SITE INVESTIGATION REPORT
Former Vacuum Oil Company
Site #828089P
City of Rochester, Monroe County

March 2001

Prepared for:
New York State Department of Environmental Conservation
50 Wolf Road, Albany, New York 12233
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Region 8
6274 East Avon-Lima Road

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1.0 EXECUTIVE SUMMARY

The site for this 1999-2000 investigation consisted of a 24-acre portion of the former Vacuum Oil Company facility located on the western bank of the Genesee River (see Figure 1 and Figure 2) in the City of Rochester, New York, Monroe County.

The Vacuum Oil Company (the predecessor of Mobil Oil) operated an oil refinery at this location from c.1866 to c.1935. The Vacuum Oil facility consisted of several process and storage buildings, a railyard, tank farms, and pipelines. The processing operations reportedly entailed distilling crude petroleum under pressure to produce a variety of petroleum products. Reports from 1887 indicated that there were 135 tanks and six boilers at the works, and that the facility refined over 4 million gallons of crude oil per year. Many of the Vacuum Oil refinery structures were reportedly demolished in place. Remnants of the Vacuum Oil facility were observed at the site during the 1999-2000 site investigation. These remnants included concrete tank foundations, fire hydrants and building foundations.

The site is currently under multiple ownership and most of the properties are either vacant or under utilized. The site is located in a commercial, residential, and recreational area south of downtown Rochester. Commercial businesses are primarily located northwest and southwest of the site. A residential area is adjacent to the site to the west, and there is a bike path through the site. There are no known private or public wells nearby.

In September 1992, the NYSDEC removed approximately 400-500 tons of petroleum sludge located in the former railyard area at the southeastern portion of the Vacuum Oil facility near what is currently the Genesee River bike trail (Figure 3). The sludge was tested and was found to be non-hazardous.

In 1999-2000, the NYSDEC conducted an investigation of a 24-acre portion of the former Vacuum Oil facility. The investigation consisted of a point passive soil gas survey, surface soil samples, subsurface soil samples, and groundwater samples from three monitoring wells. Sample locations are provided on Figure 4. The results of the NYSDEC investigation indicated widespread petroleum-related contamination (SVOCs and BTEX) in the surface soil, subsurface soil, and groundwater at the site. The most significant petroleum contamination was detected in the northern section of the site in the vicinity of MW-1 and MW-2. To a lesser extent, chlorinated VOCs, metals, and pesticides were also detected above NYS standards at the site.

The results of the 1999-2000 investigation indicated that site contamination was not the result of disposal of a consequential amount of hazardous waste. NYSDEC will not include the site in the New York State Listing of Inactive Hazardous Waste Disposal Sites at this time.

2.0 PURPOSE

The site for this investigation consisted of approximately 24 acres located on the western bank of the Genesee River south of Flint Street in the City of Rochester, New York, Monroe County (Figures 1 and 2). The purpose of this site investigation was to obtain initial information regarding environmental contamination at the site. Specific objectives for this investigation, as stated in the document entitled "Former Vacuum Oil Preliminary Site Investigation Project Work Plan January 22, 1999" (work plan) were to:

- further define the nature and extent of contamination at the site; and
- determine if this site should be listed in the NYS Listing of Inactive Hazardous Waste Disposal Sites. If listed, determine the appropriate classification.

2.1 EXTENT OF CONTAMINATION

In September 1992, the NYSDEC removed approximately 400 to 500 tons of petroleum sludge located in the former railyard area at the southeastern portion of the property near what is currently the Genesee River bike trail. The sludge was discovered during construction of the bike trail. The approximate location of the sludge pits are shown on Figure 3. The 1999-2000 investigation was designed to provide additional information concerning the nature and extent of contamination in the overburden on the Vacuum Oil property.

2.2 THE NYS LISTING OF INACTIVE HAZARDOUS WASTE DISPOSAL SITES

The New York State Department of Environmental Conservation (NYSDEC) is charged by ECL Section 27-1305 with maintaining a list of inactive hazardous waste disposal sites in a statewide Registry and updating it on an annual basis. The Division of Environmental Remediation (DER) is responsible for listing all sites in the Registry where it believes there is confirmed disposal of a consequential amount of waste which conforms with the characteristics of a hazardous waste (as defined in 6 NYCRR Part 371.3) or listed hazardous wastes (as defined in 6 NYCRR Part 371.4). The results of site investigations will be evaluated to help determine if the disposal of a consequential amount of hazardous waste has occurred.

