM I SV-1 1/87 Rev.

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

828023-08

Lab Name: COMPUCHEM LABS Contract: (2-88)-REVS

Lab Code: COMPU Case No.: 17508 SAS No.: _____ SDG No.: 01

Matrix: (soil/water) WATER Lab Sample ID: 279272

Sample wt/vol: 1000 (g/mL) ML Lab File ID: GH079372A05

Level: (low/med) LOW Date Received: 08/08/89

% Moisture: not dec. ____ dec. ____ Date Extracted: 08/09/89

Extraction: (SepF/Cont/Sonc) SEPF Date Analyzed: 08/11/89

GPC Cleanup: (Y/N) N pH: _____ Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
99-09-2	3-Nitroaniline	50	U
83-32-9	Acenaphthene	10	U
51-28-5	2,4-Dinitrophenol	50	U
100-02-7	4-Nitrophenol	50	U
132-64-9	Dibenzofuran	10	U
121-14-2	2,4-Dinitrotoluene	10	U
84-66-2	Diethylphthalate	10	U
7005-72-3	4-Chlorophenyl-phenylether	10	U
86-73-7	Fluorene	10	U
100-01-6	4-Nitroaniline	50	U
534-52-1	4,6-Dinitro-2-Methylphenol	50	U
86-30-6	N-Nitrosodiphenylamine (1)	10	U
101-55-3	4-Bromophenyl-phenylether	10	U
118-74-1	Hexachlorobenzene	10	U
87-86-5	Pentachlorophenol	50	U
85-01-8	Phenanthrene	10	U
120-12-7	Anthracene	10	U
84-74-2	Di-n-Butylphthalate	10	U
206-44-0	Fluoranthene	10	U
129-00-0	Pyrene	10	U
85-68-7	Butylbenzylphthalate	10	U
91-94-1	3,3'-Dichlorobenzidine	20	U
56-55-3	Benzo(a)Anthracene	10	U
218-01-9	Chrysene	10	U
117-81-7	bis(2-Ethylhexyl)Phthalate	3	J
117-84-0	Di-n-Octyl Phthalate	10	U
205-99-2	Benzo(b)Fluoranthene	10	U
207-08-9	Benzo(k)Fluoranthene	10	U
50-32-8	Benzo(a)Pyrene	10	U
193-39-5	Indeno(1,2,3-cd)Pyrene	10	U
53-70-3	Dibenzo(a,h)Anthracene	10	U
191-24-2	Benzo(g,h,i)Perylene	10	U

(1) - Cannot be separated from Diphenylamine

FORM I SV-2 1/87 Rev.

1F
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

828023-08

Lab Name: COMPUCHEM LABS Contract: (2-88)-REVS

Lab Code: COMPU Case No.: 17508 SAS No.: _____ SDG No.: 01

Matrix: (soil/water) WATER Lab Sample ID: 279272

Sample wt/vol: 1000 (g/mL) ML Lab File ID: GH079372A05

Level: (low/med) LOW Date Received: 08/08/89

% Moisture: not dec. ____ dec. ____ Date Extracted: 08/09/89

Extraction: (SepF/Cont/Sonc) SEPF Date Analyzed: 08/11/89

GPC Cleanup: (Y/N) N pH: _____ Dilution Factor: 1.0

Number TICs found: 0

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q

FORM I SV-TIC 1/87 Rev.

1D
PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

828023-08

Lab Name: COMPUCHEM LABORATORIES Contract: (2-88)-REVS

Lab Code: COMPU Case No.: 17508 SAS No.: _____ SDG No.: 1

Matrix: (soil/water) WATER Lab Sample ID: 279372

Sample wt/vol: 1000 (g/mL) ML Lab File ID: _____

Level: (low/med) LOW Date Received: 08/08/89

% Moisture: not dec. _____ dec. _____ Date Extracted: 08/09/89

Extraction: (SepF/Cont/Sonc) SEPF Date Analyzed: 08/10/89

GPC Cleanup: (Y/N) N pH: _____ Dilution Factor: 1.00

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
319-84-6	alpha-BHC	0.050	U
319-85-7	beta-BHC	0.050	U
319-86-8	delta-BHC	0.050	U
58-89-9	gamma-BHC (Lindane)	0.050	U
76-44-8	Heptachlor	0.050	U
309-00-2	Aldrin	0.050	U
1024-57-3	Heptachlor epoxide	0.050	U
959-98-8	Endosulfan I	0.050	U
60-57-1	Dieldrin	0.10	U
72-55-9	4,4'-DDE	0.10	U
72-20-8	Endrin	0.10	U
33213-65-9	Endosulfan II	0.10	U
72-54-8	4,4'-DDD	0.10	U
1031-07-8	Endosulfan sulfate	0.10	U
50-29-3	4,4'-DDT	0.10	U
72-43-5	Methoxychlor	0.50	U
53494-70-5	Endrin ketone	0.10	U
5103-71-9	alpha-Chlordane	0.50	U
5103-74-2	gamma-Chlordane	0.50	U
8001-35-2	Toxaphene	1.0	U
12674-11-2	Aroclor-1016	0.50	U
11104-28-2	Aroclor-1221	0.50	U
11141-16-5	Aroclor-1232	0.50	U
53469-21-9	Aroclor-1242	0.50	U
12672-29-6	Aroclor-1248	0.50	U
11097-69-1	Aroclor-1254	1.0	U
11096-82-5	Aroclor-1260	1.0	U

FORM I PEST 1/87 Rev.

U.S. EPA - CLP

1

INORGANIC ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

828023-08

Lab Name: COMPUCHEM LABORATORIES Contract: 787

Lab Code: COMPU Case No.: 25550 SAS No.: _____ SDG No.: 17508A

Matrix (soil/water): WATER Lab Sample ID: 279372

Level (low/med): LOW Date Received: 08/08/89

% Solids: 0.0

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

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	510			P
7440-36-0	Antimony	50.2	U		P
7440-38-2	Arsenic	2.2	U		F
7440-39-3	Barium	350			P
7440-41-7	Beryllium	.70	U		P
7440-43-9	Cadmium	4.4	U		P
7440-70-2	Calcium	268000			P
7440-47-3	Chromium	6.2	U		P
7440-48-4	Cobalt	3.9	U		P
7440-50-8	Copper	7.2	U		P
7439-89-6	Iron	1170			P
7439-92-1	Lead	1.1	U	WN	F
7439-95-4	Magnesium	94500			P
7439-96-5	Manganese	383			P
7439-97-6	Mercury	.43		*	CV
7440-02-0	Nickel	35.8	U		P
7440-09-7	Potassium	9340			P
7782-49-2	Selenium	16.0	U	WN	F
7440-22-4	Silver	5.7	U		P
7440-23-5	Sodium	230000			P
7440-28-0	Thallium	1.3	U	WN	F
7440-62-2	Vanadium	2.1	U		P
7440-66-6	Zinc	25.2			P
	Cyanide	10.0	U		AS

Color Before: COLORLESS Clarity Before: CLOUDY Texture: _____

Color After: YELLOW Clarity After: CLEAR Artifacts: _____

Comments:
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FORM I - IN 7/87

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

828023-09

Lab Name: COMPUCHEM LABS Contract: (2-88)-REVS

Lab Code: COMPU Case No.: 17508 SAS No.: _____ SDG No.: 01

Matrix: (soil/water) WATER Lab Sample ID: 279376

Sample wt/vol: 3.2 (g/mL) ML Lab File ID: CR079376B14

Level: (low/med) LOW Date Received: 08/08/89

% Moisture: not dec. ____ Date Analyzed: 08/11/89

Column: (pack/cap) CAP Dilution Factor: 1.00

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
74-87-3	Chloromethane	16	U
74-83-9	Bromomethane	16	U
75-01-4	Vinyl Chloride	32	
75-00-3	Chloroethane	16	U
75-09-2	Methylene Chloride	8	U
67-64-1	Acetone	16	U
75-15-0	Carbon Disulfide	8	U
75-35-4	1,1-Dichloroethene	14	
75-34-3	1,1-Dichloroethane	7	J
540-59-0	1,2-Dichloroethene (total)	230	
67-66-3	Chloroform	8	U
107-06-2	1,2-Dichloroethane	8	U
78-93-3	2-Butanone	16	U
71-55-6	1,1,1-Trichloroethane	8	U
56-23-5	Carbon Tetrachloride	8	U
108-05-4	Vinyl Acetate	16	U
75-27-4	Bromodichloromethane	8	U
78-87-5	1,2-Dichloropropane	8	U
10061-01-5	cis-1,3-Dichloropropene	8	U
79-01-6	Trichloroethene	22	
124-48-1	Dibromochloromethane	8	U
79-00-5	1,1,2-Trichloroethane	8	U
71-43-2	Benzene	8	U
10061-02-6	Trans-1,3-Dichloropropene	8	U
75-25-2	Bromoform	8	U
108-10-1	4-Methyl-2-Pentanone	16	U
591-78-6	2-Hexanone	16	U
127-18-4	Tetrachloroethene	8	U
79-34-5	1,1,2,2-Tetrachloroethane	8	U
108-88-3	Toluene	8	U
108-90-7	Chlorobenzene	8	U
100-41-4	Ethylbenzene	8	U
100-42-5	Styrene	8	U
1330-20-7	Total Xylenes	8	U

FORM I VOA 1/87 Rev.

1E
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

828023-09

Lab Name: COMPUCHEM LABS Contract: (2-88)-REVS

Lab Code: COMPU Case No.: 17508 SAS No.: _____ SDG No.: 01

Matrix: (soil/water) WATER Lab Sample ID: 279376

Sample wt/vol: 3.2 (g/mL) ML Lab File ID: CR079376B14

Level: (low/med) LOW Date Received: 08/08/89

% Moisture: not dec. ____ Date Analyzed: 08/11/89

Column (pack/cap) CAP Dilution Factor: 1.00

Number TICs found: 0

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q

FORM I VOA-TIC 1/87 Rev.

1B
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

828023-09

Lab Name: COMPUCHEM LABS Contract: (2-88)-REVS

Lab Code: COMPU Case No.: 17508 SAS No.: _____ SDG No.: 01

Matrix: (soil/water) WATER Lab Sample ID: 279376

Sample wt/vol: 1000 (g/mL) ML Lab File ID: GH079376A05

Level: (low/med) LOW Date Received: 08/08/89

% Moisture: not dec. ____ dec. ____ Date Extracted: 08/09/89

Extraction: (SepF/Cont/Sonc) SEPF Date Analyzed: 08/11/89

GPC Cleanup: (Y/N) N pH: _____ Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
108-95-2	Phenol	10	U
111-44-4	bis(2-Chloroethyl)Ether	10	U
95-57-8	2-Chlorophenol	10	U
541-73-1	1,3-Dichlorobenzene	10	U
106-46-7	1,4-Dichlorobenzene	10	U
100-51-6	Benzyl Alcohol	10	U
95-50-1	1,2-Dichlorobenzene	10	U
95-48-7	2-Methylphenol	10	U
39638-32-9	bis(2-Chloroisopropyl)Ether	10	U
106-44-5	4-Methylphenol	10	U
621-64-7	N-Nitroso-Di-n-Propylamine	10	U
67-72-1	Hexachloroethane	10	U
98-95-3	Nitrobenzene	10	U
78-59-1	Isophorone	10	U
88-75-5	2-Nitrophenol	10	U
105-67-9	2,4-Dimethylphenol	10	U
65-85-0	Benzoic Acid	50	U
111-91-1	bis(2-Chloroethoxy)Methane	10	U
120-83-2	2,4-Dichlorophenol	10	U
120-82-1	1,2,4-Trichlorobenzene	10	U
91-20-3	Naphthalene	10	U
106-47-8	4-Chloroaniline	10	U
87-68-3	Hexachlorobutadiene	10	U
59-50-7	4-Chloro-3-Methylphenol	10	U
91-57-6	2-Methylnaphthalene	10	U
77-47-4	Hexachlorocyclopentadiene	10	U
88-06-2	2,4,6-Trichlorophenol	10	U
95-95-4	2,4,5-Trichlorophenol	50	U
91-58-7	2-Chloronaphthalene	10	U
88-74-4	2-Nitroaniline	50	U
131-11-3	Dimethyl Phthalate	10	U
208-96-8	Acenaphthylene	10	U
606-20-2	2,6-Dinitrotoluene	10	U

FORM I SV-1 1/87 Rev.

1C
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

828023-09

Lab Name: COMPUCHEM LABS Contract: (2-88)-REVS

Lab Code: COMPU Case No.: 17508 SAS No.: _____ SDG No.: 01

Matrix: (soil/water) WATER Lab Sample ID: 279376

Sample wt/vol: 1000 (g/mL) ML Lab File ID: GH079376A05

Level: (low/med) LOW Date Received: 08/08/89

% Moisture: not dec. ____ dec. ____ Date Extracted: 08/09/89

Extraction: (SepF/Cont/Sonc) SEPF Date Analyzed: 08/11/89

GPC Cleanup: (Y/N) N pH: _____ Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
99-09-2	3-Nitroaniline	50	U
83-32-9	Acenaphthene	10	U
51-28-5	2,4-Dinitrophenol	50	U
100-02-7	4-Nitrophenol	50	U
132-64-9	Dibenzofuran	10	U
121-14-2	2,4-Dinitrotoluene	10	U
84-66-2	Diethylphthalate	10	U
7005-72-3	4-Chlorophenyl-phenylether	10	U
86-73-7	Fluorene	10	U
100-01-6	4-Nitroaniline	50	U
534-52-1	4,6-Dinitro-2-Methylphenol	50	U
86-30-6	N-Nitrosodiphenylamine (1)	10	U
101-55-3	4-Bromophenyl-phenylether	10	U
118-74-1	Hexachlorobenzene	10	U
87-86-5	Pentachlorophenol	3	J
85-01-8	Phenanthrene	10	U
120-12-7	Anthracene	10	U
84-74-2	Di-n-Butylphthalate	10	U
206-44-0	Fluoranthene	10	U
129-00-0	Pyrene	10	U
85-68-7	Butylbenzylphthalate	10	U
91-94-1	3,3'-Dichlorobenzidine	20	U
56-55-3	Benzo(a)Anthracene	10	U
218-01-9	Chrysene	10	U
117-81-7	bis(2-Ethylhexyl)Phthalate	3	J
117-84-0	Di-n-Octyl Phthalate	10	U
205-99-2	Benzo(b)Fluoranthene	10	U
207-08-9	Benzo(k)Fluoranthene	10	U
50-32-8	Benzo(a)Pyrene	10	U
193-39-5	Indeno(1,2,3-cd)Pyrene	10	U
53-70-3	Dibenzo(a,h)Anthracene	10	U
191-24-2	Benzo(g,h,i)Perylene	10	U

(1) - Cannot be separated from Diphenylamine

FORM I SV-2 1/87 Rev.

1F
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

828023-09

Lab Name: COMPUCHEM LABS Contract: (2-88)-REVS

Lab Code: COMPU Case No.: 17508 SAS No.: _____ SDG No.: 01

Matrix: (soil/water) WATER Lab Sample ID: 279376

Sample wt/vol: 1000 (g/mL) ML Lab File ID: GH079376A05

Level: (low/med) LOW Date Received: 08/08/89

% Moisture: not dec. ____ dec. ____ Date Extracted: 08/09/89

Extraction: (SepF/Cont/Sonc) SEPF Date Analyzed: 08/11/89

GPC Cleanup: (Y/N) N pH: _____ Dilution Factor: 1.0

Number TICs found: 4

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1. 134-62-3	BENZAMIDE, N,N-DIETHYL-3-MET	12.17	20	J
2.	UNKNOWN	23.04	24	J
3.	UNKNOWN	15.24	10	J
4.	UNKNOWN	25.06	22	J

FORM I SV-TIC 1/87 Rev.

1D
PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

828023-09

Lab Name: COMPUCHEM LABORATORIES Contract: (2-88)-REVS

Lab Code: COMPU Case No.: 17508 SAS No.: _____ SDG No.: 1

Matrix: (soil/water) WATER Lab Sample ID: 279376

Sample wt/vol: 1000 (g/mL) ML Lab File ID: _____

Level: (low/med) LOW Date Received: 08/08/89

% Moisture: not dec. _____ dec. _____ Date Extracted: 08/09/89

Extraction: (SepF/Cont/Sonc) SEPF Date Analyzed: 08/10/89

GPC Cleanup: (Y/N) N pH: _____ Dilution Factor: 1.00

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
319-84-6	alpha-BHC	0.050	U
319-85-7	beta-BHC	0.050	U
319-86-8	delta-BHC	0.050	U
58-89-9	gamma-BHC (Lindane)	0.050	U
76-44-8	Heptachlor	0.050	U
309-00-2	Aldrin	0.050	U
1024-57-3	Heptachlor epoxide	0.050	U
959-98-8	Endosulfan I	0.050	U
60-57-1	Dieldrin	0.10	U
72-55-9	4,4'-DDE	0.10	U
72-20-8	Endrin	0.10	U
33213-65-9	Endosulfan II	0.10	U
72-54-8	4,4'-DDD	0.10	U
1031-07-8	Endosulfan sulfate	0.10	U
50-29-3	4,4'-DDT	0.10	U
72-43-5	Methoxychlor	0.50	U
53494-70-5	Endrin ketone	0.10	U
5103-71-9	alpha-Chlordane	0.50	U
5103-74-2	gamma-Chlordane	0.50	U
8001-35-2	Toxaphene	1.0	U
12674-11-2	Aroclor-1016	0.50	U
11104-28-2	Aroclor-1221	0.50	U
11141-16-5	Aroclor-1232	0.50	U
53469-21-9	Aroclor-1242	0.50	U
12672-29-6	Aroclor-1248	0.50	U
11097-69-1	Aroclor-1254	1.0	U
11096-82-5	Aroclor-1260	1.0	U

FORM I PEST 1/87 Rev.

U.S. EPA - CLP

1

INORGANIC ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

828023-09

Lab Name: COMPUCHEM LABORATORIES Contract: 787

Lab Code: COMPU Case No.: 25550 SAS No.: _____ SDG No.: 17508A

Matrix (soil/water): WATER Lab Sample ID: 279376

Level (low/med): LOW Date Received: 08/08/89

% Solids: 0.0

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

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	117	B		P
7440-36-0	Antimony	50.2	U		P
7440-38-2	Arsenic	2.2	U		F
7440-39-3	Barium	29.3	B		P
7440-41-7	Beryllium	.70	U		P
7440-43-9	Cadmium	4.4	U		P
7440-70-2	Calcium	266000			P
7440-47-3	Chromium	6.2	U		P
7440-48-4	Cobalt	3.9	U		P
7440-50-8	Copper	12.1	B		P
7439-89-6	Iron	334			P
7439-92-1	Lead	1.1	U	WN	F
7439-95-4	Magnesium	83400			P
7439-96-5	Manganese	39.9			P
7439-97-6	Mercury	.34		*	CV
7440-02-0	Nickel	35.8	U		P
7440-09-7	Potassium	20800			P
7782-49-2	Selenium	16.0	U	WN	F
7440-22-4	Silver	5.7	U		P
7440-23-5	Sodium	314000			P
7440-28-0	Thallium	1.3	U	WN	F
7440-62-2	Vanadium	2.1	U		P
7440-66-6	Zinc	47.9			P
	Cyanide	10.0	U		AS

Color Before: COLORLESS Clarity Before: CLOUDY Texture: _____

Color After: COLORLESS Clarity After: CLEAR Artifacts: _____

Comments:
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FORM I - IN 7/87

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

828023-10

Lab Name: COMPUCHEM LABS Contract: (2-88)-REVS

Lab Code: COMPU Case No.: 17508 SAS No.: _____ SDG No.: 01

Matrix: (soil/water) WATER Lab Sample ID: 279389

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: CN079389A14

Level: (low/med) LOW Date Received: 08/08/89

% Moisture: not dec. ____ Date Analyzed: 08/11/89

Column: (pack/cap) CAP Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
74-87-3	Chloromethane	10	U
74-83-9	Bromomethane	10	U
75-01-4	Vinyl Chloride	10	U
75-00-3	Chloroethane	10	U
75-09-2	Methylene Chloride	2	BJ
67-64-1	Acetone	10	U
75-15-0	Carbon Disulfide	5	U
75-35-4	1,1-Dichloroethene	5	U
75-34-3	1,1-Dichloroethane	5	U
540-59-0	1,2-Dichloroethene (total)	5	U
67-66-3	Chloroform	5	U
107-06-2	1,2-Dichloroethane	5	U
78-93-3	2-Butanone	10	U
71-55-6	1,1,1-Trichloroethane	5	U
56-23-5	Carbon Tetrachloride	5	U
108-05-4	Vinyl Acetate	10	U
75-27-4	Bromodichloromethane	5	U
78-87-5	1,2-Dichloropropane	5	U
10061-01-5	cis-1,3-Dichloropropene	5	U
79-01-6	Trichloroethene	5	U
124-48-1	Dibromochloromethane	5	U
79-00-5	1,1,2-Trichloroethane	5	U
71-43-2	Benzene	5	U
10061-02-6	Trans-1,3-Dichloropropene	5	U
75-25-2	Bromoform	5	U
108-10-1	4-Methyl-2-Pentanone	10	U
591-78-6	2-Hexanone	10	U
127-18-4	Tetrachloroethene	5	U
79-34-5	1,1,2,2-Tetrachloroethane	5	U
108-88-3	Toluene	5	U
108-90-7	Chlorobenzene	5	U
100-41-4	Ethylbenzene	5	U
100-42-5	Styrene	5	U
1330-20-7	Total Xylenes	5	U

FORM I VOA 1/87 Rev.

1E
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

828023-10

Lab Name: COMPUCHEM LABS Contract: (2-88)-REVS

Lab Code: COMPU Case No.: 17508 SAS No.: _____ SDG No.: 01

Matrix: (soil/water) WATER Lab Sample ID: 279389

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: CN079389A14

Level: (low/med) LOW Date Received: 08/08/89

% Moisture: not dec. ____ Date Analyzed: 08/11/89

Column (pack/cap) CAP Dilution Factor: 1.0

Number TICs found: 0

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q

FORM I VOA-TIC

1/87 Rev.

1B
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

828023-10

Lab Name: COMPUCHEM LABS Contract: (2-88)-REVS

Lab Code: COMPU Case No.: 17508 SAS No.: _____ SDG No.: 01

Matrix: (soil/water) WATER Lab Sample ID: 279389

Sample wt/vol: 1000 (g/mL) ML Lab File ID: GH079389A05

Level: (low/med) LOW Date Received: 08/08/89

% Moisture: not dec. ____ dec. ____ Date Extracted: 08/09/89

Extraction: (SepF/Cont/Sonc) SEPF Date Analyzed: 08/11/89

GPC Cleanup: (Y/N) N pH: _____ Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
108-95-2	Phenol	10	U
111-44-4	bis(2-Chloroethyl)Ether	10	U
95-57-8	2-Chlorophenol	10	U
541-73-1	1,3-Dichlorobenzene	10	U
106-46-7	1,4-Dichlorobenzene	10	U
100-51-6	Benzyl Alcohol	10	U
95-50-1	1,2-Dichlorobenzene	10	U
95-48-7	2-Methylphenol	10	U
39638-32-9	bis(2-Chloroisopropyl)Ether	10	U
106-44-5	4-Methylphenol	10	U
621-64-7	N-Nitroso-Di-n-Propylamine	10	U
67-72-1	Hexachloroethane	10	U
98-95-3	Nitrobenzene	10	U
78-59-1	Isophorone	10	U
88-75-5	2-Nitrophenol	10	U
105-67-9	2,4-Dimethylphenol	10	U
65-85-0	Benzoic Acid	50	U
111-91-1	bis(2-Chloroethoxy)Methane	10	U
120-83-2	2,4-Dichlorophenol	10	U
120-82-1	1,2,4-Trichlorobenzene	10	U
91-20-3	Naphthalene	10	U
106-47-8	4-Chloroaniline	10	U
87-68-3	Hexachlorobutadiene	10	U
59-50-7	4-Chloro-3-Methylphenol	10	U
91-57-6	2-Methylnaphthalene	10	U
77-47-4	Hexachlorocyclopentadiene	10	U
88-06-2	2,4,6-Trichlorophenol	10	U
95-95-4	2,4,5-Trichlorophenol	50	U
91-58-7	2-Chloronaphthalene	10	U
88-74-4	2-Nitroaniline	50	U
131-11-3	Dimethyl Phthalate	10	U
208-96-8	Acenaphthylene	10	U
606-20-2	2,6-Dinitrotoluene	10	U

FORM I SV-1 1/87 Rev.

1C
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

828023-10

Lab Name: COMPUCHEM LABS Contract: (2-88)-REVS

Lab Code: COMPU Case No.: 17508 SAS No.: _____ SDG No.: 01

Matrix: (soil/water) WATER Lab Sample ID: 279389

Sample wt/vol: 1000 (g/mL) ML Lab File ID: GH079389A05

Level: (low/med) LOW Date Received: 08/08/89

% Moisture: not dec. ____ dec. ____ Date Extracted: 08/09/89

Extraction: (SepF/Cont/Sonc) SEPF Date Analyzed: 08/11/89

GPC Cleanup: (Y/N) N pH: _____ Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
99-09-2	3-Nitroaniline	50	U
83-32-9	Acenaphthene	10	U
51-28-5	2,4-Dinitrophenol	50	U
100-02-7	4-Nitrophenol	50	U
132-64-9	Dibenzofuran	10	U
121-14-2	2,4-Dinitrotoluene	10	U
84-66-2	Diethylphthalate	10	U
7005-72-3	4-Chlorophenyl-phenylether	10	U
86-73-7	Fluorene	10	U
100-01-6	4-Nitroaniline	50	U
534-52-1	4,6-Dinitro-2-Methylphenol	50	U
86-30-6	N-Nitrosodiphenylamine (1)	10	U
101-55-3	4-Bromophenyl-phenylether	10	U
118-74-1	Hexachlorobenzene	10	U
87-86-5	Pentachlorophenol	50	U
85-01-8	Phenanthrene	10	U
120-12-7	Anthracene	10	U
84-74-2	Di-n-Butylphthalate	10	U
206-44-0	Fluoranthene	10	U
129-00-0	Pyrene	10	U
85-68-7	Butylbenzylphthalate	10	U
91-94-1	3,3'-Dichlorobenzidine	20	U
56-55-3	Benzo(a)Anthracene	10	U
218-01-9	Chrysene	10	U
117-81-7	bis(2-Ethylhexyl)Phthalate	10	U
117-84-0	Di-n-Octyl Phthalate	10	U
205-99-2	Benzo(b)Fluoranthene	10	U
207-08-9	Benzo(k)Fluoranthene	10	U
50-32-8	Benzo(a)Pyrene	10	U
193-39-5	Indeno(1,2,3-cd)Pyrene	10	U
53-70-3	Dibenzo(a,h)Anthracene	10	U
191-24-2	Benzo(g,h,i)Perylene	10	U

(1) - Cannot be separated from Diphenylamine

FORM I SV-2 1/87 Rev.

1F
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

828023-10

Lab Name: COMPUCHEM LABS Contract: (2-88)-REVS

Lab Code: COMPU Case No.: 17508 SAS No.: _____ SDG No.: 01

Matrix: (soil/water) WATER Lab Sample ID: 279389

Sample wt/vol: 1000 (g/mL) ML Lab File ID: GH079389A05

Level: (low/med) LOW Date Received: 08/08/89

% Moisture: not dec. ____ dec. ____ Date Extracted: 08/09/89

Extraction: (SepF/Cont/Sonc) SEPF Date Analyzed: 08/11/89

GPC Cleanup: (Y/N) N pH: _____ Dilution Factor: 1.0

Number TICs found: 3

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1. 134-62-3	BENZAMIDE, N,N-DIETHYL-3-MET	12.15	14	J
2.	UNKNOWN	23.04	26	J
3.	UNKNOWN	25.06	14	J

FORM I SV-TIC 1/87 Rev.

1D
PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

828023-10

Lab Name: COMPUCHEM LABORATORIES Contract: (2-88)-REVS

Lab Code: COMPU Case No.: 17508 SAS No.: _____ SDG No.: 1

Matrix: (soil/water) WATER Lab Sample ID: 279389

Sample wt/vol: 1000 (g/mL) ML Lab File ID: _____

Level: (low/med) LOW Date Received: 08/08/89

% Moisture: not dec. _____ dec. _____ Date Extracted: 08/09/89

Extraction: (SepF/Cont/Sonc) SEPF Date Analyzed: 08/10/89

GPC Cleanup: (Y/N) N pH: _____ Dilution Factor: 1.00

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
319-84-6	alpha-BHC	0.050	U
319-85-7	beta-BHC	0.050	U
319-86-8	delta-BHC	0.050	U
58-89-9	gamma-BHC (Lindane)	0.050	U
76-44-8	Heptachlor	0.050	U
309-00-2	Aldrin	0.050	U
1024-57-3	Heptachlor epoxide	0.050	U
959-98-8	Endosulfan I	0.050	U
60-57-1	Dieldrin	0.10	U
72-55-9	4,4'-DDE	0.10	U
72-20-8	Endrin	0.10	U
33213-65-9	Endosulfan II	0.10	U
72-54-8	4,4'-DDD	0.10	U
1031-07-8	Endosulfan sulfate	0.10	U
50-29-3	4,4'-DDT	0.10	U
72-43-5	Methoxychlor	0.50	U
53494-70-5	Endrin ketone	0.10	U
5103-71-9	alpha-Chlordane	0.50	U
5103-74-2	gamma-Chlordane	0.50	U
8001-35-2	Toxaphene	1.0	U
12674-11-2	Aroclor-1016	0.50	U
11104-28-2	Aroclor-1221	0.50	U
11141-16-5	Aroclor-1232	0.50	U
53469-21-9	Aroclor-1242	0.50	U
12672-29-6	Aroclor-1248	0.50	U
11097-69-1	Aroclor-1254	1.0	U
11096-82-5	Aroclor-1260	1.0	U

FORM I PEST 1/87 Rev.

U.S. EPA - CLP

1

INORGANIC ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

828023-10

Lab Name: COMPUCHEM LABORATORIES Contract: 787

Lab Code: COMPU Case No.: 25550 SAS No.: _____ SDG No.: 17508A

Matrix (soil/water): WATER Lab Sample ID: 279389

Level (low/med): LOW Date Received: 08/08/89

% Solids: 0.0

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

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	1650			P
7440-36-0	Antimony	50.2	U		P
7440-38-2	Arsenic	2.2	U		F
7440-39-3	Barium	72.0	B		P
7440-41-7	Beryllium	.70	U		P
7440-43-9	Cadmium	4.4	U		P
7440-70-2	Calcium	255000			P
7440-47-3	Chromium	6.2	U		P
7440-48-4	Cobalt	3.9	U		P
7440-50-8	Copper	7.2	U		P
7439-89-6	Iron	5850			P
7439-92-1	Lead	1.7	B	N	F
7439-95-4	Magnesium	99800			P
7439-96-5	Manganese	146			P
7439-97-6	Mercury	.20	U	*	CV
7440-02-0	Nickel	35.8	U		P
7440-09-7	Potassium	16300			P
7782-49-2	Selenium	16.0	U	EN	F
7440-22-4	Silver	5.7	U		P
7440-23-5	Sodium	452000			P
7440-28-0	Thallium	1.3	U	WN	F
7440-62-2	Vanadium	5.7	B		P
7440-66-6	Zinc	25.2			P
	Cyanide	98.0			AS

Color Before: COLORLESS Clarity Before: CLOUDY Texture: _____

Color After: YELLOW Clarity After: CLEAR Artifacts: _____

Comments:

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THE FOLLOWING FURNACE ANALYTES ARE ESTIMATED DUE TO INTERFERENCE:

SELENIUM

FORM 1 - IN 7/87

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

828023-11

Lab Name: COMPUCHEM LABS Contract: (2-88)-REVS

Lab Code: COMPU Case No.: 17508 SAS No.: _____ SDG No.: 01

Matrix: (soil/water) WATER Lab Sample ID: 279390

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: CN079390A14

Level: (low/med) LOW Date Received: 08/08/89

% Moisture: not dec. ____ Date Analyzed: 08/11/89

Column: (pack/cap) CAP Dilution Factor: 1.0

CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L

CAS NO.	COMPOUND		Q
74-87-3	Chloromethane	10	U
74-83-9	Bromomethane	10	U
75-01-4	Vinyl Chloride	10	U
75-00-3	Chloroethane	10	U
75-09-2	Methylene Chloride	3	BJ
67-64-1	Acetone	10	U
75-15-0	Carbon Disulfide	5	U
75-35-4	1,1-Dichloroethene	5	U
75-34-3	1,1-Dichloroethane	5	U
540-59-0	1,2-Dichloroethene (total)	4	J
67-66-3	Chloroform	2	J
107-06-2	1,2-Dichloroethane	5	U
78-93-3	2-Butanone	10	U
71-55-6	1,1,1-Trichloroethane	5	U
56-23-5	Carbon Tetrachloride	5	U
108-05-4	Vinyl Acetate	10	U
75-27-4	Bromodichloromethane	5	U
78-87-5	1,2-Dichloropropane	5	U
10061-01-5	cis-1,3-Dichloropropene	5	U
79-01-6	Trichloroethene	5	U
124-48-1	Dibromochloromethane	5	U
79-00-5	1,1,2-Trichloroethane	5	U
71-43-2	Benzene	5	U
10061-02-6	Trans-1,3-Dichloropropene	5	U
75-25-2	Bromoform	5	U
108-10-1	4-Methyl-2-Pentanone	10	U
591-78-6	2-Hexanone	10	U
127-18-4	Tetrachloroethene	5	U
79-34-5	1,1,2,2-Tetrachloroethane	5	U
108-88-3	Toluene	5	U
108-90-7	Chlorobenzene	5	U
100-41-4	Ethylbenzene	5	U
100-42-5	Styrene	5	U
1330-20-7	Total Xylenes	5	U

FORM I VOA 1/87 Rev

1E
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

828023-11

Lab Name: COMPUCHEM LABS Contract: (2-88)-REVS

Lab Code: COMPU Case No.: 17508 SAS No.: _____ SDG No.: 01

Matrix: (soil/water) WATER Lab Sample ID: 279390

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: CN079390A14

Level: (low/med) LOW Date Received: 08/08/89

% Moisture: not dec. ____ Date Analyzed: 08/11/89

Column (pack/cap) CAP Dilution Factor: 1.0

Number TICs found: 0

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q

FORM I VOA-TIC 1/87 Rev.

1B
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

828023-11

Lab Name: COMPUCHEM LABS Contract: (2-88)-REVS

Lab Code: COMPU Case No.: 17508 SAS No.: _____ SDG No.: 01

Matrix: (soil/water) WATER Lab Sample ID: 279390

Sample wt/vol: 1000 (g/mL) ML Lab File ID: GH079390A05

Level: (low/med) LOW Date Received: 08/08/89

% Moisture: not dec. ____ dec. ____ Date Extracted: 08/09/89

Extraction: (SepF/Cont/Sonc) SEPF Date Analyzed: 08/11/89

GPC Cleanup: (Y/N) N pH: _____ Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
108-95-2	Phenol	10	U
111-44-4	bis(2-Chloroethyl)Ether	10	U
95-57-8	2-Chlorophenol	10	U
541-73-1	1,3-Dichlorobenzene	10	U
106-46-7	1,4-Dichlorobenzene	10	U
100-51-6	Benzyl Alcohol	10	U
95-50-1	1,2-Dichlorobenzene	10	U
95-48-7	2-Methylphenol	10	U
39638-32-9	bis(2-Chloroisopropyl)Ether	10	U
106-44-5	4-Methylphenol	10	U
621-64-7	N-Nitroso-Di-n-Propylamine	10	U
67-72-1	Hexachloroethane	10	U
98-95-3	Nitrobenzene	10	U
78-59-1	Isophorone	10	U
88-75-5	2-Nitrophenol	10	U
105-67-9	2,4-Dimethylphenol	10	U
65-85-0	Benzoic Acid	50	U
111-91-1	bis(2-Chloroethoxy)Methane	10	U
120-83-2	2,4-Dichlorophenol	10	U
120-82-1	1,2,4-Trichlorobenzene	10	U
91-20-3	Naphthalene	10	U
106-47-8	4-Chloroaniline	10	U
87-68-3	Hexachlorobutadiene	10	U
59-50-7	4-Chloro-3-Methylphenol	10	U
91-57-6	2-Methylnaphthalene	10	U
77-47-4	Hexachlorocyclopentadiene	10	U
88-06-2	2,4,6-Trichlorophenol	10	U
95-95-4	2,4,5-Trichlorophenol	50	U
91-58-7	2-Chloronaphthalene	10	U
88-74-4	2-Nitroaniline	50	U
131-11-3	Dimethyl Phthalate	10	U
208-96-8	Acenaphthylene	10	U
606-20-2	2,6-Dinitrotoluene	10	U

FORM I SV-1 1/87 Rev.

1C
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

828023-11

Lab Name: COMPUCHEM LABS Contract: (2-88)-REVS

Lab Code: COMPU Case No.: 17508 SAS No.: _____ SDG No.: 01

Matrix: (soil/water) WATER Lab Sample ID: 279390

Sample wt/vol: 1000 (g/mL) ML Lab File ID: GH079390A05

Level: (low/med) LOW Date Received: 08/08/89

% Moisture: not dec. ____ dec. ____ Date Extracted: 08/09/89

Extraction: (SepF/Cont/Sonc) SEPF Date Analyzed: 08/11/89

GPC Cleanup: (Y/N) N pH: _____ Dilution Factor: 1.0

CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L

CAS NO.	COMPOUND		Q
99-09-2	3-Nitroaniline	50	U
83-32-9	Acenaphthene	10	U
51-28-5	2,4-Dinitrophenol	50	U
100-02-7	4-Nitrophenol	50	U
132-64-9	Dibenzofuran	10	U
121-14-2	2,4-Dinitrotoluene	10	U
84-66-2	Diethylphthalate	10	U
7005-72-3	4-Chlorophenyl-phenylether	10	U
86-73-7	Fluorene	10	U
100-01-6	4-Nitroaniline	50	U
534-52-1	4,6-Dinitro-2-Methylphenol	50	U
86-30-6	N-Nitrosodiphenylamine (1)	10	U
101-55-3	4-Bromophenyl-phenylether	10	U
118-74-1	Hexachlorobenzene	10	U
87-86-5	Pentachlorophenol	50	U
85-01-8	Phenanthrene	10	U
120-12-7	Anthracene	10	U
84-74-2	Di-n-Butylphthalate	10	U
206-44-0	Fluoranthene	10	U
129-00-0	Pyrene	10	U
85-68-7	Butylbenzylphthalate	10	U
91-94-1	3,3'-Dichlorobenzidine	20	U
56-55-3	Benzo(a)Anthracene	10	U
218-01-9	Chrysene	10	U
117-81-7	bis(2-Ethylhexyl)Phthalate	10	U
117-84-0	Di-n-Octyl Phthalate	10	U
205-99-2	Benzo(b)Fluoranthene	10	U
207-08-9	Benzo(k)Fluoranthene	10	U
50-32-8	Benzo(a)Pyrene	10	U
193-39-5	Indeno(1,2,3-cd)Pyrene	10	U
53-70-3	Dibenzo(a,h)Anthracene	10	U
191-24-2	Benzo(g,h,i)Perylene	10	U

(1) - Cannot be separated from Diphenylamine

FORM I SV-2 1/87 Rev.

1F
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

828023-11

Lab Name: COMPUCHEM LABS Contract: (2-88)-REVS

Lab Code: COMPU Case No.: 17508 SAS No.: _____ SDG No.: 01

Matrix: (soil/water) WATER Lab Sample ID: 279390

Sample wt/vol: 1000 (g/mL) ML Lab File ID: GH079390A05

Level: (low/med) LOW Date Received: 08/08/89

% Moisture: not dec. ____ dec. ____ Date Extracted: 08/09/89

Extraction: (SepF/Cont/Sonc) SEPF Date Analyzed: 08/11/89

GPC Cleanup: (Y/N) N pH: _____ Dilution Factor: 1.0

Number TICs found: 0

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q

FORM I SV-TIC 1/87 Rev.