3.0 SCOPE OF WORK

A work plan specifying the scope of work for this investigation was prepared by the NYSDEC Region 8 and reviewed by personnel from the NYSDEC in Albany, the New York State Department of Health (NYSDOH), the Monroe County Health Department (MCHD), and the City of Rochester Division of Environmental Quality. Included in the work plan were the data collection procedures identified to fulfill the objectives of the investigation. These data collection activities included the following tasks:

- a passive soil gas survey;
- surface and subsurface soil sampling and analysis;
- monitoring well installation and groundwater sampling and analysis; and
- site survey and map preparation.

Details of the specific procedures used in performing each task are presented in the following sections.

3.1 PASSIVE SOIL GAS SURVEY

A passive soil gas survey was conducted across the site in an effort to identify potential sources of contamination. The survey consisted of 53 EMFLUX modules plus two trip blank modules. The modules were deployed on October 20, 1999 and retrieved November 4, 1999. Fifty of the modules were placed in a roughly 120'x120' grid across the site. Two modules (E-6 and H-8) were placed in potentially contaminated areas based on field observations and one module (C-2D) was collocated with module C-2. Figure 4 shows the location of each soil gas module.

At each survey point, the soil gas module was placed into a hole approximately 4" deep and 3/4" in diameter. The holes were created using a pointed metal stake provided by the vendor. After retrieval, the modules were sent to a laboratory for analyses. The modules were analyzed for 25 specific compounds including some volatile organic compounds (VOCs), some semi-volatile organic compounds (SVOCs), and total petroleum hydrocarbons (TPH).

3.2 SUBSURFACE SOIL SAMPLING AND ANALYSIS

The subsurface soil sampling program used during this project was designed to aid in the collection of subsurface information relative to the overburden materials at the site. The subsurface soil sampling program consisted of two phases:

- test pit excavations; and
- soil borings.

3.2.1 Test Pit Excavations

The primary goals of the test pit program were to:

- characterize the overburden materials with respect to textural classifications;
- collect soil samples for analysis;
- determine if there is a water bearing zone in the overburden; and
- characterize and describe the bedrock surface.

Ten test pit excavations were completed at the site on December 6, 1999. Prior to mobilization, an Underground Facility Protection Organization (UFPO) underground utility stakeout was performed to document the position of public utilities. The test pits were primarily located in areas of elevated soil gas concentrations. The test pits were completed using a track mounted Komatsu PC35R excavator. Test pit locations are shown on Figure 4.

For each excavation, a geologist described and logged the subsurface soils with respect to their geologic character features and properties. Bedrock was not encountered in any of the test pits; therefore the bedrock surface was not characterized. The excavated pits were also photographed. Test pit logs and photographs are provided in Appendix A.

Excavated soil was screened for VOCs using a hand held photoionization detector (PID) instrument. The PID measurements included in the test pit logs were collected from just above the soil in the excavator bucket. PID measurements were also obtained in the breathing zone.

A concrete slab was encountered at about one foot below the ground surface at several locations in the vicinity of test pits TP-2 and TP-3. The excavator was not capable of penetrating the slab. When a slab was encountered, the excavation was backfilled and a new test pit was attempted several yards away. The full extent of the concrete slab was not determined, but it can be estimated by reviewing building locations from aerial photograph or site maps of the Vacuum Oil facility (See Appendix B).

The work plan specified that two soil samples from each test pit would be collected for analysis. A total of 8 soil samples were actually collected from the 10 test pits. Two samples were collected from test pit TP-1. No samples were collected from test pits TP-6, TP-7 and TP-9 as there were no indications that these soils were contaminated (i.e. no visual signs of staining, no detectable odors, and no detections on the PID). One sample was collected from each of the remaining test pits (TP-2, TP-3, TP-4, TP-5, TP-8, and TP-10) either because the subsurface materials were homogeneous or there were no indications of contamination (i.e. no visual signs of staining, no detectable odors, and no detections on the PID).

The work plan specified that each soil sample from the test pits would be analyzed for volatile organics, semi-volatile organics, and metals, and that one sample from each test pit would be analyzed for cyanide, pesticides, and polychlorinated biphenyls (PCBs). This protocol was followed for the test pits where samples were collected. Additionally, the Toxicity Characteristic Leachate Procedure (TCLP) analysis was performed on both soil samples from test pit TP-1 as these soils were stained black, PID readings up to 200 ppm were measured just above the soil, and there was

a strong petroleum odor. A sample collection and analytical matrix is provided in Table 1. Samples were placed into glass jars, labeled, and placed into a cooler chilled with ice or ice packs. The samples were shipped for analysis via UPS to RECRA LabNet, Lionville, Pennsylvania. Chain of Custody forms are provided in Appendix C.