1D
PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

828023-11

Lab Name: COMPUCHEM LABORATORIES Contract: (2-88)-REVS

Lab Code: COMPU Case No.: 17508 SAS No.: _____ SDG No.: 1

Matrix: (soil/water) WATER Lab Sample ID: 279390

Sample wt/vol: 1000 (g/mL) ML Lab File ID: _____

Level: (low/med) LOW Date Received: 08/08/89

% Moisture: not dec. _____ dec. _____ Date Extracted: 08/09/89

Extraction: (SepF/Cont/Sonc) SEPF Date Analyzed: 08/10/89

GPC Cleanup: (Y/N) N pH: _____ Dilution Factor: 1.00

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
319-84-6	alpha-BHC	0.050	U
319-85-7	beta-BHC	0.050	U
319-86-8	delta-BHC	0.050	U
58-89-9	gamma-BHC (Lindane)	0.050	U
76-44-8	Heptachlor	0.050	U
309-00-2	Aldrin	0.050	U
1024-57-3	Heptachlor epoxide	0.050	U
959-98-8	Endosulfan I	0.050	U
60-57-1	Dieldrin	0.10	U
72-55-9	4,4'-DDE	0.10	U
72-20-8	Endrin	0.10	U
33213-65-9	Endosulfan II	0.10	U
72-54-8	4,4'-DDD	0.10	U
1031-07-8	Endosulfan sulfate	0.10	U
50-29-3	4,4'-DDT	0.10	U
72-43-5	Methoxychlor	0.50	U
53494-70-5	Endrin ketone	0.10	U
5103-71-9	alpha-Chlordane	0.50	U
5103-74-2	gamma-Chlordane	0.50	U
8001-35-2	Toxaphene	1.0	U
12674-11-2	Aroclor-1016	0.50	U
11104-28-2	Aroclor-1221	0.50	U
11141-16-5	Aroclor-1232	0.50	U
53469-21-9	Aroclor-1242	0.50	U
12672-29-6	Aroclor-1248	0.50	U
11097-69-1	Aroclor-1254	1.0	U
11096-82-5	Aroclor-1260	1.0	U

FORM I PEST 1/87 Rev.

U.S. EPA - CLP

1

INORGANIC ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

828023-11

Lab Name: COMPUCHEM LABORATORIES Contract: 787

Lab Code: COMPU Case No.: 25550 SAS No.: _____ SDG No.: 17508A

Matrix (soil/water): WATER Lab Sample ID: 279390

Level (low/med): LOW Date Received: 08/08/89

% Solids: 0.0

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

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	468			P
7440-36-0	Antimony	50.2	U		P
7440-38-2	Arsenic	2.2	U		F
7440-39-3	Barium	12.5	B		P
7440-41-7	Beryllium	.70	U		P
7440-43-9	Cadmium	4.4	U		P
7440-70-2	Calcium	146000			P
7440-47-3	Chromium	6.2	U		P
7440-48-4	Cobalt	3.9	U		P
7440-50-8	Copper	7.2	U		P
7439-89-6	Iron	1080			P
7439-92-1	Lead	3.3	B	N	F
7439-95-4	Magnesium	74700			P
7439-96-5	Manganese	53.2			P
7439-97-6	Mercury	.20	U	*	CV
7440-02-0	Nickel	35.8	U		P
7440-09-7	Potassium	6550			P
7782-49-2	Selenium	16.0	U	WN	F
7440-22-4	Silver	5.7	U		P
7440-23-5	Sodium	19500			P
7440-28-0	Thallium	1.3	U	N	F
7440-62-2	Vanadium	2.1	U		P
7440-66-6	Zinc	54.2			P
	Cyanide	55.9			AS

Color Before: COLORLESS Clarity Before: CLOUDY Texture: _____

Color After: COLORLESS Clarity After: CLEAR Artifacts: _____

Comments:
FORM 1 - PAGE 4

FORM I - IN 7/87

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

828023-12

Lab Name: COMPUCHEM LABS Contract: (2-88)-REVS

Lab Code: COMPU Case No.: 17551 SAS No.: _____ SDG No.: 01

Matrix: (soil/water) WATER Lab Sample ID: 279857

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: CN079857C19

Level: (low/med) LOW Date Received: 08/10/89

% Moisture: not dec. ____ Date Analyzed: 08/14/89

Column: (pack/cap) CAP Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
74-87-3	Chloromethane	10	U
74-83-9	Bromomethane	10	U
75-01-4	Vinyl Chloride	10	U
75-00-3	Chloroethane	10	U
75-09-2	Methylene Chloride	5	U
67-64-1	Acetone	10	U
75-15-0	Carbon Disulfide	5	U
75-35-4	1,1-Dichloroethene	5	U
75-34-3	1,1-Dichloroethane	5	U
540-59-0	1,2-Dichloroethene (total)	5	U
67-66-3	Chloroform	5	U
107-06-2	1,2-Dichloroethane	5	U
78-93-3	2-Butanone	10	U
71-55-6	1,1,1-Trichloroethane	5	U
56-23-5	Carbon Tetrachloride	5	U
108-05-4	Vinyl Acetate	10	U
75-27-4	Bromodichloromethane	5	U
78-87-5	1,2-Dichloropropane	5	U
10061-01-5	cis-1,3-Dichloropropene	5	U
79-01-6	Trichloroethene	5	U
124-48-1	Dibromochloromethane	5	U
79-00-5	1,1,2-Trichloroethane	5	U
71-43-2	Benzene	5	U
10061-02-6	Trans-1,3-Dichloropropene	5	U
75-25-2	Bromoform	5	U
108-10-1	4-Methyl-2-Pentanone	10	U
591-78-6	2-Hexanone	10	U
127-18-4	Tetrachloroethene	5	U
79-34-5	1,1,2,2-Tetrachloroethane	5	U
108-88-3	Toluene	5	U
108-90-7	Chlorobenzene	5	U
100-41-4	Ethylbenzene	5	U
100-42-5	Styrene	5	U
1330-20-7	Total Xylenes	5	U

FORM I VOA 1/87 Rev.

1E
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

828023-12

Lab Name: COMPUCHEM LABS Contract: (2-88)-REVS

Lab Code: COMPU Case No.: 17551 SAS No.: _____ SDG No.: 01

Matrix: (soil/water) WATER Lab Sample ID: 279857

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: CN079857C19

Level: (low/med) LOW Date Received: 08/10/89

% Moisture: not dec. ____ Date Analyzed: 08/14/89

Column (pack/cap) CAP Dilution Factor: 1.0

Number TICs found: 0

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q

FORM I VOA-TIC 1/87 Rev.

1B
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

828023-12

Lab Name: COMPUCHEM LABS Contract: (2-88)-REVS

Lab Code: COMPU Case No.: 17551 SAS No.: _____ SDG No.: 01

Matrix: (soil/water) WATER Lab Sample ID: 279857

Sample wt/vol: 1000 (g/mL) ML Lab File ID: GH079857B05

Level: (low/med) LOW Date Received: 08/10/89

% Moisture: not dec. ____ dec. ____ Date Extracted: 08/12/89

Extraction: (SepF/Cont/Sonc) SEPF Date Analyzed: 08/12/89

GPC Cleanup: (Y/N) N pH: _____ Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
108-95-2	Phenol	10	U
111-44-4	bis(2-Chloroethyl)Ether	10	U
95-57-8	2-Chlorophenol	10	U
541-73-1	1,3-Dichlorobenzene	10	U
106-46-7	1,4-Dichlorobenzene	10	U
100-51-6	Benzyl Alcohol	10	U
95-50-1	1,2-Dichlorobenzene	10	U
95-48-7	2-Methylphenol	10	U
39638-32-9	bis(2-Chloroisopropyl)Ether	10	U
106-44-5	4-Methylphenol	10	U
621-64-7	N-Nitroso-Di-n-Propylamine	10	U
67-72-1	Hexachloroethane	10	U
98-95-3	Nitrobenzene	10	U
78-59-1	Isophorone	10	U
88-75-5	2-Nitrophenol	10	U
105-67-9	2,4-Dimethylphenol	10	U
65-85-0	Benzoic Acid	50	U
111-91-1	bis(2-Chloroethoxy)Methane	10	U
120-83-2	2,4-Dichlorophenol	10	U
120-82-1	1,2,4-Trichlorobenzene	10	U
91-20-3	Naphthalene	10	U
106-47-8	4-Chloroaniline	10	U
87-68-3	Hexachlorobutadiene	10	U
59-50-7	4-Chloro-3-Methylphenol	10	U
91-57-6	2-Methylnaphthalene	10	U
77-47-4	Hexachlorocyclopentadiene	10	U
88-06-2	2,4,6-Trichlorophenol	10	U
95-95-4	2,4,5-Trichlorophenol	50	U
91-58-7	2-Chloronaphthalene	10	U
88-74-4	2-Nitroaniline	50	U
131-11-3	Dimethyl Phthalate	10	U
208-96-8	Acenaphthylene	10	U
606-20-2	2,6-Dinitrotoluene	10	U

FORM I SV-1 1/87 Rev.

1C
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

828023-12

Lab Name: COMPUCHEM LABS Contract: (2-88)-REVS

Lab Code: COMPU Case No.: 17551 SAS No.: _____ SDG No.: 01

Matrix: (soil/water) WATER Lab Sample ID: 279857

Sample wt/vol: 1000 (g/mL) ML Lab File ID: GH079857B05

Level: (low/med) LOW Date Received: 08/10/89

% Moisture: not dec. ____ dec. ____ Date Extracted: 08/12/89

Extraction: (SepF/Cont/Sonc) SEPF Date Analyzed: 08/12/89

GPC Cleanup: (Y/N) N pH: _____ Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
99-09-2	3-Nitroaniline	50	U
83-32-9	Acenaphthene	10	U
51-28-5	2,4-Dinitrophenol	50	U
100-02-7	4-Nitrophenol	50	U
132-64-9	Dibenzofuran	10	U
121-14-2	2,4-Dinitrotoluene	10	U
84-66-2	Diethylphthalate	10	U
7005-72-3	4-Chlorophenyl-phenylether	10	U
86-73-7	Fluorene	10	U
100-01-6	4-Nitroaniline	50	U
534-52-1	4,6-Dinitro-2-Methylphenol	50	U
86-30-6	N-Nitrosodiphenylamine (1)	10	U
101-55-3	4-Bromophenyl-phenylether	10	U
118-74-1	Hexachlorobenzene	10	U
87-86-5	Pentachlorophenol	50	U
85-01-8	Phenanthrene	10	U
120-12-7	Anthracene	10	U
84-74-2	Di-n-Butylphthalate	10	U
206-44-0	Fluoranthene	10	U
129-00-0	Pyrene	10	U
85-68-7	Butylbenzylphthalate	10	U
91-94-1	3,3'-Dichlorobenzidine	20	U
56-55-3	Benzo(a)Anthracene	10	U
218-01-9	Chrysene	10	U
117-81-7	bis(2-Ethylhexyl)Phthalate	10	U
117-84-0	Di-n-Octyl Phthalate	10	U
205-99-2	Benzo(b)Fluoranthene	10	U
207-08-9	Benzo(k)Fluoranthene	10	U
50-32-8	Benzo(a)Pyrene	10	U
193-39-5	Indeno(1,2,3-cd)Pyrene	10	U
53-70-3	Dibenzo(a,h)Anthracene	10	U
191-24-2	Benzo(g,h,i)Perylene	10	U

(1) - Cannot be separated from Diphenylamine

FORM I SV-2 1/87 Rev.

1F
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

828023-12

Lab Name: COMPUCHEM LABS Contract: (2-88)-REVS

Lab Code: COMPU Case No.: 17551 SAS No.: _____ SDG No.: 01

Matrix: (soil/water) WATER Lab Sample ID: 279857

Sample wt/vol: 1000 (g/mL) ML Lab File ID: GH079857B05

Level: (low/med) LOW Date Received: 08/10/89

% Moisture: not dec. ____ dec. ____ Date Extracted: 08/12/89

Extraction: (SepF/Cont/Sonc) SEPF Date Analyzed: 08/12/89

GPC Cleanup: (Y/N) N pH: _____ Dilution Factor: 1.0

Number TICs found: 6

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	UNKNOWN	8.02	24	J
2.	UNKNOWN	8.44	42	J
3.	UNKNOWN ALKYLACID	8.49	34	J
4. 76-22-2	CAMPHOR (ACN)	8.87	18	J
5.	UNKNOWN	10.49	18	J
6.	UNKNOWN	11.95	16	J

FORM I SV-TIC 1/87 Rev.

1D
PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

828023-12

Lab Name: COMPUCHEM LABORATORIES Contract: (2-88)-REVS

Lab Code: COMPU Case No.: 17551 SAS No.: _____ SDG No.: 1

Matrix: (soil/water) WATER Lab Sample ID: 279857

Sample wt/vol: 1000 (g/mL) ML Lab File ID: _____

Level: (low/med) LOW Date Received: 08/10/89

% Moisture: not dec. _____ dec. _____ Date Extracted: 08/18/89

Extraction: (SepF/Cont/Sonc) SEPF Date Analyzed: 08/18/89

GPC Cleanup: (Y/N) N pH: _____ Dilution Factor: 1.00

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
319-84-6	alpha-BHC	0.050	U
319-85-7	beta-BHC	0.050	U
319-86-8	delta-BHC	0.050	U
58-89-9	gamma-BHC (Lindane)	0.050	U
76-44-8	Heptachlor	0.050	U
309-00-2	Aldrin	0.050	U
1024-57-3	Heptachlor epoxide	0.050	U
959-98-8	Endosulfan I	0.050	U
60-57-1	Dieldrin	0.10	U
72-55-9	4,4'-DDE	0.10	U
72-20-8	Endrin	0.10	U
33213-65-9	Endosulfan II	0.10	U
72-54-8	4,4'-DDD	0.10	U
1031-07-8	Endosulfan sulfate	0.10	U
50-29-3	4,4'-DDT	0.10	U
72-43-5	Methoxychlor	0.50	U
53494-70-5	Endrin ketone	0.10	U
5103-71-9	alpha-Chlordane	0.50	U
5103-74-2	gamma-Chlordane	0.50	U
8001-35-2	Toxaphene	1.0	U
12674-11-2	Aroclor-1016	0.50	U
11104-28-2	Aroclor-1221	0.50	U
11141-16-5	Aroclor-1232	0.50	U
53469-21-9	Aroclor-1242	0.50	U
12672-29-6	Aroclor-1248	0.50	U
11097-69-1	Aroclor-1254	1.0	U
11096-82-5	Aroclor-1260	1.0	U

FORM I PEST 1/87 Rev.

U.S. EPA - CLP

1

INORGANIC ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

828023-12

Lab Name: COMPUCHEM LABORATORIES Contract: 787

Lab Code: COMPU Case No.: 25550 SAS No.: _____ SDG No.: 17551A

Matrix (soil/water): WATER Lab Sample ID: 279857

Level (low/med): LOW Date Received: 08/10/89

% Solids: 0.0

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

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	68.2	B		P
7440-36-0	Antimony	50.2	U		P
7440-38-2	Arsenic	2.7	B	WN	F
7440-39-3	Barium	364			P
7440-41-7	Beryllium	.70	U		P
7440-43-9	Cadmium	4.4	U		P
7440-70-2	Calcium	15500			P
7440-47-3	Chromium	6.2	U		P
7440-48-4	Cobalt	3.9	U		P
7440-50-8	Copper	28.4			P
7439-89-6	Iron	263			P
7439-92-1	Lead	3.5	B	N	F
7439-95-4	Magnesium	23600			P
7439-96-5	Manganese	13.3	B		P
7439-97-6	Mercury	.20	U	N	CV
7440-02-0	Nickel	41.4		*	P
7440-09-7	Potassium	90100			P
7782-49-2	Selenium	16.0	U	WN	F
7440-22-4	Silver	5.7	U		P
7440-23-5	Sodium	3100000		*	P
7440-28-0	Thallium	1.3	U	WN	F
7440-62-2	Vanadium	7.1	B		P
7440-66-6	Zinc	35.8			P
	Cyanide	16.7			AS

Color Before: YELLOW Clarity Before: CLEAR Texture: _____

Color After: YELLOW Clarity After: CLEAR Artifacts: _____

Comments:

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FORM I - IN 7/87

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

828023-13

Lab Name: COMPUCHEM LABS Contract: (2-88)-REVS

Lab Code: COMPU Case No.: 17551 SAS No.: _____ SDG No.: 01

Matrix: (soil/water) WATER Lab Sample ID: 279872

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: CN079872C19

Level: (low/med) LOW Date Received: 08/10/89

% Moisture: not dec. ____ Date Analyzed: 08/14/89

Column: (pack/cap) CAP Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
74-87-3	Chloromethane	10	U
74-83-9	Bromomethane	10	U
75-01-4	Vinyl Chloride	10	U
75-00-3	Chloroethane	10	U
75-09-2	Methylene Chloride	5	U
67-64-1	Acetone	10	U
75-15-0	Carbon Disulfide	5	U
75-35-4	1,1-Dichloroethene	5	U
75-34-3	1,1-Dichloroethane	5	U
540-59-0	1,2-Dichloroethene (total)	5	U
67-66-3	Chloroform	5	U
107-06-2	1,2-Dichloroethane	5	U
78-93-3	2-Butanone	10	U
71-55-6	1,1,1-Trichloroethane	5	U
56-23-5	Carbon Tetrachloride	5	U
108-05-4	Vinyl Acetate	10	U
75-27-4	Bromodichloromethane	5	U
78-87-5	1,2-Dichloropropane	5	U
10061-01-5	cis-1,3-Dichloropropene	5	U
79-01-6	Trichloroethene	5	U
124-48-1	Dibromochloromethane	5	U
79-00-5	1,1,2-Trichloroethane	5	U
71-43-2	Benzene	5	U
10061-02-6	Trans-1,3-Dichloropropene	5	U
75-25-2	Bromoform	5	U
108-10-1	4-Methyl-2-Pentanone	51	
591-78-6	2-Hexanone	10	U
127-18-4	Tetrachloroethene	5	U
79-34-5	1,1,2,2-Tetrachloroethane	5	U
108-88-3	Toluene	2	J
108-90-7	Chlorobenzene	5	U
100-41-4	Ethylbenzene	5	U
100-42-5	Styrene	5	U
1330-20-7	Total Xylenes	5	U

FORM I VOA 1/87 Rev.

1E
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

828023-13

Lab Name: COMPUCHEM LABS Contract: (2-88)-REVS

Lab Code: COMPU Case No.: 17551 SAS No.: _____ SDG No.: 01

Matrix: (soil/water) WATER Lab Sample ID: 279872

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: CN079872C19

Level: (low/med) LOW Date Received: 08/10/89

% Moisture: not dec. ____ Date Analyzed: 08/14/89

Column (pack/cap) CAP Dilution Factor: 1.0

Number TICs found: 0

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q

FORM I VOA-TIC 1/87 Rev.

1B
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

828023-13

Lab Name: COMPUCHEM LABS Contract: (2-88)-REVS

Lab Code: COMPU Case No.: 17551 SAS No.: _____ SDG No.: 01

Matrix: (soil/water) WATER Lab Sample ID: 279872

Sample wt/vol: 1000 (g/mL) ML Lab File ID: GH079872B05

Level: (low/med) LOW Date Received: 08/10/89

% Moisture: not dec. ____ dec. ____ Date Extracted: 08/12/89

Extraction: (SepF/Cont/Sonc) SEPF Date Analyzed: 08/13/89

GPC Cleanup: (Y/N) N pH: _____ Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
108-95-2	Phenol	10	U
111-44-4	bis(2-Chloroethyl)Ether	10	U
95-57-8	2-Chlorophenol	10	U
541-73-1	1,3-Dichlorobenzene	10	U
106-46-7	1,4-Dichlorobenzene	10	U
100-51-6	Benzyl Alcohol	10	U
95-50-1	1,2-Dichlorobenzene	10	U
95-48-7	2-Methylphenol	10	U
39638-32-9	bis(2-Chloroisopropyl)Ether	10	U
106-44-5	4-Methylphenol	10	
621-64-7	N-Nitroso-Di-n-Propylamine	10	U
67-72-1	Hexachloroethane	10	U
98-95-3	Nitrobenzene	10	U
78-59-1	Isophorone	10	U
88-75-5	2-Nitrophenol	10	U
105-67-9	2,4-Dimethylphenol	11	
65-85-0	Benzoic Acid	50	U
111-91-1	bis(2-Chloroethoxy)Methane	10	U
120-83-2	2,4-Dichlorophenol	10	U
120-82-1	1,2,4-Trichlorobenzene	10	U
91-20-3	Naphthalene	10	U
106-47-8	4-Chloroaniline	10	U
87-68-3	Hexachlorobutadiene	10	U
59-50-7	4-Chloro-3-Methylphenol	10	U
91-57-6	2-Methylnaphthalene	10	U
77-47-4	Hexachlorocyclopentadiene	10	U
88-06-2	2,4,6-Trichlorophenol	10	U
95-95-4	2,4,5-Trichlorophenol	50	U
91-58-7	2-Chloronaphthalene	10	U
88-74-4	2-Nitroaniline	50	U
131-11-3	Dimethyl Phthalate	10	U
208-96-8	Acenaphthylene	10	U
606-20-2	2,6-Dinitrotoluene	10	U

FORM I SV-1 1/87 Rev.

1C
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

828023-13

Lab Name: COMPUCHEM LABS Contract: (2-88)-REVS

Lab Code: COMPU Case No.: 17551 SAS No.: _____ SDG No.: 01

Matrix: (soil/water) WATER Lab Sample ID: 279872

Sample wt/vol: 1000 (g/mL) ML Lab File ID: GH079872B05

Level: (low/med) LOW Date Received: 08/10/89

% Moisture: not dec. ____ dec. ____ Date Extracted: 08/12/89

Extraction: (SepF/Cont/Sonc) SEPF Date Analyzed: 08/13/89

GPC Cleanup: (Y/N) N pH: _____ Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
99-09-2	3-Nitroaniline	50	U
83-32-9	Acenaphthene	10	U
51-28-5	2,4-Dinitrophenol	50	U
100-02-7	4-Nitrophenol	50	U
132-64-9	Dibenzofuran	10	U
121-14-2	2,4-Dinitrotoluene	10	U
84-66-2	Diethylphthalate	10	U
7005-72-3	4-Chlorophenyl-phenylether	10	U
86-73-7	Fluorene	10	U
100-01-6	4-Nitroaniline	50	U
534-52-1	4,6-Dinitro-2-Methylphenol	50	U
86-30-6	N-Nitrosodiphenylamine (1)	10	U
101-55-3	4-Bromophenyl-phenylether	10	U
118-74-1	Hexachlorobenzene	10	U
87-86-5	Pentachlorophenol	50	U
85-01-8	Phenanthrene	10	U
120-12-7	Anthracene	10	U
84-74-2	Di-n-Butylphthalate	10	U
206-44-0	Fluoranthene	10	U
129-00-0	Pyrene	10	U
85-68-7	Butylbenzylphthalate	10	U
91-94-1	3,3'-Dichlorobenzidine	20	U
56-55-3	Benzo(a)Anthracene	10	U
218-01-9	Chrysene	10	U
117-81-7	bis(2-Ethylhexyl)Phthalate	10	U
117-84-0	Di-n-Octyl Phthalate	10	U
205-99-2	Benzo(b)Fluoranthene	10	U
207-08-9	Benzo(k)Fluoranthene	10	U
50-32-8	Benzo(a)Pyrene	10	U
193-39-5	Indeno(1,2,3-cd)Pyrene	10	U
53-70-3	Dibenzo(a,h)Anthracene	10	U
191-24-2	Benzo(g,h,i)Perylene	10	U

(1) - Cannot be separated from Diphenylamine

FORM I SV-2 1/87 Rev.

1F
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

828023-13

Lab Name: COMPUCHEM LABS Contract: (2-88)-REVS

Lab Code: COMPU Case No.: 17551 SAS No.: _____ SDG No.: 01

Matrix: (soil/water) WATER Lab Sample ID: 279872

Sample wt/vol: 1000 (g/mL) ML Lab File ID: GH079872B05

Level: (low/med) LOW Date Received: 08/10/89

% Moisture: not dec. ____ dec. ____ Date Extracted: 08/12/89

Extraction: (SepF/Cont/Sonc) SEPF Date Analyzed: 08/13/89

GPC Cleanup: (Y/N) N pH: _____ Dilution Factor: 1.0

Number TICs found: 9

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1. 25144-05-2	CYCLOPENTANOL, 2-METHYL-, CI	6.10	12	J
2.	UNKNOWN	8.02	18	J
3.	UNKNOWN	8.45	46	J
4.	UNKNOWN CYCLICALKYLACID	8.49	26	J
5. 76-22-2	CAMPHOR (ACN)	8.87	50	J
6. 99-94-5	BENZOIC ACID, 4-METHYL-	9.70	18	J
7. 99-94-5	BENZOIC ACID, 4-METHYL-	9.75	14	J
8.	UNKNOWN	10.49	18	J
9. 1453-06-1	BENZENEBUTANOIC ACID, 2,5-DI	11.95	24	J

FORM I SV-TIC 1/87 Rev.

1D
PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

828023-13

Lab Name: COMPUCHEM LABORATORIES Contract: (2-88)-REVS

Lab Code: COMPU Case No.: 17551 SAS No.: _____ SDG No.: 1

Matrix: (soil/water) WATER Lab Sample ID: 279872

Sample wt/vol: 500 (g/mL) ML Lab File ID: _____

Level: (low/med) LOW Date Received: 08/10/89

% Moisture: not dec. _____ dec. _____ Date Extracted: 08/18/89

Extraction: (SepF/Cont/Sonc) SEPF Date Analyzed: 08/18/89

GPC Cleanup: (Y/N) N pH: _____ Dilution Factor: 0.50

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
319-84-6	alpha-BHC	0.050	U
319-85-7	beta-BHC	0.050	U
319-86-8	delta-BHC	0.050	U
58-89-9	gamma-BHC (Lindane)	0.050	U
76-44-8	Heptachlor	0.050	U
309-00-2	Aldrin	0.050	U
1024-57-3	Heptachlor epoxide	0.050	U
959-98-8	Endosulfan I	0.050	U
60-57-1	Dieldrin	0.10	U
72-55-9	4,4'-DDE	0.10	U
72-20-8	Endrin	0.10	U
33213-65-9	Endosulfan II	0.10	U
72-54-8	4,4'-DDD	0.10	U
1031-07-8	Endosulfan sulfate	0.10	U
50-29-3	4,4'-DDT	0.10	U
72-43-5	Methoxychlor	0.50	U
53494-70-5	Endrin ketone	0.10	U
5103-71-9	alpha-Chlordane	0.50	U
5103-74-2	gamma-Chlordane	0.50	U
8001-35-2	Toxaphene	1.0	U
12674-11-2	Aroclor-1016	0.50	U
11104-28-2	Aroclor-1221	0.50	U
11141-16-5	Aroclor-1232	0.50	U
53469-21-9	Aroclor-1242	0.50	U
12672-29-6	Aroclor-1248	0.50	U
11097-69-1	Aroclor-1254	1.0	U
11096-82-5	Aroclor-1260	1.0	U

FORM I PEST 1/87 Rev.

U.S. EPA - CLP

1

INORGANIC ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

828023-13

Lab Name: COMPUCHEM LABORATORIES Contract: 787

Lab Code: COMPU Case No.: 25550 SAS No.: _____ SDG No.: 17551A

Matrix (soil/water): WATER Lab Sample ID: 279872

Level (low/med): LOW Date Received: 08/10/89

% Solids: 0.0

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

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	670			P
7440-36-0	Antimony	50.2	U		P
7440-38-2	Arsenic	23.2	B	N	F
7440-39-3	Barium	250			P
7440-41-7	Beryllium	.70	U		P
7440-43-9	Cadmium	4.4	U		P
7440-70-2	Calcium	11200			P
7440-47-3	Chromium	15.4			P
7440-48-4	Cobalt	3.9	U		P
7440-50-8	Copper	14.2	B		P
7439-89-6	Iron	886			P
7439-92-1	Lead	5.5	U	WN	F
7439-95-4	Magnesium	6860			P
7439-96-5	Manganese	25.0			P
7439-97-6	Mercury	.20	U	N	CV
7440-02-0	Nickel	35.8	U	*	P
7440-09-7	Potassium	152000			P
7782-49-2	Selenium	23.9	B	WN	F
7440-22-4	Silver	5.7	U		P
7440-23-5	Sodium	3630000		*	P
7440-28-0	Thallium	6.5	U	EN	F
7440-62-2	Vanadium	36.9	B		P
7440-66-6	Zinc	79.6			P
	Cyanide	15.5			AS

Color Before: BROWN Clarity Before: CLOUDY Texture: _____

Color After: YELLOW Clarity After: CLEAR Artifacts: _____

Comments:

FORM 1 - PAGE 4

THE FOLLOWING FURNACE ANALYTES ARE ESTIMATED DUE TO INTERFERENCE:

THALLIUM

FORM I - IN 7/87

APPENDIX H

ANALYTICAL DATA
RADIOLOGICAL WASTE AND ASH SAMPLES

№ 018870

CHAIN OF CUSTODY RECORD

PROJ. NO.

PROJECT NAME: Emerson Street (NYSDEC)

SAMPLERS: (Signature) Todd M. Coffee

STA. NO.	DATE	TIME	COMP.	GRAB	STATION LOCATION	NO. OF CONTAINERS	VOA (8240)	EP Tox Metals					REMARKS
	8/7/89	2:40 pm	X		SH8890807828023-101	1		X					C-3 2-6'
	8/7/89	2:30 pm		X	" -102	1	X						C-4 0-2' spoon sample
	8/7/89	3:10 pm	X		" -103	1		X					B-1 0-6'
	8/7/89	3:30 pm	X		" -104	1		X					B-2 0-6'
	8/7/89	4:30 pm		X	" -105	1	X						A-3 0-2' Spoon sample
	8/7/89	6:25 pm	X		" -106	1		X					A-5 0-6'
	8/7/89	7:30 pm		X	" -107	1	X						A-7 0-2' Spoon Sample
	8/8/89	9:45 am	X		SH8890808828023-108	1		X					TB-1 2.5-6.5'
	8/8/89	9:45 am		X	" -109	1	X						TB-1 ~3' depth
	8/8/89	11:30 am	X		" -110	1		X					TB-2 0-6.5'
	8/8/89	12:00 pm	X		" -111	1		X					TB-3 0-7'
	8/8/89	12:50 pm	X		" -112	1		X					TB-4 .5-4.5'
	8/8/89	4:15 pm		X	" -113	1		X					Incinerator Bldg Stack
	8/8/89	4:30 pm		X	" -114	1		X					Incinerator Bldg. Exhaust Burnpit
					TB								

Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
FED EX	8/4/89 2:00pm	Todd M. Coffee	Todd M. Coffee	8/4/89	FEDEX
Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
Relinquished by: (Signature)	Date / Time	Received for Laboratory by: (Signature)	Date / Time	Remarks	

Distribution: Original Accompanies Shipment; Copy to Field Files

ROY F. WESTON INC.
LIONVILLE LABORATORY

CLIENT: NYSDEC CASE SH889NYSDEC SAMPLES RECEIVED: 08-10-89
RFW #: 8908L319
W.O. #: 1667-05-01-0000

METALS NARRATIVE

The following is a summary of the quality control results and a description of any problems encountered during the analysis of this batch of samples:

1. All sample holding times as required by 40CFR136 were met for water samples. NOTE: Holding times for soil samples have not been promulgated by the USEPA.

2. All calibration verification checks were within the required control limits of 90-110% (85-115% for Hg). Calibration verification is performed using an independent standard purchased from Inorganic Ventures, Inc.

3. All preparation blanks were analyzed below the required detection limit.

4. All laboratory control standards were within the control limits of 80-120%.

   NOTE: The USEPA-CLP has dropped control limits for silver and antimony due to documented difficulties in obtaining reliable results. WESTON Analytics has adopted the same policy.

5. The analytical methods applied by the laboratory for the determination of metals, are:

As:	EPA 206.2	Hg	:	EPA 245.1
Se:	EPA 270.2	ICP Scan	:	EPA 200.7
Pb:	EPA 239.2	All others	:	EPA 200.7
Tl:	EPA 279.2	EP Leachates (except Hg)	:	200.7

WESTON

6. USEPA-CLP SOW 787 was followed for the analysis of these samples.

NOTE: For solid samples, all results are reported on a dry weight basis.

Debra K. White
Inorganic Section Manager
Lionville Analytical Laboratory

9/6/89
Date

[illegible] OF TERMS - INORGANIC REPORTS

DA[illegible]

U [illegible] that the parameter was not detected at [illegible] the reported limit. The associated numerical value is the sample detection limit.

* - Indicates that the original sample result is greater than 4x the spike amount added. The USEPA-CLP has determined that spike results on samples where this occurs may be unreliable and therefore the control limits are not applicable.

ABBREVIATIONS

MB	-	Method or preparation blank
MS	-	Matrix Spike
MSD	-	Matrix Spike Duplicate
REP	-	Sample Replicate
LC	-	Indicates a method LCS or Blank Spike
NC	-	Not calculable, result below the detection limit

LABORATORY CHRONOLOGY AND HOLDTIME REPORT

The test code listed indicates the specific analysis or preparation procedure employed. The codes may be interpreted as follows:

MAAW	Metals prep test for AA digestion, water matrix.
MAAS	Metals prep test for AA digestion, soil matrix.
MICW	Metals prep test for ICP digestion, water matrix.
MICS	Metals prep test for ICP digestion, soil matrix.
M**TO	This type of code indicates a total metal analysis (eg. MAGTO indicates an analysis for total silver).
M**SO	This type of code indicates a soluble metal analysis. (eg. MAGSO indicates an analysis for soluble silver).
M**EP	[illegible] code indicates an EPTOXICITY metals [illegible]. MAGEP indicates an analysis for eptox [illegible]
I**TO	[illegible] type of code indicates a non-metallic total analysis. There is also a complimentary soluble analysis for each of these codes (eg. ICNTO indicates an analysis for total cyanide).

A suffix of -R or -S following these codes indicates a replicate or spike analysis respectively.

ROY F. WESTON INC.

[illegible]ICS DATA SUMMARY REPORT 09/[illegible]

Char. of E.P. Tox. MAX. Conc.

CLIENT: CASE S[illegible]
WORK ORDER: 1667-[illegible]0008

WESTON BATCH #: 8908L319

SAMPLE	SITE ID	ANALYTE		RESULT		UNITS	REPORTING LIMIT
-009	828023-108	SILVER, LEACHATE	5000	500	u	UG/L	500
		ARSENIC, LEACHATE	5000	500	u	UG/L	500
		BARIUM, LEACHATE	100,000	1330		UG/L	1000
		CADMIUM, LEACHATE	1,000	100	u	UG/L	100
		CHROMIUM, LEACHATE	5,000	500	u	UG/L	500
		MERCURY, LEACHATE	200	0.20	u	UG/L	0.20
		LEAD, LEACHATE	5,000	500	u	UG/L	500
		SELENIUM, LEACHATE	1,000	100	u	UG/L	100
-010	828023-110	SILVER, LEACHATE		500	u	UG/L	500
		ARSENIC, LEACHATE		500	u	UG/L	500
		BARIUM, LEACHATE		1000	u	UG/L	1000
		CADMIUM, LEACHATE		100	u	UG/L	100
		CHROMIUM, LEACHATE		500	u	UG/L	500
		MERCURY, LEACHATE		0.20	u	UG/L	0.2
		LEAD, LEACHATE		500	u	UG/L	500
		SELENIUM, LEACHATE		100	u	UG/L	100

[redacted] DATA SUMMARY REPORT [redacted]

CLIENT: CAS[redacted]
WORK ORDER: 16[redacted]

WESTON BATCH #: 8908L319

SAMPLE	SITE ID	ANALYTE	RESULT		UNITS	REPORTING LIMIT
-011	828023-111	SILVER, LEACHATE	500	u	UG/L	500
		ARSENIC, LEACHATE	500	u	UG/L	500
		BARIUM, LEACHATE	1000	u	UG/L	1000
		CADMIUM, LEACHATE	100	u	UG/L	100
		CHROMIUM, LEACHATE	500	u	UG/L	500
		MERCURY, LEACHATE	0.20	u	UG/L	0.20
		LEAD, LEACHATE	500	u	UG/L	500
		SELENIUM, LEACHATE	100	u	UG/L	100
-012	828023-112	SILVER, LEACHATE	500	u	UG/L	500
		ARSENIC, LEACHATE	500	u	UG/L	500
		BARIUM, LEACHATE	1000	u	UG/L	1000
		CADMIUM, LEACHATE	100	u	UG/L	100
		CHROMIUM, LEACHATE	500	u	UG/L	500
		MERCURY, LEACHATE	0.20	u	UG/L	0.20
		LEAD, LEACHATE	2180		UG/L	500
		SELENIUM, LEACHATE	100	u	UG/L	100

[redacted]

[redacted]CS DATA SUMMARY REPORT [redacted]

CLIENT: CASE [redacted]
WORK ORDER: I667[redacted]00

WESTON BATCH #: 8908L319

SAMPLE	SITE ID	ANALYTE	MAX CONC	RESULT		UNITS	REPORTING LIMIT
-013	828023-113	SILVER, LEACHATE		500	u	UG/L	500
		ARSENIC, LEACHATE		500	u	UG/L	500
		BARIUM, LEACHATE		1000	u	UG/L	1000
		CADMIUM, LEACHATE	1,000	✓ 12400		UG/L	100
		CHROMIUM, LEACHATE		500	u	UG/L	500
		MERCURY, LEACHATE		0.56		UG/L	0.20
		LEAD, LEACHATE	5,000	✓ 5610		UG/L	500
		SELENIUM, LEACHATE		124		UG/L	100
-014	828023-114	SILVER, LEACHATE		500	u	UG/L	500
		ARSENIC, LEACHATE		500	u	UG/L	500
		BARIUM, LEACHATE		1790		UG/L	1000
		CADMIUM, LEACHATE		✓ 909		UG/L	100
		CHROMIUM, LEACHATE		500	u	UG/L	500
		MERCURY, LEACHATE		1.4		UG/L	0.20
		LEAD, LEACHATE	5,000	✓ 19700		UG/L	500
		SELENIUM, LEACHATE		100	u	UG/L	100

ROY F. WESTON INC.

METHOD BLANK DATA SUMMARY PAGE 00/00/00

CLIENT: CASE [illegible]
WORK ORDER: 1667[illegible]0000

WESTON BATCH #: 8908L319

SAMPLE	SITE ID	ANALYTE	RESULT		UNITS	REPORTING LIMIT
BLANK1	89L0852-MB1	SILVER, LEACHATE	500	u	UG/L	500
		ARSENIC, LEACHATE	500	u	UG/L	500
		BARIUM, LEACHATE	1000	u	UG/L	1000
		CADMIUM, LEACHATE	100	u	UG/L	100
		CHROMIUM, LEACHATE	500	u	UG/L	500
		LEAD, LEACHATE	500	u	UG/L	500
		SELENIUM, LEACHATE	100	u	UG/L	100
BLANK1	89C121A-MB1	MERCURY, TOTAL	0.20	u	UG/L	0.20
BLANK2	89C121A-MB2	MERCURY, TOTAL	0.20	u	UG/L	0.20

[redacted]

[redacted]CS DUPLICATE SPIKE REPORT 09/06/[redacted]

CLIENT: CASE[redacted]

WORK ORDER: 1667-[redacted]

WESTON BATCH #: 8908L319

SAMPLE	SITE ID	ANALYTE	SPIKE#1 %RECOV	SPIKE#2 %RECOV	%DIFF
LCS2	89L0852-LC2	SILVER, LCS	96.8	93.1	3.9
		ARSENIC, LCS	91.6	90.6	1.2
		BARIUM, LCS	83.7	86.7	3.5
		CADMIUM, LCS	99.0	94.6	4.5
		CHROMIUM, LCS	93.9	92.0	2.0
		LEAD, LCS	104	104	0.27
		SELENIUM, LCS	93.8	94.9	1.2
LCS2	89C121A-LC2	MERCURY, LCS	110	116	5.0

ROY F. WESTON INC.