3.2.2 Soil Borings

Three soil borings, which were all later completed as groundwater monitoring wells, were advanced at the site from February 7-9, 2000. Prior to mobilization, an Underground Facility Protection Organization (UFPO) underground utility stakeout was performed to document the position of public utilities. Soil boring locations were selected based on:

- test pit soil sample results;
- locations of site features such as tank foundations and concrete slabs; and
- results of the UFPO stakeout.

The soil boring locations are shown on Figure 4. Boring MW-1 was located in the vicinity of test pit TP-1, boring MW-2 was located in the vicinity of test pit TP-2, and boring MW-3 was located in the vicinity of test pit TP-10 at the base of a former tank farm.

The work plan specified that additional soil classification and sampling were optional activities during the monitoring well installation task. It was determined that these activities were necessary based on the following:

- the test pits did not extend to bedrock, so split spoon sampling was necessary to characterize soil conditions below the base of the test pits;
- one of the borings, MW-2, was located where a concrete slab was encountered during test pitting, so split spoon sampling was necessary to characterize soil conditions below the concrete slab; and
- the analytical results of the test pit soil samples indicated the presence of petroleum compounds, so additional soil samples were required for Total Petroleum Hydrocarbon (TPH) analysis.

A track-mounted CME 850 drill rig was used to advance the soil borings. Continuous split-spoon samples were collected to refusal (presumed top of bedrock) at each of the soil boring locations. Depth to refusal varied from 6 to 16.5 feet below the ground surface. All down-hole tools and equipment used during the advance of the borings were steam cleaned prior to their introduction into a boring. Split spoons were cleaned with an Alconox solution after each sample was collected.

A qualified geologist described and logged the extracted subsurface soil materials with respect to their geologic character, features, and properties. The extracted subsurface soil materials were also screened visually for signs of obvious contamination. Additionally, soil from each spoon was screened for the presence of volatile organic vapors using a PID monitoring instrument. Information on sample characterization was later used to prepare boring logs which are presented in Appendix A.

Two soil samples were collected for analysis from each of the borings, except MW-3. No soil samples were collected from boring MW-3 since there were no indications of contamination (i.e. no visual signs of staining, no detectable odors, and no detections on the PID). A duplicate soil sample was also collected at boring MW-1. All of the soil samples were analyzed for TPH. In addition to TPH, soils from boring MW-2 were analyzed for VOCs, SVOCs, and metals, and soils from boring MW-1 were analyzed for metals. A sample collection/analytical matrix for this investigation is provided in Table 1. Samples were placed into glass jars, labeled, and placed into a cooler chilled with ice or ice packs. The samples were shipped for analysis via UPS to RECRA LabNet, Lionville, Pennsylvania. Chain of Custody forms are provided in Appendix C.

3.3 SURFACE SOIL SAMPLING AND ANALYSIS

As specified in the work plan, five surface soil samples were collected at the site. Each sample was analyzed for:

- TAL metals;
- Cyanide;
- TCL VOCs;
- TCL SVOCs; and
- TCL pesticides and PCBs.

All of the surface soil samples obtained during this investigation were collected on December 7, 1999. Surface soil sample locations were selected based on the soil gas survey results, visual indications of contamination, and a desire to collect data from across the entire site. Surface soil sample SS-4 was collected from a wet, low-lying area at the site. The surface soil sample locations are shown on Figure 4.

Surface soil samples obtained from the site were collected from the first two inches of soil after sod, surface debris, or gravel cover were removed. A new disposable plastic scoop was used to collect each sample. A sample collection/analytical matrix for this investigation is provided in Table 1. Samples were placed into glass jars, labeled, and placed into a cooler chilled with ice or ice packs. The samples were shipped for analysis via UPS to RECRA LabNet, Lionville, Pennsylvania. Chain of Custody forms are provided in Appendix C.

3.4 MONITORING WELL INSTALLATION AND GROUNDWATER SAMPLING AND ANALYSIS

The groundwater sampling program implemented during this project was designed to aid in the collection of subsurface information relative to the overburden materials at the site. More specifically, the program was designed to further define the extent of contamination at the site and evaluate suspected source areas. The groundwater sampling program consisted of completing the three soil borings as monitoring wells and collecting groundwater samples for analyses.

3.4.1 Groundwater Monitoring Well Installation

All three of the soil borings advanced on February 7, 8 and 9, 2000 were completed as 2-inch diameter overburden monitoring wells. The purpose of these wells was to allow long-term monitoring of overburden groundwater conditions at the site. The monitoring wells were located to investigate groundwater conditions in areas where soil contamination was identified, and allow development of groundwater flow contours. Monitoring well locations are shown on Figure 4.