LABORATORY CONTROL STANDARDS REPORT 09/06/89

SAMPLE	SITE ID	ANALYTE	SPIKED SAMPLE	SPIKED AMOUNT	UNITS	%RECOV
LCS1	89L0852-LC1	SILVER, LCS	484	500	UG/L	96.8
		ARSENIC, LCS	9160	10000	UG/L	91.6
		BARIUM, LCS	4190	5000	UG/L	83.7
		CADMIUM, LCS	248	250	UG/L	99.0
		CHROMIUM, LCS	470	500	UG/L	93.9
		LEAD, LCS	2600	2500	UG/L	104
		SELENIUM, LCS	9380	10000	UG/L	93.8
LCS2	89L0852-LC2	SILVER, LCS	466	500	UG/L	93.1
		ARSENIC, LCS	9060	10000	UG/L	90.6
		BARIUM, LCS	4340	5000	UG/L	86.7
		CADMIUM, LCS	237	250	UG/L	94.6
		CHROMIUM, LCS	460	500	UG/L	92.0
		LEAD, LCS	2590	2500	UG/L	104
		SELENIUM, LCS	9490	10000	UG/L	94.9
LCS1	89C121A-LC1	MERCURY, LCS	2.2	2.0	UG/L	110
LCS2	89C121A-LC2	MERCURY, LCS	2.3	2.0	UG/L	116

ROY F. WESTON INC.
LIONVILLE LABORATORY

CLIENT: NYSDEC CASE SH889NYSDEC SAMPLES RECEIVED: 08-10-89
RFW #: 8908L318
W.O. #: 1667-05-01-0000

METALS NARRATIVE

The following is a summary of the quality control results and a description of any problems encountered during the analysis of this batch of samples:

1. All sample holding times as required by 40CFR136 were met for water samples. Note: Holding times for soil samples have not been promulgated by the USEPA.

2. All calibration verification checks were within the required control limits of 90-110% (85-115% for Hg). Calibration verification is performed using an independent standard purchased from Inorganic Ventures, Inc.

3. All preparation blanks were analyzed below the required detection limit.

4. All laboratory control standards were within the control limits of 80-120%.

   Note: The USEPA-CLP has dropped control limits for silver and antimony due to documented difficulties in obtaining reliable results. WESTON Analytics has adopted the same policy.

5. Matrix spike recoveries are summarized on the Inorganics Accuracy Report contained within this document. Some recoveries fell outside of the 75-125% guidance limits. This may be due to an interference present in the sample matrix and/or sample inhomogeneity.

6. Replicate results are summarized on the Inorganic Precision Report contained within this document. Some results fell outside of the 20% RPD guidance limit. This may be due to sample inhomogeneity.

WESTON

7. The analytical methods applied by the laboratory for the determination of metals, are:

As :	EPA 206.2	Hg	: EPA 245.1
Se :	EPA 270.2	ICP Scan	: EPA 200.7
Pb :	EPA 239.2	All others	: EPA 200.7
Tl :	EPA 279.2	EP Leachates (except Hg):	200.7

8. USEPA-CLP SOW 787 was followed for the analysis of these samples.

NOTE: For solid samples, all results are reported on a dry weight basis.

Debra K. White 9/5/89
Date

Debra K. White
Inorganic Section Manager
Lionville Analytical Laboratory

ROY F. WESTON, INC.

GLOSSARY OF TERMS - INORGANIC REPORTS

DATA QUALIFIERS

U - Indicates that the parameter was not detected at or above the reported limit. The associated numerical value is the sample detection limit.

* - Indicates that the original sample result is greater than 4x the spike amount added. The USEPA-CLP has determined that spike results on samples where this occurs may be unreliable and, therefore, the control limits are not applicable.

ABBREVIATIONS

MB - Method or preparation blank.
MS - Matrix Spike.
MSD - Matrix Spike Duplicate.
REP - Sample Replicate.
LC - Indicates a method LCS or Blank Spike.
NC - Not calculable, result below the detection limit.

LABORATORY CHRONOLOGY AND HOLDTIME REPORT

The test code listed indicates the specific analysis or preparation procedure employed. The codes may be interpreted as follows:

MAAW - Metals prep test for AA digestion, water matrix.
MAAS - Metals prep test for AA digestion, soil matrix.
MICW - Metals prep test for ICP digestion, water matrix.
MICS - Metals prep test for ICP digestion, soil matrix.

M**TO- This type of code indicates a total metal analysis (eg. MAGTO indicates an analysis for total silver).

M**SO- This type of code indicates a soluble metal analysis. (eg. MAGSO indicates an analysis for soluble silver).

M**EP- This type of code indicates an EPTOXICITY metals analysis (eg. MAGEP indicates an analysis for eptox silver).

I**TO- This type of code indicates a non-metallic total analysis. There is also a complimentary soluble analysis for each of these codes (eg. ICNTO indicates an analysis for total cyanide).

A suffix of -R or -S following these codes indicates a replicate or spike analysis respectively.

ROY F. WESTON INC.

INORGANICS DATA SUMMARY REPORT 09/05/89

CLIENT: CASE SH889NYSDEC
WORK ORDER: 1667-05-01-0000

WESTON BATCH #: 8908L318

SAMPLE	SITE ID	ANALYTE	Char. of EP TOX MAX. CONC.	RESULT		UNITS	REPORTING LIMIT
-008	828023-101 LEACH	SILVER, LEACHATE	5,000	500	u	UG/L	500
		ARSENIC, LEACHATE	5,000	500	u	UG/L	500
		BARIUM, LEACHATE	100,000	1000	u	UG/L	1000
		CADMIUM, LEACHATE	1,000	160		UG/L	100
		CHROMIUM, LEACHATE	5,000	500	u	UG/L	500
		MERCURY, LEACHATE	200	0.20	u	UG/L	0.20
		LEAD, LEACHATE	5,000	913		UG/L	500
		SELENIUM, LEACHATE	1,000	100	u	UG/L	100
-009	828023-103 LEACH	SILVER, LEACHATE		500	u	UG/L	500
		ARSENIC, LEACHATE		500	u	UG/L	500
		BARIUM, LEACHATE		1000	u	UG/L	1000
		CADMIUM, LEACHATE		100	u	UG/L	100
		CHROMIUM, LEACHATE		500	u	UG/L	500
		MERCURY, LEACHATE		0.20	u	UG/L	0.20
		LEAD, LEACHATE		500	u	UG/L	500
		SELENIUM, LEACHATE		100	u	UG/L	100

ROY F. WESTON INC.

INORGANICS DATA SUMMARY REPORT 09/05/89

CLIENT: CASE SH889NYSDEC
WORK ORDER: 1667-05-01-0000

WESTON BATCH #: 8908L318

SAMPLE	SITE ID	ANALYTE	MAX CONC	RESULT		UNITS	REPORTING LIMIT
-010	828023-104 LEACH	SILVER, LEACHATE		500	u	UG/L	500
		ARSENIC, LEACHATE		500	u	UG/L	500
		BARIUM, LEACHATE		1000	u	UG/L	1000
		CADMIUM, LEACHATE		100	u	UG/L	100
		CHROMIUM, LEACHATE		500	u	UG/L	500
		MERCURY, LEACHATE		0.20	u	UG/L	0.20
		LEAD, LEACHATE	5,000	1700		UG/L	500
		SELENIUM, LEACHATE		100	u	UG/L	100
-011	828023-106 LEACH	SILVER, LEACHATE		500	u	UG/L	500
		ARSENIC, LEACHATE		500	u	UG/L	500
		BARIUM, LEACHATE		1000	u	UG/L	1000
		CADMIUM, LEACHATE		100	u	UG/L	100
		CHROMIUM, LEACHATE		500	u	UG/L	500
		MERCURY, LEACHATE		0.20	u	UG/L	0.20
		LEAD, LEACHATE	5,000	4010		UG/L	500
		SELENIUM, LEACHATE		100	u	UG/L	100

ROY F. WESTON INC.

INORGANICS METHOD BLANK DATA SUMMARY PAGE 09/01/89

CLIENT: CASE SH889NYSDEC
WORK ORDER: 1667-05-01-0000

WESTON BATCH #: 8908L318

SAMPLE	SITE ID	ANALYTE	RESULT		UNITS	REPORTING LIMIT
BLANK1	89L0852-MB1	SILVER, LEACHATE	500	u	UG/L	500
		ARSENIC, LEACHATE	500	u	UG/L	500
		BARIUM, LEACHATE	1000	u	UG/L	1000
		CADMIUM, LEACHATE	100	u	UG/L	100
		CHROMIUM, LEACHATE	500	u	UG/L	500
		LEAD, LEACHATE	500	u	UG/L	500
		SELENIUM, LEACHATE	100	u	UG/L	100
BLANK1	89C120A-MB1	MERCURY, TOTAL	0.20	u	UG/L	0.20
BLANK2	89C120A-MB2	MERCURY, TOTAL	0.20	u	UG/L	0.20
BLANK3	89C120A-MB3	MERCURY, TOTAL	0.20	u	UG/L	0.20

ROY F. WESTON INC.

INORGANICS ACCURACY REPORT 09/01/89

CLIENT: CASE SH889NYSDEC
WORK ORDER: 1667-05-01-0000

WESTON BATCH #: 8908L318

SAMPLE	SITE ID	ANALYTE	SPIKED SAMPLE	INITIAL RESULT		SPIKED AMOUNT	%RECOV
-008	828023-101 LEACH	SILVER, LEACHATE	40.2	500	u	50.0	80.4
		ARSENIC, LEACHATE	1840	500	u	2000	92.2
		BARIUM, LEACHATE	2040	1000	u	2000	102
		CADMIUM, LEACHATE	196	160		50.0	71.2
		CHROMIUM, LEACHATE	165	500	u	200	82.6
		LEAD, LEACHATE	1350	913		500	87.1
		SELENIUM, LEACHATE	2030	100	u	2000	102

ROY F. WESTON INC.

INORGANICS DUPLICATE SPIKE REPORT 09/01/89

CLIENT: CASE SH889NYSDEC
WORK ORDER: 1667-05-01-0000

WESTON BATCH #: 8908L318

SAMPLE	SITE ID	ANALYTE	SPIKE#1 %RECOV	SPIKE#2 %RECOV	%DIFF
LCS2	89L0852-LC2	SILVER, LCS	96.8	93.1	3.9
		ARSENIC, LCS	91.6	90.6	1.2
		BARIUM, LCS	83.7	86.7	3.5
		CADMIUM, LCS	99.0	94.6	4.5
		CHROMIUM, LCS	93.9	92.0	2.0
		LEAD, LCS	104	104	0.27
		SELENIUM, LCS	93.8	94.9	1.2
LCS2	89C120A-LC2	MERCURY, LCS	81.6	105	25.4

ROY F. WESTON INC.

INORGANICS PRECISION REPORT 09/01/89

CLIENT: CASE SH889NYSDEC
WORK ORDER: 1667-05-01-0000

WESTON BATCH #: 8908L318

SAMPLE	SITE ID	ANALYTE	INITIAL RESULT		REPLICATE		% DIFF
-008REP	828023-101 LEACH	SILVER, LEACHATE	500	u	500	u	NC
		ARSENIC, LEACHATE	500	u	500	u	NC
		BARIUM, LEACHATE	1000	u	1000	u	NC
		CADMIUM, LEACHATE	160		160		0.00
		CHROMIUM, LEACHATE	500	u	500	u	NC
		LEAD, LEACHATE	913		916		0.34
		SELENIUM, LEACHATE	100	u	100	u	NC

ROY F. WESTON INC.

INORGANICS LABORATORY CONTROL STANDARDS REPORT 09/01/89

SAMPLE	SITE ID	ANALYTE	SPIKED SAMPLE	SPIKED AMOUNT	UNITS	%RECOV
LCS1	89L0852-LC1	SILVER, LCS	484	500	UG/L	96.8
		ARSENIC, LCS	9160	10000	UG/L	91.6
		BARIUM, LCS	4190	5000	UG/L	83.7
		CADMIUM, LCS	248	250	UG/L	99.0
		CHROMIUM, LCS	470	500	UG/L	93.9
		LEAD, LCS	2600	2500	UG/L	104
		SELENIUM, LCS	9380	10000	UG/L	93.8
LCS2	89L0852-LC2	SILVER, LCS	466	500	UG/L	93.1
		ARSENIC, LCS	9060	10000	UG/L	90.6
		BARIUM, LCS	4340	5000	UG/L	86.7
		CADMIUM, LCS	237	250	UG/L	94.6
		CHROMIUM, LCS	460	500	UG/L	92.0
		LEAD, LCS	2590	2500	UG/L	104
		SELENIUM, LCS	9490	10000	UG/L	94.9
LCS1	89C120A-LC1	MERCURY, LCS	0.41	0.5	UG/L	81.6
LCS2	89C120A-LC2	MERCURY, LCS	1.1	1.0	UG/L	105
LCS3	89C120A-LC3	MERCURY, LCS	2.2	2.0	UG/L	110

ROY F. WESTON, INC.
Lionville Laboratory

CLIENT: NYSDEC
RFW #: 8908L319, GC/MS VOLATILE
W.O.#: 1667-05-01

SAMPLES RECEIVED: 08-10-89

NARRATIVE

The set of samples consisted of one water sample and one soil sample collected on 08-03,08-89.

The samples were analyzed according to criteria set forth in Method 8240 for TCL Volatile target compounds on 08-11,20,27-89.

The following is a summary of the QC results accompanying these sample results and a description of any problems encountered during their analysis:

1. Non-target compounds were detected in these samples.

2. Two of 30 surrogate recoveries are outside of EPA CLP QC limits. Samples with surrogate recoveries outside EPA CLP QC limits were re-analyzed. Problems with surrogates are due to matrix interferences. All requirements have been met upon re-analysis.

3. Two of 20 matrix spike/spike duplicate recoveries are outside EPA CLP QC limits. Matrix spike recoveries serve only to provide guidance to the data use regarding matrix effects; re-extraction/ re-analysis for outliers is not required by the USEPA Contract Laboratory Program.

4. The blanks contain methylene chloride and acetone (common laboratory contaminants) at levels less than 5x the CRQL.

5. The soil sample were initially analyzed within hold times, but the calibration requirements were not met for 1,1,2,2-tetrachloroethane. The sample was re-analyzed within calibration but out of hold. All data is being reported.

Carter Nulton, Ph.D.
Vice President/Laboratory Manager
Lionville Analytical Laboratory

9/7/89
DATE

WESTON

GLOSSARY OF VOA DATA

DATA QUALIFIERS

U = Compound was analyzed for but not detected. The associated numerical value is the estimated sample quantitation limit which is included and corrected for dilution and percent moisture.

J = Indicates an estimated value. This flag is used either when estimating a concentration for tentatively identified compounds where a 1:1 response is assumed or when the mass spectral data indicate the presence of a compound that meets the identification criteria but the result is less than the specified detection limit but greater than zero; for example, if the limit of detection is 10 ug/L and a concentration of 3 ug/L is calculated, it is reported as 3J.

B = This flag is used when the analyte is found in the associated blank as well as in the sample. It indicates possible/probable blank contamination. This flag is also used for a TIC as well as for a positively identified TCL compound.

E = Indicates that the compound was detected beyond the calibration range and was subsequently analyzed at a dilution.

I = Interference.

X = Additional qualifiers used as required are explained in the case narrative.

NQ = Result qualitatively confirmed but not able to quantify.

ABBREVIATIONS

BS = Indicates blank spike in which reagent grade water is spiked with the CLP matrix spiking solutions and carried through all the steps in the method. Spike recoveries are reported.

BSD = Indicates blank spike duplicate.

MS = Indicates matrix spike.

MSD = Indicates matrix spike duplicate.

DL = Indicates that surrogate recoveries were not obtained because the extract had to be diluted for analysis.

NA = Not applicable.

DF = Dilution factor.

NR = Not required.

1A
VOLATILE ORGANICS ANALYSIS SHEET

EPA SAMPLE NO. 27

828023-109

Lab Name: RF WESTON, INC Contract: 1667-05-01-0000

Lab Code: WESTON Case No.: SH889 SAS No.: _____ SDG No.: ~~SH889~~ 0808 jh

Matrix: (soil/water) SOIL Lab Sample ID: 8908L319-002

Sample wt/vol: 5.05 (g/mL) G Lab File ID: W082009

Level: (low/med) LOW Date Received: 08/10/89

% Moisture: not dec. 20 Date Analyzed: 08/20/89

Column: (pack/cap) PACK Dilution Factor: 0.990

CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG

CAS NO.	COMPOUND		
74-87-3	Chloromethane	12	U
74-83-9	Bromomethane	12	U
75-01-4	Vinyl Chloride	12	U
75-00-3	Chloroethane	12	U
75-09-2	Methylene Chloride	8	B
67-64-1	Acetone	13	B
75-15-0	Carbon Disulfide	6	U
75-35-4	1,1-Dichloroethene	6	U
75-34-3	1,1-Dichloroethane	6	U
540-59-0	1,2-Dichloroethene (total)	6	U
67-66-3	Chloroform	6	U
107-06-2	1,2-Dichloroethane	6	U
78-93-3	2-Butanone	12	U
71-55-6	1,1,1-Trichloroethane	6	U
56-23-5	Carbon Tetrachloride	6	U
108-05-4	Vinyl Acetate	12	U
75-27-4	Bromodichloromethane	6	U
78-87-5	1,2-Dichloropropane	6	U
10061-01-5	cis-1,3-Dichloropropene	6	U
79-01-6	Trichloroethene	6	U
124-48-1	Dibromochloromethane	6	U
79-00-5	1,1,2-Trichloroethane	6	U
71-43-2	Benzene	6	U
10061-02-6	Trans-1,3-Dichloropropene	6	U
75-25-2	Bromoform	6	U
108-10-1	4-Methyl-2-pentanone	12	U
591-78-6	2-Hexanone	12	U
127-18-4	Tetrachloroethene	6	U
79-34-5	1,1,2,2-Tetrachloroethane	6	U
108-88-3	Toluene	6	U
108-90-7	Chlorobenzene	6	U
100-41-4	Ethylbenzene	6	U
100-42-5	Styrene	6	U
1330-20-7	Xylene (total)	6	U

1E
VOLATILE ORGANICS ANALYSIS SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

828023-109

Lab Name: RF WESTON, INC Contract: 1667-05-01-0000

Lab Code: WESTON Case No.: SH889 SAS No.: _____ SDG No.: ~~SH889~~ 0808 jh

Matrix: (soil/water) SOIL Lab Sample ID: 8908L319-002

Sample wt/vol: 5.05 (g/mL) G Lab File ID: W082009

Level: (low/med) LOW Date Received: 08/10/89

% Moisture: not dec. 20 Date Analyzed: 08/20/89

Column: (pack/cap) PACK Dilution Factor: 0.990

Number TICs found: 0

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.				