The borings were advanced to the top of bedrock using 4.25-inch I.D. hollow stem augers. The monitoring wells consisted of 2-inch diameter schedule 40 PVC casing. The well screens consisted of 0.010-inch slotted PVC and varied in length from 4 feet at MW-3 to 10 feet at MW-1 and MW-2. Construction logs for each monitoring well are provided in Appendix A.

The wells were developed on February 9, 10, and 11, 2000 using new dedicated polyethylene bailers. Several days were needed to develop the wells because they would become dry after several well volumes of water were removed and recovery was slow. Well development logs, including field parameter measurements, are provided in Appendix A.

3.4.2 Groundwater Monitoring Well Sampling

The three groundwater monitoring wells were sampled on February 23, 2000. Prior to sampling, approximately 3 well volumes of groundwater were purged from each well using dedicated polyethylene bailers.

After being purged, each well was allowed to recover for approximately one hour before samples were collected. The three wells were sampled for VOCs, SVOCs, metals, and TPH using dedicated polyethylene bailers. There was not enough water in the wells to collect all of the samples at one time. The VOC, SVOC, and TPH samples were collected in the morning, then the wells were allowed to recover for several hours and the metals samples were collected in the afternoon. Water samples were also collected from each well during sampling to measure pH, specific conductivity, temperature, and turbidity. Field parameter measurements are provided in Appendix C. A sample collection/analytical matrix for this investigation is provided in Table 1.

Samples were placed into the appropriate container, labeled, and placed into a cooler chilled with ice or ice packs. The samples were shipped for analysis via UPS to RECRA LabNet, Lionville, Pennsylvania. Chain of Custody forms are provided in Appendix C.

3.5 SITE SURVEY AND MAP PREPARATION

A survey was performed at the site in two phases. First a surveyor was on-site in March 2000 to make such measurements as were necessary to create a plot plan of the site showing the locations of the property boundaries, buildings, the bike path, monitoring wells, and test pits. The surveyor also established well elevations at the top of the PVC riser for each of the three wells plus a location along the concrete wall at the edge of the Genesee River.

The second phase of the survey was completed on April 12 and 13, 2000. NYSDEC personnel used a Corvallis Microtechnology Inc. March II hand-held Global Positioning System (GPS) unit to record the location of soil gas sample points which were marked in the field by flagging. The raw GPS data collected in the field were corrected using PC-GPS version 3.6D. The corrected data were provided to the surveyor for inclusion on the plot plan. The survey data are provided in Table 2.

After plotting the soil gas points, one sample (I-7) appeared to be incorrect. NYSDEC personnel re-visited the site and manually measured the location of soil gas point I-7 using a tape measure. The correct location of I-7 was determined to be approximately 100 ft. south-southwest from the location measured by the GPS. The plot plan (Figure 4) was corrected to better reflect the actual location of I-7.

The location of the surface soil sample points on the plot plan (Figure 4) are based on field observations of the distance of the surface soil sample location to the nearest soil gas sample location.

3.6 GROUNDWATER ELEVATION MEASUREMENTS

Groundwater elevations at the site were measured twice during this investigation. The first measurements, obtained on February 23, 2000, included only the three overburden monitoring wells. The second measurements, obtained on May 4, 2000, included the three overburden monitoring wells and the elevation of the Genesee River. The water level measurements are provided in Table 3. Groundwater contours for May 4, 2000 are provided in Figure 5.

4.0 SITE ASSESSMENT

4.1 SITE HISTORY

The former Vacuum Oil Company occupied approximately 40 acres on the western bank of the Genesee River (see Figure 1 and Figure 6) in the City of Rochester, New York, Monroe County. The Vacuum Oil Company (the predecessor of Mobil Oil) operated an oil refinery at this location from c.1866 to c.1935.

The "site" for the 1999-2000 investigation was an approximately 24-acre portion of the former Vacuum Oil facility consisting of seven parcels of land (Figure 2). After 1935, the parcels were sold separately and used for a variety of commercial purposes. Owners included a university, a scrap bailing company, and government agencies. The site is currently under multiple ownership and most of the properties are either vacant or under utilized. The site is located in a commercial, residential, and recreational area south of downtown Rochester. Commercial businesses are primarily located northwest and southwest of the site. A residential area is adjacent to the site to the west, and there is a bike path through the site. There are no known private or public wells nearby.