1A
VOLATILE ORGANICS ANALYSIS SHEET

EPA SAMPLE NO. 36

828023-109RE

Lab Name: RF WESTON,INC Contract: 1667-05-01-0000

Lab Code: WESTON Case No.: SH889 SAS No.: _____ SDG No.: ~~SH889~~ 0808 jh

Matrix: (soil/water) SOIL Lab Sample ID: 8908L319-002

Sample wt/vol: 4.93 (g/mL) G Lab File ID: W082707

Level: (low/med) LOW Date Received: 08/10/89

% Moisture: not dec. 20 Date Analyzed: 08/27/89

Column: (pack/cap) PACK Dilution Factor: 1.01

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG

CAS NO.	COMPOUND		
74-87-3	Chloromethane	13	U
74-83-9	Bromomethane	13	U
75-01-4	Vinyl Chloride	13	U
75-00-3	Chloroethane	13	U
75-09-2	Methylene Chloride	12	B
67-64-1	Acetone	23	B
75-15-0	Carbon Disulfide	6	U
75-35-4	1,1-Dichloroethene	6	U
75-34-3	1,1-Dichloroethane	6	U
540-59-0	1,2-Dichloroethene (total)	6	U
67-66-3	Chloroform	6	U
107-06-2	1,2-Dichloroethane	6	U
78-93-3	2-Butanone	13	U
71-55-6	1,1,1-Trichloroethane	6	U
56-23-5	Carbon Tetrachloride	6	U
108-05-4	Vinyl Acetate	13	U
75-27-4	Bromodichloromethane	6	U
78-87-5	1,2-Dichloropropane	6	U
10061-01-5	cis-1,3-Dichloropropene	6	U
79-01-6	Trichloroethene	6	U
124-48-1	Dibromochloromethane	6	U
79-00-5	1,1,2-Trichloroethane	6	U
71-43-2	Benzene	6	U
10061-02-6	Trans-1,3-Dichloropropene	6	U
75-25-2	Bromoform	6	U
108-10-1	4-Methyl-2-pentanone	13	U
591-78-6	2-Hexanone	13	U
127-18-4	Tetrachloroethene	2	J
79-34-5	1,1,2,2-Tetrachloroethane	6	U
108-88-3	Toluene	3	J
108-90-7	Chlorobenzene	6	U
100-41-4	Ethylbenzene	6	U
100-42-5	Styrene	6	U
1330-20-7	Xylene (total)	6	U

1E

VOLATILE ORGANICS ANALYSIS SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

828023-109RE

Lab Name: RF WESTON, INC Contract: 1667-05-01-0000

Lab Code: WESTON Case No.: SH889 SAS No.: _____ SDG No.: ~~SH889~~ 0808

Matrix: (soil/water) SOIL Lab Sample ID: 8908L319-002

Sample wt/vol: 4.93 (g/mL) G Lab File ID: W082707

Level: (low/med) LOW Date Received: 08/10/89

% Moisture: not dec. 20 Date Analyzed: 08/27/89

Column: (pack/cap) PACK Dilution Factor: 1.01

Number TICs found: 0

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.				

1A
VOLATILE ORGANICS ANALYSIS SHEET

EPA SAMPLE NO. 49

828023-TB

Lab Name: RF WESTON,INC Contract: 1667-05-01-0000

Lab Code: WESTON Case No.: SH889 SAS No.: _____ SDG No.: ~~SH889~~ 0808 gi

Matrix: (soil/water) WATER Lab Sample ID: 8908L319-008

Sample wt/vol: 5.00 (g/mL) ML Lab File ID: AH8B07

Level: (low/med) LOW Date Received: 08/10/89

% Moisture: not dec. _____ Date Analyzed: 08/11/89

Column: (pack/cap) PACK Dilution Factor: 1.00

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L

CAS NO.	COMPOUND		
74-87-3	Chloromethane	10	U
74-83-9	Bromomethane	10	U
75-01-4	Vinyl Chloride	10	U
75-00-3	Chloroethane	10	U
75-09-2	Methylene Chloride	6	B
67-64-1	Acetone	10	U
75-15-0	Carbon Disulfide	5	U
75-35-4	1,1-Dichloroethene	5	U
75-34-3	1,1-Dichloroethane	5	U
540-59-0	1,2-Dichloroethene (total)	5	U
67-66-3	Chloroform	5	U
107-06-2	1,2-Dichloroethane	5	U
78-93-3	2-Butanone	10	U
71-55-6	1,1,1-Trichloroethane	5	U
56-23-5	Carbon Tetrachloride	5	U
108-05-4	Vinyl Acetate	10	U
75-27-4	Bromodichloromethane	5	U
78-87-5	1,2-Dichloropropane	5	U
10061-01-5	cis-1,3-Dichloropropene	5	U
79-01-6	Trichloroethene	5	U
124-48-1	Dibromochloromethane	5	U
79-00-5	1,1,2-Trichloroethane	5	U
71-43-2	Benzene	5	U
10061-02-6	Trans-1,3-Dichloropropene	5	U
75-25-2	Bromoform	5	U
108-10-1	4-Methyl-2-pentanone	10	U
591-78-6	2-Hexanone	10	U
127-18-4	Tetrachloroethene	5	U
79-34-5	1,1,2,2-Tetrachloroethane	5	U
108-88-3	Toluene	5	U
108-90-7	Chlorobenzene	5	U
100-41-4	Ethylbenzene	5	U
100-42-5	Styrene	5	U
1330-20-7	Xylene (total)	5	U

1E

VOLATILE ORGANICS ANALYSIS SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

828023-TB

Lab Name: RF WESTON, INC Contract: 1667-05-01-0000

Lab Code: WESTON Case No.: SH889 SAS No.: _____ SDG No.: ~~SH889~~ 0308 jh

Matrix: (soil/water) WATER Lab Sample ID: 8908L319-008

Sample wt/vol: 5.00 (g/mL) ML Lab File ID: AH8B07

Level: (low/med) LOW Date Received: 08/10/89

% Moisture: not dec. _____ Date Analyzed: 08/11/89

Column: (pack/cap) PACK Dilution Factor: 1.00

Number TICs found: 1 CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	IODOMETAHNE	4.71	20	J

ROY F. WESTON, INC.
Lionville Laboratory

CLIENT: NYSDEC
RFW #: 8908L318, GC/MS VOLATILE
W.O.#: 1667-05-01

SAMPLES RECEIVED: 08-10-89

NARRATIVE

The set of samples consisted of three soil samples collected on 08-07-89.

The samples were analyzed according to criteria set forth in Method 8240 for TCL Volatile target compounds on 08-18,20,27-89.

The following is a summary of the QC results accompanying these sample results and a description of any problems encountered during their analysis:

1. Non-target compounds were not detected in these samples.

2. Thirteen of 39 surrogate recoveries are outside of EPA CLP QC limits. Samples with surrogate recoveries outside EPA CLP QC limits were re-analyzed. Problems with surrogates are due to matrix interferences. All requirements have been met upon re-analysis.

3. Three of 20 matrix spike/spike duplicate recoveries are outside EPA CLP QC limits. Matrix spike recoveries serve only to provide guidance to the data use regarding matrix effects; re-extraction/ re-analysis for outliers is not required by the USEPA Contract Laboratory Program.

4. The blanks contain methylene chloride and acetone (common laboratory contaminants) at levels less than 5x the CRQL.

5. The samples were initially analyzed within hold times, but the response factor of 1,1,2,2-tetrachloroethane was less than 0.300. The sample was re-analyzed with a good calibration standard, but was out of hold. All data is being reported.

Carter Nulton, Ph.D.
Vice President/Laboratory Manager
Lionville Analytical Laboratory

9/7/89
DATE

WESTON

GLOSSARY OF VOA DATA

DATA QUALIFIERS

U = Compound was analyzed for but not detected. The associated numerical value is the estimated sample quantitation limit which is included and corrected for dilution and percent moisture.

J = Indicates an estimated value. This flag is used either when estimating a concentration for tentatively identified compounds where a 1:1 response is assumed or when the mass spectral data indicate the presence of a compound that meets the identification criteria but the result is less than the specified detection limit but greater than zero; for example, if the limit of detection is 10 ug/L and a concentration of 3 ug/L is calculated, it is reported as 3J.

B = This flag is used when the analyte is found in the associated blank as well as in the sample. It indicates possible/probable blank contamination. This flag is also used for a TIC as well as for a positively identified TCL compound.

E = Indicates that the compound was detected beyond the calibration range and was subsequently analyzed at a dilution.

I = Interference.

X = Additional qualifiers used as required are explained in the case narrative.

NQ = Result qualitatively confirmed but not able to quantify.

ABBREVIATIONS

BS = Indicates blank spike in which reagent grade water is spiked with the CLP matrix spiking solutions and carried through all the steps in the method. Spike recoveries are reported.

BSD = Indicates blank spike duplicate.

MS = Indicates matrix spike.

MSD = Indicates matrix spike duplicate.

DL = Indicates that surrogate recoveries were not obtained because the extract had to be diluted for analysis.

NA = Not applicable.

DF = Dilution factor.

NR = Not required.

1A
VOLATILE ORGANICS ANALYSIS SHEET

EPA SAMPLE NO.

828023-107RE

Lab Name: RF WESTON, INC Contract: 1667-05-01-0000

Lab Code: WESTON Case No.: SH889 SAS No.: ~~0807~~ SDG No.: ~~SH889~~ 0807 DC's

Matrix: (soil/water) SOIL Lab Sample ID: 8908L318-007

Sample wt/vol: 4.99 (g/mL) G Lab File ID: W082006

Level: (low/med) LOW Date Received: 08/10/89

% Moisture: not dec. 22 Date Analyzed: 08/20/89

Column: (pack/cap) PACK Dilution Factor: 1.00

CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG

CAS NO.	COMPOUND		
74-87-3	Chloromethane	13	U
74-83-9	Bromomethane	13	U
75-01-4	Vinyl Chloride	13	U
75-00-3	Chloroethane	13	U
75-09-2	Methylene Chloride	11	B
67-64-1	Acetone	8	JB
75-15-0	Carbon Disulfide	6	U
75-35-4	1,1-Dichloroethene	6	U
75-34-3	1,1-Dichloroethane	6	U
540-59-0	1,2-Dichloroethene (total)	6	U
67-66-3	Chloroform	6	U
107-06-2	1,2-Dichloroethane	6	U
78-93-3	2-Butanone	13	U
71-55-6	1,1,1-Trichloroethane	6	U
56-23-5	Carbon Tetrachloride	6	U
108-05-4	Vinyl Acetate	13	U
75-27-4	Bromodichloromethane	6	U
78-87-5	1,2-Dichloropropane	6	U
10061-01-5	cis-1,3-Dichloropropene	6	U
79-01-6	Trichloroethene	6	U
124-48-1	Dibromochloromethane	6	U
79-00-5	1,1,2-Trichloroethane	6	U
71-43-2	Benzene	6	U
10061-02-6	Trans-1,3-Dichloropropene	6	U
75-25-2	Bromoform	6	U
108-10-1	4-Methyl-2-pentanone	13	U
591-78-6	2-Hexanone	13	U
127-18-4	Tetrachloroethene	3	J
79-34-5	1,1,2,2-Tetrachloroethane	6	U
108-88-3	Toluene	6	U
108-90-7	Chlorobenzene	6	U
100-41-4	Ethylbenzene	6	U
100-42-5	Styrene	6	U
1330-20-7	Xylene (total)	6	U

1E
VOLATILE ORGANICS ANALYSIS SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

828023-107RE

Lab Name: RF WESTON, INC Contract: 1667-05-01-0000

Lab Code: WESTON Case No.: SH889 SAS No.: ~~0807~~ SDG No.: ~~SH889~~ 0807 DCS

Matrix: (soil/water) SOIL Lab Sample ID: 8908L318-007

Sample wt/vol: 4.99 (g/mL) G Lab File ID: W082006

Level: (low/med) LOW Date Received: 08/10/89

% Moisture: not dec. 22 Date Analyzed: 08/20/89

Column: (pack/cap) PACK Dilution Factor: 1.00

Number TICs found: 0

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.				

1A
VOLATILE ORGANICS ANALYSIS SHEET

EPA SAMPLE NO. 72

828023-107

Lab Name: RF WESTON,INC Contract: 1667-05-01-0000

Lab Code: WESTON Case No.: SH889 SAS No.: ~~0807~~ SDG No.: ~~SH889~~ 0807 DCS

Matrix: (soil/water) SOIL Lab Sample ID: 8908L318-007

Sample wt/vol: 4.96 (g/mL) G Lab File ID: W081810

Level: (low/med) LOW Date Received: 08/10/89

% Moisture: not dec. 22 Date Analyzed: 08/18/89

Column: (pack/cap) PACK Dilution Factor: 1.01

CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG

CAS NO.	COMPOUND		
74-87-3	Chloromethane	13	U
74-83-9	Bromomethane	13	U
75-01-4	Vinyl Chloride	13	U
75-00-3	Chloroethane	13	U
75-09-2	Methylene Chloride	41	B
67-64-1	Acetone	26	B
75-15-0	Carbon Disulfide	6	U
75-35-4	1,1-Dichloroethene	6	U
75-34-3	1,1-Dichloroethane	6	U
540-59-0	1,2-Dichloroethene (total)	6	U
67-66-3	Chloroform	6	U
107-06-2	1,2-Dichloroethane	6	U
78-93-3	2-Butanone	13	U
71-55-6	1,1,1-Trichloroethane	6	U
56-23-5	Carbon Tetrachloride	6	U
108-05-4	Vinyl Acetate	13	U
75-27-4	Bromodichloromethane	6	U
78-87-5	1,2-Dichloropropane	6	U
10061-01-5	cis-1,3-Dichloropropene	6	U
79-01-6	Trichloroethene	6	U
124-48-1	Dibromochloromethane	6	U
79-00-5	1,1,2-Trichloroethane	6	U
71-43-2	Benzene	2	J
10061-02-6	Trans-1,3-Dichloropropene	6	U
75-25-2	Bromoform	6	U
108-10-1	4-Methyl-2-pentanone	13	U
591-78-6	2-Hexanone	13	U
127-18-4	Tetrachloroethene	9	
79-34-5	1,1,2,2-Tetrachloroethane	6	U
108-88-3	Toluene	14	
108-90-7	Chlorobenzene	6	U
100-41-4	Ethylbenzene	6	U
100-42-5	Styrene	6	U
1330-20-7	Xylene (total)	6	U

1E
VOLATILE ORGANICS ANALYSIS SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

828023-107

Lab Name: RF WESTON, INC Contract: 1667-05-01-0000

Lab Code: WESTON Case No.: SH889 SAS No.: ~~0607~~ SDG No.: ~~SH889~~ 0607 DC3

Matrix: (soil/water) SOIL Lab Sample ID: 8908L318-007

Sample wt/vol: 4.96 (g/mL) G Lab File ID: W081810

Level: (low/med) LOW Date Received: 08/10/89

% Moisture: not dec. 22 Date Analyzed: 08/18/89

Column: (pack/cap) PACK Dilution Factor: 1.01

Number TICs found: 0

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.				

1A
VOLATILE ORGANICS ANALYSIS SHEET

EPA SAMPLE NO. 5

828023-105RE

Lab Name: RF WESTON,INC Contract: 1667-05-01-0000

Lab Code: WESTON Case No.: SH889 SAS No.: ~~0807~~ SDG No.: ~~SH889~~ 0807 DC5

Matrix: (soil/water) SOIL Lab Sample ID: 8908L318-005

Sample wt/vol: 4.91 (g/mL) G Lab File ID: W082704

Level: (low/med) LOW Date Received: 08/10/89

% Moisture: not dec. 4 Date Analyzed: 08/27/89

Column: (pack/cap) PACK Dilution Factor: 1.02

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG

CAS NO.	COMPOUND		
74-87-3	Chloromethane	11	U
74-83-9	Bromomethane	11	U
75-01-4	Vinyl Chloride	11	U
75-00-3	Chloroethane	11	U
75-09-2	Methylene Chloride	12	B
67-64-1	Acetone	8	JB
75-15-0	Carbon Disulfide	5	U
75-35-4	1,1-Dichloroethene	5	U
75-34-3	1,1-Dichloroethane	5	U
540-59-0	1,2-Dichloroethene (total)	5	U
67-66-3	Chloroform	5	U
107-06-2	1,2-Dichloroethane	5	U
78-93-3	2-Butanone	11	U
71-55-6	1,1,1-Trichloroethane	5	U
56-23-5	Carbon Tetrachloride	5	U
108-05-4	Vinyl Acetate	11	U
75-27-4	Bromodichloromethane	5	U
78-87-5	1,2-Dichloropropane	5	U
10061-01-5	cis-1,3-Dichloropropene	5	U
79-01-6	Trichloroethene	5	U
124-48-1	Dibromochloromethane	5	U
79-00-5	1,1,2-Trichloroethane	5	U
71-43-2	Benzene	5	U
10061-02-6	Trans-1,3-Dichloropropene	5	U
75-25-2	Bromoform	5	U
108-10-1	4-Methyl-2-pentanone	11	U
591-78-6	2-Hexanone	11	U
127-18-4	Tetrachloroethene	2	J
79-34-5	1,1,2,2-Tetrachloroethane	5	U
108-88-3	Toluene	3	J
108-90-7	Chlorobenzene	5	U
100-41-4	Ethylbenzene	5	U
100-42-5	Styrene	5	U
1330-20-7	Xylene (total)	5	U

1E

VOLATILE ORGANICS ANALYSIS SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

828023-105RE

Lab Name: RF WESTON, INC Contract: 1667-05-01-0000

Lab Code: WESTON Case No.: SH889 SAS No.: ~~0807~~ SDG No.: ~~SH889~~ CBC7 DC

Matrix: (soil/water) SOIL Lab Sample ID: 8908L318-005

Sample wt/vol: 4.91 (g/mL) G Lab File ID: W082704

Level: (low/med) LOW Date Received: 08/10/89

% Moisture: not dec. 4 Date Analyzed: 08/27/89

Column: (pack/cap) PACK Dilution Factor: 1.02

Number TICs found: 0

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.				

1A
VOLATILE ORGANICS ANALYSIS SHEET

EPA SAMPLE NO. 49

828023-105

Lab Name: RF WESTON,INC Contract: 1667-05-01-0000

Lab Code: WESTON Case No.: SH889 SAS No.: ~~0807~~ SDG No.: ~~SH889~~ 0807 DCS

Matrix: (soil/water) SOIL Lab Sample ID: 8908L318-005

Sample wt/vol: 5.04 (g/mL) G Lab File ID: W082005

Level: (low/med) LOW Date Received: 08/10/89

% Moisture: not dec. 4 Date Analyzed: 08/20/89

Column: (pack/cap) PACK Dilution Factor: 0.992

CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG

CAS NO.	COMPOUND		
74-87-3	Chloromethane	10	U
74-83-9	Bromomethane	10	U
75-01-4	Vinyl Chloride	10	U
75-00-3	Chloroethane	10	U
75-09-2	Methylene Chloride	4	JB
67-64-1	Acetone	5	JB
75-15-0	Carbon Disulfide	5	U
75-35-4	1,1-Dichloroethene	5	U
75-34-3	1,1-Dichloroethane	5	U
540-59-0	1,2-Dichloroethene (total)	5	U
67-66-3	Chloroform	5	U
107-06-2	1,2-Dichloroethane	5	U
78-93-3	2-Butanone	10	U
71-55-6	1,1,1-Trichloroethane	5	U
56-23-5	Carbon Tetrachloride	5	U
108-05-4	Vinyl Acetate	10	U
75-27-4	Bromodichloromethane	5	U
78-87-5	1,2-Dichloropropane	5	U
10061-01-5	cis-1,3-Dichloropropene	5	U
79-01-6	Trichloroethene	5	U
124-48-1	Dibromochloromethane	5	U
79-00-5	1,1,2-Trichloroethane	5	U
71-43-2	Benzene	5	U
10061-02-6	Trans-1,3-Dichloropropene	5	U
75-25-2	Bromoform	5	U
108-10-1	4-Methyl-2-pentanone	10	U
591-78-6	2-Hexanone	10	U
127-18-4	Tetrachloroethene	5	U
79-34-5	1,1,2,2-Tetrachloroethane	5	U
108-88-3	Toluene	5	U
108-90-7	Chlorobenzene	5	U
100-41-4	Ethylbenzene	5	U
100-42-5	Styrene	5	U
1330-20-7	Xylene (total)	5	U

1E
VOLATILE ORGANICS ANALYSIS SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO. 50

828023-105

Lab Name: RF WESTON, INC Contract: 1667-05-01-0000

Lab Code: WESTON Case No.: SH889 SAS No.: ~~0807~~ SDG No.: ~~SH889~~ 0807 DCS

Matrix: (soil/water) SOIL Lab Sample ID: 8908L318-005

Sample wt/vol: 5.04 (g/mL) G Lab File ID: W082005

Level: (low/med) LOW Date Received: 08/10/89

% Moisture: not dec. 4 Date Analyzed: 08/20/89

Column: (pack/cap) PACK Dilution Factor: 0.992

Number TICs found: 0

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.				