The Vacuum Oil facility consisted of several process and storage buildings, a railyard, tank farms, and pipelines. The processing operations reportedly entailed distilling crude petroleum under pressure to produce a variety of materials including: lubricating oils, vacuum oil blacking for harnesses, naptha, refined petroleum and high test kerosene oils, neutral oils, also sperm whale, elephant, lard, neats foot, straits, bank, laborador, salad, signal, and other oils. Reports from 1887 indicated that there were 135 tanks and six boilers at the works, and that the facility refined over 4 million gallons of crude oil per year.

In 1989, a portion of the former Vacuum Oil facility (bounded by Flint St., Exchange St., Violetta St., and the Genesee River) was investigated as a potential site for a new elementary school by the City of Rochester, but environmental conditions at the site made it unfavorable for development. A summary of the 1989 investigation is provided in Appendix D.

In September 1992, the NYSDEC removed approximately 400-500 tons of petroleum sludge located in the former railyard area at the southeastern portion of the Vacuum Oil facility near what is currently the Genesee River bike trail. The sludge was tested and was found to be non-hazardous. The location of the sludge pits are shown on Figure 3.

Many of the Vacuum Oil refinery structures were reportedly demolished in place. For example, tank foundations in the former tank farm area are evident in the 1960s aerial photographs. Additionally, remnants of the Vacuum Oil facility were observed at the site during the 1999-2000 site investigation. These remnants included concrete tank foundations, fire hydrants and building foundations.

4.2 SITE TOPOGRAPHY

The former Vacuum Oil site is located on the western bank of the Genesee River. A concrete retaining wall separates the river from the ground. On May 4, 2000, the top of the retaining wall was measured to be 6.5 ft. above the river. West of the river, the terrain appeared to slope gently downward before a steep rise to the residential area on Cottage Street and Riverview Place. The lowest spot on the site appeared to be in the vicinity of soil gas sample point H-8 and surface soil sample point SS-4 (See Figure 4). This area was consistently moist and often contained standing water. The portion of the bike path between soil gas sample points A-2 and H-3 was elevated with what appeared to be fill material. This portion of the bike path was formerly part of the Erie Railroad system. The building foundations observed at the site were generally located west of the bike bath. The tank foundations were roughly located in the area bounded by soil gas sample points D-5, D-7 and E-5.

With the exception of the bike path, most of the surface was overgrown with trees, bushes, wild grapevines, and weeds. Poison ivy was also prevalent at the site both as vines on trees and as patches of plants less than about 2 ft. tall. Dense swarms of insects, especially mosquitoes, were encountered at the site during the spring.

4.3 SITE GEOLOGY

Based on the test pits and soil borings, the site consisted of 6 to 16.5 feet of overburden on top of bedrock. The overburden generally consisted of three layers:

- topsoil;
- fill material; and
- native soil.

The topsoil layer was typically 3 to 6 inches thick. Fill material was encountered up to 6 ft. below the ground surface. The fill consisted of a variety of materials including:

- bricks;
- slag;
- sand;
- shingles;
- a material that resembled ground coal;
- gravel; and
- wood.

The native soil consisted of a mixture of silt, sand, and clay. The bedrock at the site is mapped as the Lockport Dolomite.

The depth to groundwater at the site ranged from 3 to 7.5 feet below ground. Groundwater elevations at the site were measured twice during this investigation. The first measurements, obtained on February 23, 2000, included only the three overburden monitoring wells. The second

measurements, obtained on May 4, 2000, included the three overburden monitoring wells and the elevation of the Genesee River. The water level measurements are provided in Table 3. The results indicated that the groundwater at the site flows to the west and away from the Genesee River. Figure 5 presents groundwater elevation contours for the overburden based on the May 4, 2000 measurements. Groundwater elevation contours developed using the February 23, 2000 measurements were similar to the May 4, 2000 contours and are not included in this report.

4.4 CONTAMINANT ASSESSMENT

The following sections provide the analytical data generated during the 1999-2000 investigation. The information is organized according to sample media (soil gas, surface soil, subsurface soil, and groundwater) and compounds of concern. Analytical data were compared to environmental New York State Standards, Criteria, and Guidance (SCGs) values. Groundwater SCGs for this site were based on the groundwater quality standards contained in 6 NYCRR Part 703 and the NYSDEC Division of Water Technical and Operational Guidance Series (TOGS) 1.1.1. NYSDEC Technical Assistance Guidance Memorandum (TAGM) 4046 was used to evaluate surface and subsurface soils. TCLP analytical results were compared to the toxicity characteristic regulatory levels contained in 6 NYCRR 371.3(e).

Sample point locations are shown on Figure 4. The analytical data for the 1999 soil gas survey are provided in Appendix E. The analytical data for surface soil, subsurface soil, and groundwater samples collected by the NYSDEC as part of the 1999-2000 investigation are provided in Appendix C. Statistical summaries of the analytical results are provided in Tables 4 through 6. All detected values for field samples, field duplicates, and trip blanks are presented in Tables 7 through 25 in data summary forms.

4.4.1 Passive Soil Gas Survey

A passive soil gas survey was performed at the site to identify potential areas of contamination and to help focus later phases of the investigation. A 53 point passive soil gas survey was conducted across the site between October 20, 1999 and November 4, 1999. Figure 4 shows the location of each soil gas module. Upon retrieval, each module was analyzed for 25 specific compounds including some volatile organic compounds (VOCs), some semi-volatile organic compounds (SVOCs), and total petroleum hydrocarbons (TPH) The complete list of compounds is provided in Appendix E.

The following limitations should be considered when reviewing the results of the soil gas survey:

- The soil gas sample points were placed approximately 120 feet apart. This spacing was considered acceptable for identifying large areas of contamination at this site, but this spacing may miss smaller contaminated areas and is not appropriate for defining the extent of contamination.
- Some of the soil gas results may be biased low. Buried building slabs were encountered during test pitting and these slabs may have restricted contaminated soil gas located below the slab from migrating to the soil gas modules located above the slab.

Appendix E contains the data report from the vendor who supplied and analyzed the soil gas modules. Petroleum-related compounds and chlorinated compounds were the primary contaminants detected during the survey.

4.4.1.1 Petroleum-Related Compounds

The soil gas survey detected petroleum-related compounds in two categories: total petroleum hydrocarbons (TPH) and individual petroleum related compounds (benzene, toluene, ethyl benzene, xylene, trimethylbenzenes, and napthalene). The soil gas data in Appendix E indicate a strong correlation between elevated TPH results and elevated results for the individual petroleum-related compounds.

Figure 7 shows soil gas concentration contours for TPH at the site. Five distinct plumes are identified on Figure 7. The plumes are identified as follows (with maximum concentrations in parentheses) based on the soil gas point in the apparent center of the plume:

- the B-3 plume (14,000 nanograms);
- the F-5 plume (58,000 nanograms);
- the J-8 plume (900 nanograms);
- the L-6 plume (400 nanograms); and
- the E-1/E-2 plume (260 nanograms).

Of the five plumes, the B-3 and F-5 plumes were of the greatest significance in terms of lateral extent and maximum concentration. The B-3 and F-5 plumes were determined to have the greatest potential for contamination and were the focus of subsequent sampling activities for petroleum compounds.

4.4.1.2 Total Chlorinated Volatiles

Figure 8 shows soil gas concentration contours for total chlorinated compounds at the site. Chlorinated compounds were detected in the following five soil gas samples:

- C-3 at 1096 nanograms;
- D-3 at 194 nanograms;
- C-1 at 87 nanograms;
- F-5 at 42 nanograms; and
- D-6 at 29 nanograms.

C-3 was the focus of subsequent sampling activities for chlorinated compounds since the concentration of chlorinated compounds at C-3 was an order-of-magnitude greater than the other four locations.

4.4.2 Surface Soil

A total of five surface soil samples were collected from five different locations across the site and analyzed for the parameters shown in Table 1. Metals, VOCs, SVOCs and pesticides were detected in some of the surface soil samples at levels above SCGs. Compounds detected at levels above SCGs in at least one surface soil sample, and the concentration range for each compound, are identified in the following sections.

The VOC and SVOC analyses also detected the presence of a number of additional compounds that are not on the standard Target Compound List (TCL). The laboratory only calibrates the analytical instruments to identify and quantify the TCL compounds. Compounds that are not on the TCL, but are detected during analysis, are called Tentatively Identified Compounds (TICs) and the identity and concentration of these compounds are estimated. As indicated in Tables 7,8, and 9, total TIC concentrations in the surface soil samples ranged from not detected to 20 ppb for VOCs and 15,800 to 114,000 ppb for SVOCs. Concentration estimates for individual TICs are provided with the analytical data in Appendix C.

Surface soil sample point locations are shown on Figure 4. Surface soil sample locations are denoted by "SS-" in the tables and figures. Figure 9 presents a summary of surface soil results exceeding SCGs and total TICs.

The results of the 1999-2000 investigation, including comparisons to SCGs, are summarized in the following tables:

- Table 4 provides a statistical summary of the surface soil results;
- Table 7 summarizes the SVOC results sorted by sample location;
- Table 8 summarizes the SVOC results sorted by compound;
- Table 9 summarizes the VOC results;
- Table 10 summarizes the inorganic compound results sorted by sample location;
- Table 11 summarizes the inorganic compound results sorted by compound; and
- Table 12 summarizes the pesticide and PCB results.