1A
VOLATILE ORGANICS ANALYSIS SHEET

EPA SAMPLE NO. 38

828023-102RE

Lab Name: RF WESTON, INC Contract: 1667-05-01-0000

Lab Code: WESTON Case No.: SH889 SAS No.: ~~0807~~ SDG No.: ~~SH889~~ DCC C807

Matrix: (soil/water) SOIL Lab Sample ID: 8908L318-002

Sample wt/vol: 4.97 (g/mL) G Lab File ID: W082004

Level: (low/med) LOW Date Received: 08/10/89

% Moisture: not dec. 14 Date Analyzed: 08/20/89

Column: (pack/cap) PACK Dilution Factor: 1.01

CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG

CAS NO.	COMPOUND		
74-87-3	Chloromethane	12	U
74-83-9	Bromomethane	12	U
75-01-4	Vinyl Chloride	12	U
75-00-3	Chloroethane	12	U
75-09-2	Methylene Chloride	9	B
67-64-1	Acetone	7	JB
75-15-0	Carbon Disulfide	6	U
75-35-4	1,1-Dichloroethene	6	U
75-34-3	1,1-Dichloroethane	6	U
540-59-0	1,2-Dichloroethene (total)	6	U
67-66-3	Chloroform	6	U
107-06-2	1,2-Dichloroethane	6	U
78-93-3	2-Butanone	12	U
71-55-6	1,1,1-Trichloroethane	6	U
56-23-5	Carbon Tetrachloride	6	U
108-05-4	Vinyl Acetate	12	U
75-27-4	Bromodichloromethane	6	U
78-87-5	1,2-Dichloropropane	6	U
10061-01-5	cis-1,3-Dichloropropene	6	U
79-01-6	Trichloroethene	6	U
124-48-1	Dibromochloromethane	6	U
79-00-5	1,1,2-Trichloroethane	6	U
71-43-2	Benzene	6	U
10061-02-6	Trans-1,3-Dichloropropene	6	U
75-25-2	Bromoform	6	U
108-10-1	4-Methyl-2-pentanone	12	U
591-78-6	2-Hexanone	12	U
127-18-4	Tetrachloroethene	11	
79-34-5	1,1,2,2-Tetrachloroethane	6	U
108-88-3	Toluene	6	U
108-90-7	Chlorobenzene	6	U
100-41-4	Ethylbenzene	6	U
100-42-5	Styrene	6	U
1330-20-7	Xylene (total)	6	U

1E

VOLATILE ORGANICS ANALYSIS SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO. 39

828023-102RE

Lab Name: RF WESTON, INC Contract: 1667-05-01-0000

Lab Code: WESTON Case No.: SH889 SAS No.: ~~0807~~ SDG No.: ~~SH889~~ 0807

Matrix: (soil/water) SOIL Lab Sample ID: 8908L318-002

Sample wt/vol: 4.97 (g/mL) G Lab File ID: W082004

Level: (low/med) LOW Date Received: 08/10/89

% Moisture: not dec. 14 Date Analyzed: 08/20/89

Column: (pack/cap) PACK Dilution Factor: 1.01

Number TICs found: 0

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.				

1A
VOLATILE ORGANICS ANALYSIS SHEET

EPA SAMPLE NO. 24

828023-102

Lab Name: RF WESTON,INC Contract: 1667-05-01-0000

Lab Code: WESTON Case No.: SH889 SAS No.: ~~0807~~ SDG No.: ~~SH889~~ 0807 DC3

Matrix: (soil/water) SOIL Lab Sample ID: 8908L318-002

Sample wt/vol: 5.01 (g/mL) G Lab File ID: W081808

Level: (low/med) LOW Date Received: 08/10/89

% Moisture: not dec. 14 Date Analyzed: 08/18/89

Column: (pack/cap) PACK Dilution Factor: 0.999

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG

CAS NO.	COMPOUND		
74-87-3	Chloromethane	12	U
74-83-9	Bromomethane	12	U
75-01-4	Vinyl Chloride	12	U
75-00-3	Chloroethane	12	U
75-09-2	Methylene Chloride	22	B
67-64-1	Acetone	10	JB
75-15-0	Carbon Disulfide	6	U
75-35-4	1,1-Dichloroethene	6	U
75-34-3	1,1-Dichloroethane	6	U
540-59-0	1,2-Dichloroethene (total)	6	U
67-66-3	Chloroform	6	U
107-06-2	1,2-Dichloroethane	6	U
78-93-3	2-Butanone	12	U
71-55-6	1,1,1-Trichloroethane	6	U
56-23-5	Carbon Tetrachloride	6	U
108-05-4	Vinyl Acetate	12	U
75-27-4	Bromodichloromethane	6	U
78-87-5	1,2-Dichloropropane	6	U
10061-01-5	cis-1,3-Dichloropropene	6	U
79-01-6	Trichloroethene	6	U
124-48-1	Dibromochloromethane	6	U
79-00-5	1,1,2-Trichloroethane	6	U
71-43-2	Benzene	6	U
10061-02-6	Trans-1,3-Dichloropropene	6	U
75-25-2	Bromoform	6	U
108-10-1	4-Methyl-2-pentanone	12	U
591-78-6	2-Hexanone	12	U
127-18-4	Tetrachloroethene	23	
79-34-5	1,1,2,2-Tetrachloroethane	6	U
108-88-3	Toluene	2	J
108-90-7	Chlorobenzene	6	U
100-41-4	Ethylbenzene	6	U
100-42-5	Styrene	6	U
1330-20-7	Xylene (total)	6	U

1E
VOLATILE ORGANICS ANALYSIS SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO. 25

828023-102

Lab Name: RF WESTON, INC Contract: 1667-05-01-0000

Lab Code: WESTON Case No.: SH889 SAS No.: ~~0807~~ SDG No.: ~~SH889~~ DCS

Matrix: (soil/water) SOIL Lab Sample ID: 8908L318-002

Sample wt/vol: 5.01 (g/mL) G Lab File ID: W081808

Level: (low/med) LOW Date Received: 08/10/89

% Moisture: not dec. 14 Date Analyzed: 08/18/89

Column: (pack/cap) PACK Dilution Factor: 0.999

Number TICs found: 0

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.				

APPENDIX I

ANALYTICAL DATA
SOIL SAMPLES FROM P-1 AND G-13

RECEIVED

COMPUCHEM LABORATORIES

SEP 21 1989

BUREAU OF
HAZARDOUS SITE CONTROL
DIVISION OF HAZARDOUS
WASTE REMEDIATION

September 15, 1989

Mr. Lawrence Bailey
New York D.E.C.
50 Wolf Road
Albany, NY 12233-3502

EMERSON ST. LANDFILL 828023

828023-01 ASH SAMPLE FROM SPLIT SPOON -P-1
" -02 " " " " " GW-13

Dear Mr. Bailey:

We at CompuChem® are pleased to provide our report for the analysis you requested. Data for the following samples are enclosed:

Your ID Number	Our ID Number	Analysis Code	Order Number	Description of Work Requested
828023-01	279081	045,046	17488	E.P.Toxicity Leachate RCRA/SDWA Pesticides
828023-02	279085	045,047		E.P.Toxicity Leachate RCRA/SDWA Herbicides
		045,869		E.P.Toxicity Leachate RCRA/SDWA Metals
		405		Ignitability
		719		pH
		407		Reactivity

To obtain additional technical information concerning this report, please contact your Sales Representative. In addition to resolving your questions, they can provide you with a complete overview of our line of services and assist you in identifying those services which will effectively and efficiently support your monitoring program.

For your convenience, your Customer Service Representative can help you place a new order, obtain information about a sample's status or obtain assistance with sample logistics. Your Sales Representative and your Customer Service Representative can be reached at 1/919-549-8263.

Thank you for choosing CompuChem®. We would like to continue providing you analytical support and services. We would appreciate your comments regarding the quality of services you have received from CompuChem®; client satisfaction is important to us. Please address your comments to your Sales or Customer Service Representative at the address given below.

Sincerely,

for Elise L. Cobb
Supervisor, Report Deliverables

cc: Accounting
(Cover letter only)

cc: Mr. Eaton
New York D.E.C.
6274 East Avon-Lima Rd.
Avon, NY 14414

№ 028442

NAC 844-1417

CHAIN OF CUSTODY RECORD

COMPUCHEM LABORATORIES

PROJ. NO.	PROJECT NAME
89-154	CompuChem

SAMPLERS: (Signature) 17488

STA. NO.	DATE	TIME	COMP.	GRAB	STATION LOCATION	NO. OF CONTAINERS	Ignitability	Reactivity	ph in soil				REMARKS
[illegible]	8·1				279081	1	X	X	X				1-4oz
[illegible]	8·1				279085	1	X	X	X				1-4oz
													2-4oz jars
													28 day TAT

Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
Joan Purdie	8·7·89 1:30pm	[illegible] 8/8/89 1:62			
Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
Relinquished by: (Signature)	Date / Time	Received for Laboratory by: (Signature)	Date / Time	Remarks	

Distribution: Original Accompanies Shipment; Copy to Field Files

INORGANICS CASE

215

COMPUCHEM LABORATORIES

CASE SUMMARY NARRATIVE
CASE #255501-17488
COMPUCHEM LABORATORIES, INC.

SAMPLES: 828023-01, 828023-02

Attached are pertinent analytical data dealing with the analyses of two (2) soil samples associated with case #255501-17488. The samples were received intact on 08/07/89 in properly sealed shipping containers with the corresponding chain-of-custody. The samples were logged into the Compuchem Laboratory Management system and scheduled for the analyses of the pesticide fractions and the herbicide fractions.

PESTICIDE
The pesticide fractions were extracted and analyzed within the prescribed holding time. The specified leachate extracts were used for the pesticide extractions. No pesticide compounds were detected in samples 828023-01 and 828023-02. The surrogate recovery data met QC acceptance criteria for the pesticide fractions.

HERBICIDE
The herbicide fractions were extracted and analyzed within the prescribed holding time. The specified leachate extracts were used for the herbicide extractions. No herbicide compounds were detected in the samples identified above. The surrogate recovery data met QC acceptance criteria for the herbicide fractions.

QC SUMMARY
The matrix spike met QC criteria for the pesticide fraction and the herbicide fraction. The associated blanks and standards also met QC criteria for the pesticide and herbicide fractions.

Release of the data contained in the hardcopy data package has been authorized by the Laboratory Manager or his designee, as verified by the following signature:

Patricia B. Hopkins

Patricia B. Hopkins 08/23/89
Technical Reviewer

COMPUCHEM LABORATORIES, INC. P.O. Box 12652 3308 Chapel Hill/Nelson Highway Research Triangle Park, NC 27709 (919) 549-8263

COMPUCHEM LABORATORIES

Case Narrative - New York D.E.C.
Case # 25550 SDG # 17488A
Contract # 787

Samples: 828023-01, 828023-02

This case consisted of two soil samples analyzed for complete HSL metals following the RCRA leachate procedure. The samples were received intact on August 4, 1989 with the Chain-of-Custody (COC) Records. The enclosed cover page reflects New York D.E.C. and CompuChem identifiers.

The associated quality control sample spike, 828023-02S, was outside the control limits for arsenic and selenium, therefore the concentrations were flagged with an 'N'. The duplicate, 828023-02D, was within the control limits for all of the elements tested.

A serial dilution was done on sample 828023-02. The adjusted sample concentrations were within 10% of the original concentrations for all of the elements tested.

In one or more of the samples, the concentrations of arsenic, beryllium, silver, and vanadium fell between the Instrument Detection Limits (IDLs) and the Contract Required Detection Limits (CRDLs). The concentrations of antimony, chromium, mercury, selenium, and thallium fell below the IDLs, while the concentrations of the remaining elements were above the CRDLs.

Anna Feather
Anna Feather
Technical Reviewer
September 6, 1989

Note: This report is paginated for reference and accountability in decreasing numerical sequence.

COMPUCHEM LABORATORIES, INC. P.O. Box 12652 3308 Chapel Hill/Nelson Highway Research Triangle Park, NC 27709 (919) 549-8263

Send This Sheet with Sample to Contract Lab

Part 2

YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION

CONTRACT LAB SAMPLE INFORMATION SHEET

Print legibly

279081

Dan Eaton	TELEPHONE NUMBER: (518) 457-0639		REGION NO
nauchem	COUNTY: Monroe	SAMPLING DATE: 8/8/89	TIME: ☐ AM ☒ PM 2:00
POINT: Ash Sample P-1		OUTFALL NUMBER	CHECK IF SAMPLING IS PART OF INSPECTION ☐
		SPDES NUMBER	FLOW MGD

CASE NUMBER	SDG NUMBER	SAMPLE NUMBER	TYPE OF SAMPLE:
SH889	0802	828023-01	☐ Grab ☐ Composite Term _____ hrs

SAMPLE MATRIX: ☐ Air ☒ Soil/Sediment ☐ Groundwater ☐ Surface Water ☐ Wastewater ☐ Other (Specify) _____

CHECK THE BOX PRECEDING THE REQUESTED ANALYSIS

PRIORITY POLLUTANTS (Water Part 136)—SPDES

- ☐ 1. All (SPDES)—includes 2-6
- ☐ 2. 13 PP Metals
- ☐ 3. Volatiles—USEPA 624 (GC/MS)
- ☐ 4. Acids Base/Neutrals (USEPA 625-GC/MS)
- ☐ 5. Cyanide
- ☐ 6. Pesticides/PCB's (USEPA 608-GC)
- ☐ 7. Halogenated Volatiles (USEPA 601-GC)
- ☐ 8. Aromatic Volatiles (USEPA 602-GC)
- ☐ 9. BOD
- ☐ 10. pH
- ☐ 11. COD
- ☐ 12. TSS
- ☐ 13. Settleable Solids
- ☐ 14. TKN
- ☐ 15. Ammonia
- ☐ 16. Nitrate/Nitrite
- ☐ 17. Total Phosphrous
- ☐ 18. Reactive Phosphrous
- ☐ 19. Oil/Grease
- ☐ 20. TOC
- ☐ 21. Total Phenols
- ☐ 22. Other _____

CONTRACT LABORATORY PROTOCOLS

- ☐ 23. (ALL)—Water—Includes 24-28
- ☐ 24. Base/Neutral/Acid (B/N/A)—Water—GC-MS
- ☐ 25. Volatile Organic Analysis VOA—Water—GC-MS
- ☐ 26. Pesticides/PCB's—Water—GC
- ☐ 27. Metals—Water
- ☐ 28. Cyanide—Water
- ☐ 29. (ALL)— Soil/Sediments—Includes 30-34
- ☐ 30. B/N/A/—Soils/Sediment—GC-MS
- ☐ 31. VOA—Soils/Sediments—GC-MS
- ☐ 32. Pesticides/PCB's—Soils/Sediment—GC
- ☐ 33. Metals—Soil/Sediment
- ☐ 34. Cyanide—Soils/Sediment
- ☐ 35. Other _____

HAZARDOUS WASTES/RCRA ANALYSIS SW-846

- ☒ 36. EP Toxicity
- ☐ 37. EP Toxicity (Metals Only)
- ☐ 38. Ignitability
- ☐ 39. Corrosivity
- ☐ 40. VOA—(USEPA 8240)
- ☐ 41. BNA—(USEPA 8270)
- ☐ 42. Pesticides/PCB's (USEPA 8080)
- ☐ 43. TCLP
- ☐ 44. TCLP (Metals Only)
- ☐ 45. Reactivity
- ☐ 46. Dioxin (USEPA 8280)
- ☐ 47. Appendix IX
- ☐ 48. Other _____

MUNICIPAL SLUDGE

- ☐ 49. RSGB-01 ☐ 50. RSSR-01 ☐ 51. RSGR-01 ☐ 52. RSRB-01 ☐ 53. RSR1-01 (EP Toxicity-Metals only + RSRR-01
- ☐ 54. RSRO-01 ☐ 55. RSSB-01 ☐ 56. RSRR-01 ☐ 57. RSRR-02 ☐ 58. Other _____

CAUTION (check if applicable)

☐ Lab Personnel are expected to use caution when handling DEC samples, however, please use special precautions when handling this sample since it is believed to contain significant concentrations of hazardous and/or toxic material(s).

RECEIVED IN GOOD CONDITION

Place QA Label Here

Calw
8/4

Send This Sheet with Sample to Contract Lab

Part 2

ORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION

CONTRACT LAB SAMPLE INFORMATION SHEET

Print legibly

279085

[redacted]an Eaton	TELEPHONE NUMBER: (518)457-0639		REGION NO:
[redacted]uChem	COUNTY: Monroe	SAMPLING DATE: 8/2/89	TIME: ☐ AM 2:00 ☐ PM
POINT: Ash Sample GW-13		OUTFALL NUMBER	CHECK IF SAMPLING IS PART OF INSPECTION ☐
		SPDES NUMBER	FLOW MGD

CASE NUMBER	SDG NUMBER	SAMPLE NUMBER	TYPE OF SAMPLE:
SH889	0802	828023-02	☒ Grab ☐ Composite Term _____ hrs

SAMPLE MATRIX:
☐ Air ☒ Soil/Sediment ☐ Groundwater ☐ Surface Water ☐ Wastewater ☐ Other (Specify) _____

CHECK THE BOX PRECEDING THE REQUESTED ANALYSIS

PRIORITY POLLUTANTS (Water Part 136)—SPDES

- ☐ 1. All (SPDES)—includes 2-6
- ☐ 2. 13 PP Metals
- ☐ 3. Volatiles—USEPA 624 (GC/MS)
- ☐ 4. Acids Base/Neutrals (USEPA 625-GC/MS)
- ☐ 5. Cyanide
- ☐ 6. Pesticides/PCB's (USEPA 608-GC)
- ☐ 7. Halogenated Volatiles (USEPA 601-GC)
- ☐ 8. Aromatic Volatiles (USEPA 602-GC)
- ☐ 9. BOD
- ☐ 10. pH
- ☐ 11. COD
- ☐ 12. TSS
- ☐ 13. Settleable Solids
- ☐ 14. TKN
- ☐ 15. Ammonia
- ☐ 16. Nitrate/Nitrite
- ☐ 17. Total Phosphrous
- ☐ 18. Reactive Phosphrous
- ☐ 19. Oil/Grease
- ☐ 20. TOC
- ☐ 21. Total Phenols
- ☐ 22. Other _____

CONTRACT LABORATORY PROTOCOLS

- ☐ 23. (ALL)—Water—Includes 24-28
- ☐ 24. Base/Neutral/Acid (B/N/A)—Water—GC-MS
- ☐ 25. Volatils Organic Analysis VOA—Water—GC-MS
- ☐ 26. Pesticides/PCB's—Water—GC
- ☐ 27. Metals—Water
- ☐ 28. Cyanide—Water
- ☐ 29. (ALL)— Soil/Sediments—Includes 30-34
- ☐ 30. B/N/A/—Soils/Sediment—GC-MS
- ☐ 31. VOA—Soils/Sediments—GC-MS
- ☐ 32. Pesticides/PCB's—Soils/Sediment—GC
- ☐ 33. Metals—Soil/Sediment
- ☐ 34. Cyanide—Soils/Sediment
- ☐ 35. Other _____

HAZARDOUS WASTES/RCRA ANALYSIS SW-846

- ☒ 36. EP Toxicity
- ☐ 37. EP Toxicity (Metals Only)
- ☐ 38. Ignitability
- ☐ 39. Corrosivity
- ☐ 40. VOA—(USEPA 8240)
- ☐ 41. BNA—(USEPA 8270)
- ☐ 42. Pesticides/PCB's (USEPA 8080)
- ☐ 43. TCLP
- ☐ 44. TCLP (Metals Only)
- ☐ 45. Reactivity
- ☐ 46. Dioxin (USEPA 8280)
- ☐ 47. Appendix IX
- ☐ 48. Other _____

MUNICIPAL SLUDGE

- ☐ 49. RSGB-01
- ☐ 50. RSSR-01
- ☐ 51. RSGR-01
- ☐ 52. RSRB-01
- ☐ 53. RSR1-01 (EP Toxicity-Metals only + RSRR-01
- ☐ 54. RSRO-01
- ☐ 55. RSSB-01
- ☐ 56. RSRR-01
- ☐ 57. RSRR-02
- ☐ 58. Other _____

CAUTION (check if applicable)

☐ Lab Personnel are expected to use caution when handling DEC samples, however, please use special precautions when handling this sample since it is believed to contain significant concentrations of hazardous and/or toxic material(s).