The analytical data from RECRA Environmental Inc. are provided in Appendix C.

4.4.2.1 Surface Soil - Semi-Volatile Organic Compounds

A total of 20 different SVOCs, plus TICs, were detected in the five surface soil samples analyzed for TCL SVOCs. Eight of the compounds were detected at concentrations above TAGM 4046 recommended soil cleanup values. SVOCs detected at levels above SCGs in at least one surface soil sample, and the concentration range for each compound, are identified below:

- benzo(a)anthracene (330 - 28,000 ppb);
- benzo(a)pyrene (440 - 23,000 ppb);
- benzo(b)fluoranthene (470 - 20,000 ppb);
- benzo(k)fluoranthene (420 - 22,000 ppb);

- chrysene (480 - 30,000 ppb);
- dibenzo(a,h)anthracene (85 - 5,700 ppb);
- fluoranthene (700 - 63,000 ppb); and
- indeno(1,2,3-c,d)pyrene (310 - 14,000 ppb).

The remaining 12 SVOCs were detected at levels below TAGM 4046 recommended soil cleanup values. As indicated on Figure 9, surface soils containing SVOCs exceeding SCGs were located across the site; however, the TCL SVOC concentrations at SS-2 were typically a factor of 10 higher than the other four sample points. Surface soil sample SS-2 also contained the highest concentration of TICs (114,000 ppb). Surface soil sample SS-4, which had the lowest concentration of TCL SVOCs based on Figure 9, contained second highest TIC concentration (96,800 ppb).

4.4.2.2 Surface Soil - Volatile Organic Compounds

The following VOCs were detected in the surface soils at the site:
- acetone;
- methylene chloride; and
- TICs.

Acetone was detected in surface soil sample SS-3. Methylene chloride was detected in each of the five surface soil samples at concentrations between 24 ppb and 150 ppb. The methylene chloride concentration in sample SS-3 (150 ppb) exceeded the TAGM 4046 recommended soil cleanup value for methylene chloride of 100 ppb. As discussed in another section of this report, the methylene chloride surface soil sample results may be biased high due to laboratory contamination.

4.4.2.3 Surface Soil - Inorganic Compounds

A total of 22 different inorganic compounds were detected in the five surface soil samples analyzed for TAL metals. Eight of the compounds were detected at concentrations above TAGM 4046 recommended soil cleanup values. Inorganic compounds detected at levels above SCGs in at least one surface soil sample, and the concentration range for each compound, are identified below:

- arsenic (4.3 - 60.7 ppm);
- calcium (11,900 - 167,000);
- copper (17.9 - 75.8 ppm);
- lead (119 - 972 ppm);
- magnesium (2,490 - 30,600 ppm);
- mercury (0.12 - 2.1 ppm);
- selenium (not detected - 7.40 ppm); and
- zinc (103 - 772 ppm).

The remaining 14 inorganic compounds were detected at levels below TAGM 4046 recommended soil cleanup values. As indicated on Figure 9, surface soils containing inorganic compounds exceeding SCGs were located across the site. Additionally, the inorganic compound concentrations were fairly consistent in the five samples.

4.4.2.4 Surface Soil - Pesticides and PCBs

A total of six pesticides were detected in the five surface soil samples at the site. Two of the pesticides were detected at concentrations above TAGM 4046 recommended soil cleanup values. Pesticides detected at levels above SCGs in at least one surface soil sample, and the concentration range for each compound, are identified below:

- dieldrin (not detected - 74 ppb); and
- heptachlor epoxide (not detected - 30 ppb).

No PCBs were detected in the five surface soil samples at the site.

The remaining four pesticides were detected at levels below TAGM 4046 recommended soil cleanup values. As indicated on Figure 9, SS-1 was the only surface soil sample location where pesticides exceeded SCGs.

4.4.3 Subsurface Soil

A total of twelve subsurface soil samples were collected from ten test pit excavations and three overburden monitoring wells completed at the site. The samples were analyzed for the parameters shown in Table 1. Several metals, VOCs, and SVOCs were detected in subsurface soil samples at levels above SCGs. Compounds detected at levels above SCGs in at least one subsurface soil sample, and the concentration range for each compound, are identified in the following sections.