Place QA Label Here

Cold el4

RECEIVED IN GOOD CONDITION

U.S. EPA - CLP

COVER PAGE - INORGANIC ANALYSES DATA PACKAGE

Lab Name: COMPUCHEM LABORATORIES Contract: 787

Lab Code: COMPU Case No.: 25550 SAS No.: _____ SDG No.: 17488A

SOW No.: 7/87

Client Sample No.	Lab Sample ID.
828023-01	279081
828023-02	279085
828023-02D	279083
828023-02S	279082
LCS	279084
LEACH BLANK	079196
Prep Blank	280410

Were ICP interelement corrections applied? Yes/No YES

Were ICP background corrections applied? Yes/No YES

If yes-were raw data generated before application of background corrections? Yes/No YES

Comments:

Release of the data contained in this hardcopy data package and in the computer-readable data submitted on floppy diskette has been authorized by the Laboratory Manager or the Manager's designee, as verified by the following signature.

Lab Manager: [signature]

Date: 9/16/88

COVER PAGE - IN 7/87

SAMPLE IDENTIFIER: 828023-01
COMPUCHEM SAMPLE NUMBER: 279081

	CONCENTRATION (units)
pH	8.5

	CONCENTRATION (°F)
Ignitability	>60°F

COMPOUND	RESULTS
Sulfide Reactivity	7.5 mg/kg
Cyanide Reactivity	2.4 mg/kg

NYSDEC Contract Laboratory Program
Bureau of Technical Services & Research
50 Wolf Road, Room 317
Albany, NY 12233-3502

NYSDEC Sample Number 828023-01
Lab ID 279081

Method 8150
Organics Analysis Data Sheet

RCRA/SDWA Herbicide

Concentration: (Low) Medium (Circle One)

Date Extracted/Prepared: 08/11/89

Date Analyzed: 08/17/89 - 08/17/89 *

Conc/Dil Factor: 1.0 pH N/A

GCP Cleanup ☐ yes ☐ no

Separatory Funnel Extraction ☐ yes ☐ no

Continuous Liquid-Liquid Extraction ☐ yes ☐ no

CAS Number		(mg/L) or ug/kg (Circle One)
0901	2,4-D	0.10U
0902	2,4,5-TP(Silvex)	0.010U
0903	2,4,5T	0.010U

*Second column confirmation analysis which serves to verify the presence or absence of Herbicides.

NYSDEC Contract Laboratory Program
Bureau of Technical Services & Research
50 Wolf Road, Room 317
Albany, NY 12233-3502

NYSDEC Sample Number 828023-01
Lab ID 279081

Method 608, 8080
Organics Analysis Data Sheet

RCRA/SDWA Pesticides

Concentration: (Low) Medium (Circle One)

Date Extracted/Prepared: 08/11/89

Date Analyzed: 08/11/89

Conc/Dil Factor: 1.0 pH N/A

GCP Cleanup ☐ yes ☐ no

Separatory Funnel Extraction ☐ yes ☐ no

Continuous Liquid-Liquid Extraction ☐ yes ☐ no

CAS Number		(mg/L) or ug/kg (Circle One)
0714	ENDRIN	0.00020U
0704	GAMMA-BHC (LINDANE)	0.0040U
0724	TOXAPHENE	0.0050U
0726	METHOXYCHLOR	0.10U

SAMPLE IDENTIFIER: 828023-02
COMPUCHEM SAMPLE NUMBER: 279085

	CONCENTRATION (units)
pH	8.1

	CONCENTRATION (°F)
Ignitability	>60°F

COMPOUND	RESULTS
Sulfide Reactivity	160 mg/kg
Cyanide Reactivity	24 mg/kg

NYSDEC Contract Laboratory Program
Bureau of Technical Services & Research
50 Wolf Road, Room 317
Albany, NY 12233-3502

NYSDEC Sample Number 828023-02
Lab ID 279085

Method 8150
Organics Analysis Data Sheet

RCRA/SDWA Herbicide

Concentration: (Low) Medium (Circle One)

Date Extracted/Prepared: 08/11/89

Date Analyzed: 08/17/89 - 08/17/89 *

Conc/Dil Factor: 1.0 pH N/A

GCP Cleanup ☐ yes ☐ no

Separatory Funnel Extraction ☐ yes ☐ no

Continuous Liquid-Liquid Extraction ☐ yes ☐ no

CAS Number		(mg/L) or ug/kg (Circle One)
0901	2,4-D	0.10U
0902	2,4,5-TP(Silvex)	0.010U
0903	2,4,5T	0.010U

*Second column confirmation analysis which serves to verify the presence or absence of Herbicides.

NYSDEC Contract Laboratory Program
Bureau of Technical Services & Research
50 Wolf Road, Room 317
Albany, NY 12233-3502

NYSDEC Sample Number 828023-02
Lab ID 279085

Method 608, 8080
Organics Analysis Data Sheet

RCRA/SDWA Pesticides

Concentration: (Low) Medium (Circle One)

Date Extracted/Prepared: 08/11/89

Date Analyzed: 08/11/89

Conc/Dil Factor: 1.0 pH N/A

GCP Cleanup ☐ yes ☐ no

Separatory Funnel Extraction ☐ yes ☐ no

Continuous Liquid-Liquid Extraction ☐ yes ☐ no

CAS Number		(mg/L) or ug/kg (Circle One)
0714	ENDRIN	0.00020U
0704	GAMMA-BHC (LINDANE)	0.0040U
0724	TOXAPHENE	0.0050U
0726	METHOXYCHLOR	0.10U

U.S. EPA - CLP

1

INORGANIC ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

828023-01

Lab Name: COMPUCHEM LABORATORIES Contract: 787

Lab Code: COMPU Case No.: 25550 SAS No.: _____ SDG No.: 17488A

Matrix (soil/water): WATER Lab Sample ID: 279081

Level (low/med): LOW Date Received: 08/04/89

% Solids: 0.0

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

EPTOX conc.

CAS No.	Analyte	Concentration	C	Q	M	
7429-90-5	Aluminum	1170			P	
7440-36-0	Antimony	50.2	U		P	
7440-38-2	Arsenic	61.1		N	F	5,000
7440-39-3	Barium	880			P	100,000
7440-41-7	Beryllium	.70	U		P	
7440-43-9	Cadmium	4.4	U		P	1,000
7440-70-2	Calcium	526000			P	
7440-47-3	Chromium	6.2	U		P	5,000
7440-48-4	Cobalt	30.6	B		P	
7440-50-8	Copper	9.9	B		P	
7439-89-6	Iron	11200			P	
7439-92-1	Lead	228			P	5,000
7439-95-4	Magnesium	52400			P	
7439-96-5	Manganese	3360			P	
7439-97-6	Mercury	.23			CV	200
7440-02-0	Nickel	107			P	
7440-09-7	Potassium	5280			P	
7782-49-2	Selenium	8.0	U	EN	F	1000
7440-22-4	Silver	5.7	U		P	5000
7440-23-5	Sodium	4620	B		P	
7440-28-0	Thallium	1.3	U	W	F	
7440-62-2	Vanadium	14.3	B		P	
7440-66-6	Zinc	4080			P	
	Cyanide					

Color Before: COLORLESS Clarity Before: CLOUDY Texture: _____

Color After: COLORLESS Clarity After: CLEAR Artifacts: _____

Comments:

FORM 1 - PAGE 1

THE FOLLOWING FURNACE ANALYTES ARE ESTIMATED DUE TO INTERFERENCE:

SELENIUM

FORM I - IN 7/87

U.S. EPA - CLP

1

INORGANIC ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

828023-02

Lab Name: COMPUCHEM LABORATORIES Contract: 787

Lab Code: COMPU Case No.: 25550 SAS No.: _____ SDG No.: 17488A

Matrix (soil/water): WATER Lab Sample ID: 279085

Level (low/med): LOW Date Received: 08/04/89

% Solids: 0.0

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

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	1470			P
7440-36-0	Antimony	50.2	U		P
7440-38-2	Arsenic	3.6	B	WN	F
7440-39-3	Barium	1290			P
7440-41-7	Beryllium	1.8	B		P
7440-43-9	Cadmium	9.6			P
7440-70-2	Calcium	635000			P
7440-47-3	Chromium	6.2	U		P
7440-48-4	Cobalt	73.6			P
7440-50-8	Copper	29.7			P
7439-89-6	Iron	52900			P
7439-92-1	Lead	1280			P
7439-95-4	Magnesium	48300			P
7439-96-5	Manganese	5390			P
7439-97-6	Mercury	.20	U		CV
7440-02-0	Nickel	277			P
7440-09-7	Potassium	11400			P
7782-49-2	Selenium	16.0	U	EN	F
7440-22-4	Silver	6.0	B		P
7440-23-5	Sodium	31300			P
7440-28-0	Thallium	1.3	U	W	F
7440-62-2	Vanadium	23.9	B		P
7440-66-6	Zinc	10400			P
	Cyanide				

Color Before: YELLOW Clarity Before: CLEAR Texture: _____

Color After: COLORLESS Clarity After: CLEAR Artifacts: _____

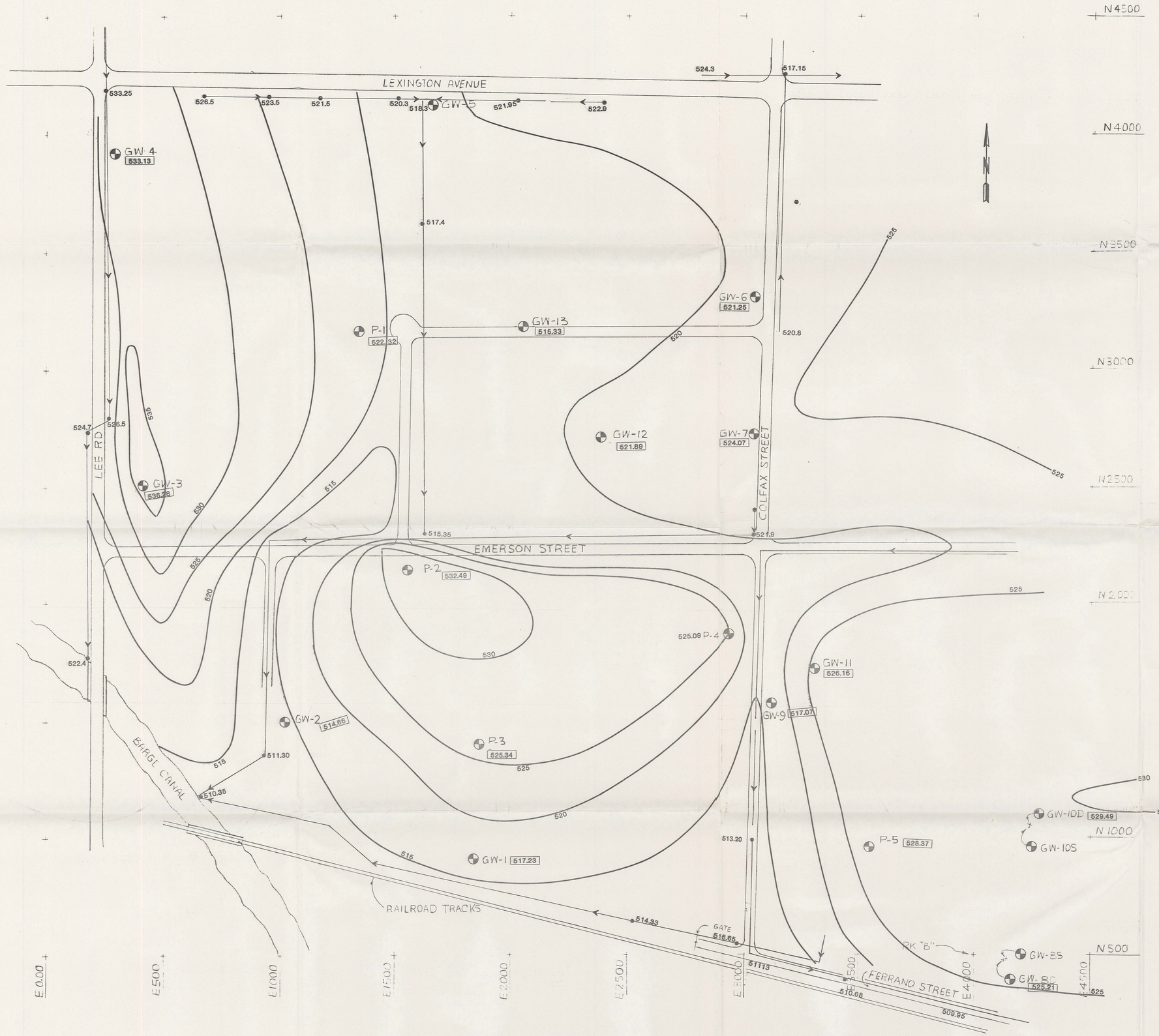
Comments:

FORM 1 - PAGE 2

THE FOLLOWING FURNACE ANALYTES ARE ESTIMATED DUE TO INTERFERENCE:

SELENIUM

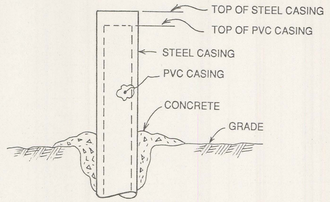
FORM I - IN 7/87



I.D. NO.	ELEV. STL. CASING	ELEV. PVC CASING	GRADE ELEV.	NORTH COORD.	EAST COORD.
GW-1	537.26	537.13	535.6	921.87	1868.69
GW-2	531.21	531.09	531.1	1503.02	1026.28
GW-3	544.16	544.08	542.1	2511.16	398.75
GW-4	542.43	542.34	540.8	3918.97	279.53
GW-5	531.06	530.93	529.1	4116.05	1649.23
GW-6	533.99	533.88	532.2	3291.12	3031.11
GW-7	533.55	533.40	533.5	2720.10	3037.33
GW-8S	530.65	530.52	528.9	482.65	4139.87
GW-8D	531.30	531.13	529.4	481.45	4128.56
GW-9	534.66	534.66	533.1	1564.13	3122.55
GW-10S	534.00	533.81	532.0	1039.68	4233.31
GW-10D	534.33	534.25	532.2	1043.55	4239.10
GW-11	534.97	534.73	532.6	1722.46	3305.32
GW-12	546.37	546.16	544.2	2696.08	2362.59
GW-13	538.99	538.68	536.5	3180.34	2049.20
P-1	550.48	550.32	548.2	3145.39	1315.28
P-2	547.98	547.79	546.4	2140.60	1558.90
P-3	544.90	544.72	542.6	1376.84	1862.57
P-4	535.63	535.48	533.5	1856.88	2927.37
P-5	537.11	536.72	535.8	965.07	3401.10

NOTES:

1. Base map developed from drawing # EJ121188 (Rev 9/12/89) of Edward A. Watts & Associates.
2. Coordinates arbitrarily assumed north 500.00 and east 4000.00 at P.K. nail "3."
3. Well casing design per Detail "A."



DETAIL "A"
NOT TO SCALE

4. Water elevations on 7-8 August 1989.

LEGEND

- GW = Groundwater monitoring well
- P = Piezometer
- = Approximate location of storm drain network and flow direction
- = Storm drain outfall

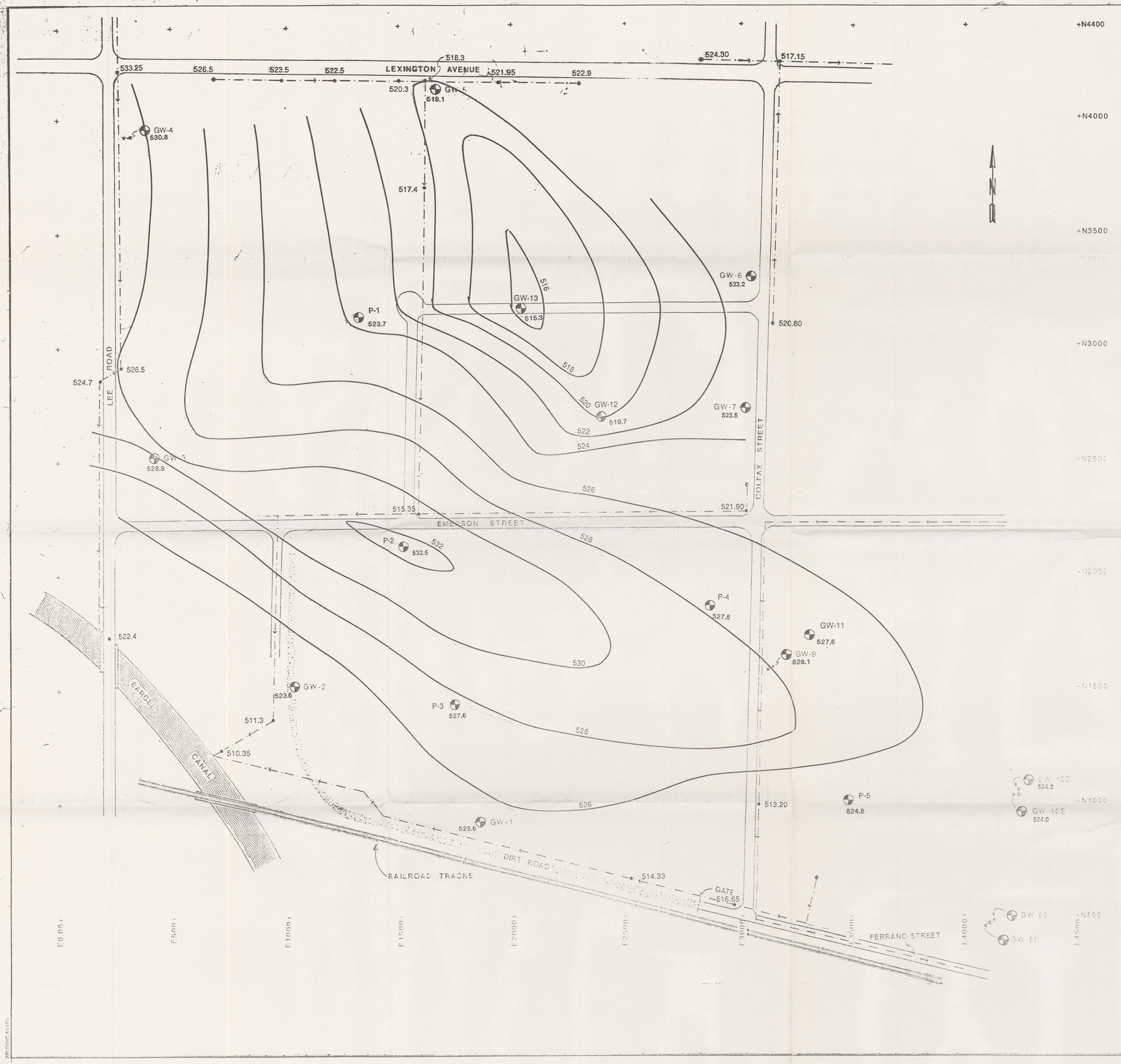
0 100 200 ft
SCALE
1 in. = 200 ft

PLATE 1

MONITORING WELL AND PIEZOMETER LOCATION AND GROUNDWATER CONTOUR MAP

EMERSON STREET LANDFILL
NYSDEC I.D. No. 828023
1988 NYSDEC PHASE II INVESTIGATION

LAWLER, MATUSKY & SKELLY ENGINEERS
Pearl River, New York



LEGEND

REFER TO PLATE 1 FOR GENERAL LEGEND

GW-1 525.6 = Elevation of bedrock in well

= Approximate location of storm drain network and flow direction

= Storm drain outfall

0 100 200 ft.
SCALE
1 in. = 200 ft

NOTES:

REFER TO PLATE 1 FOR GENERAL NOTES

1. Fluctuations in groundwater elevations, directions and flow rates may occur due to variations in surface water elevation (canal water elevation), precipitation, pumping rates, barometric pressure and other factors from the time the measurements were taken.

PLATE 2

BEDROCK SURFACE CONTOUR MAP

EMERSON STREET LANDFILL
NYSDEC I.D. No. **828023**
1988 NYSDEC PHASE II INVESTIGATION

LAWLER, MATUSKY & SKELLY ENGINEERS
Pearl River, New York