The VOC and SVOC analyses also detected the presence of a number of additional compounds that are not on the standard TCL. The laboratory only calibrates the analytical instruments to identify and quantify the TCL compounds. Compounds that are not on the TCL, but are detected during analysis, are called TICs and the identity and concentration of these compounds are estimated. As indicated in Tables 13, 14, 16, and 17, total TIC concentrations in the subsurface soil samples ranged from not detected to 133,000 ppb for VOCs and 1,450 to 2,240,000 ppb for SVOCs. Concentration estimates for individual TICs are provided with the analytical data in Appendix C.

Sample point locations are shown on Figure 4. Subsurface soil sample locations from a test pit are denoted by "TP-" in the tables and figures. Subsurface soil sample locations from a soil boring that was later converted into a monitoring well are denoted by "MW-" in the tables and figures. Figure 10 presents a summary of subsurface soil results exceeding SCGs, total TICs, and TPH.

The results of the 1999-2000 investigation, including comparisons to SCGs, are summarized in the following tables:

- Table 5 provides a statistical summary of the results;
- Table 13 summarizes the SVOC results sorted by soil boring interval;
- Table 14 summarizes the SVOC results sorted by compound;
- Table 15 summarizes the TPH results;
- Table 16 summarizes the VOC results sorted by soil boring interval;

- Table 17 summarizes the VOC results sorted by compound;
- Table 18 summarizes the inorganic compound results sorted by soil boring interval;
- Table 19 summarizes the inorganic compound results sorted by compound;
- Table 20 summarizes the pesticide and PCB results; and
- Table 21 summarizes the TCLP results.

The analytical data from RECRA Environmental Inc. are provided in Appendix C.

4.4.3.1 Subsurface Soil - Semi-Volatile Organic Compounds

A total of 21 different SVOCs, plus TICs, were detected in the nine subsurface soil samples analyzed for TCL SVOCs. Seventeen of the compounds were detected at concentrations above TAGM 4046 recommended soil cleanup values. SVOCs detected at levels above SCGs in at least one surface soil sample, and the concentration range for each compound, are identified below:

- acenaphthene (not detected - 170,000 ppb);
- anthracene (not detected - 510,000 ppb);
- benzo(a)anthracene (not detected - 760,000 ppb);
- benzo(a)pyrene (not detected - 530,000 ppb);
- benzo(b)fluoranthene (not detected - 480,000 ppb);
- benzo(g,h,i)perylene (not detected - 280,000 ppb);
- benzo(k)fluoranthene (not detected - 470,000 ppb);
- chrysene (not detected - 710,000 ppb);
- dibenzo(a,h)anthracene (not detected - 100,000 ppb);
- dibenzofuran ((not detected - 220,000 ppb);
- fluoranthene (not detected - 1,500,000 ppb);
- fluorene (not detected - 360,000 ppb);
- indeno(1,2,3-c,d)pyrene (not detected - 280,000 ppb);
- 2-methylnaphthalene (not detected - 110,000 ppb);
- naphthalene (not detected - 320,000 ppb);
- phenanthrene (29 - 1,600,000 ppb); and
- pyrene (not detected - 960,000 ppb).

The SVOC compounds most frequently detected above SCGs were:

- benzo(a)anthracene (5 of 9 samples exceeded SCG);
- benzo(a)pyrene (5 of 9 samples exceeded SCG);
- chrysene (5 of 9 samples exceeded SCG); and
- dibenzo(a,h)anthracene (5 of 9 samples exceeded SCG).

As indicated on Table 5, maximum concentrations for all 17 SVOCs detected at levels above SCGs were obtained from test pit TP-2 approximately 5 ft. below ground surface. Subsurface soils from test pit TP-2 also contained the highest concentration of SVOC TICs (2,240,000 ppb 5 ft. below ground surface). The second highest concentration of SVOC TICs was detected in test pit TP-1 (814,000 ppb 7 to 8 ft. below ground surface). TP-1 and TP-2 are located on the northern portion of

the site (see Figure 10).

4.4.3.2 Subsurface Soil - Total Petroleum Hydrocarbons

Four subsurface soil samples were collected and analyzed for TPH during the installation of the groundwater monitoring wells. Two of the samples were collected from boring MW-1 (located adjacent to test pit TP-1), and two of the samples were collected from boring MW-2 (located adjacent to test pit TP-2). As shown on Table 15, TPH results ranged from 22.3 ppm at the 10 to 12 ft. interval of TP-2 to 1140 ppm at the 8 to 10 ft. interval of TP-1. There are no SCGs for TPH.

4.4.3.3 Subsurface Soil - Volatile Organic Compounds

A total of nine different VOCs, plus TICs, were detected in the nine subsurface soil samples analyzed for TCL VOCs. Two of the compounds were detected at concentrations above TAGM 4046 recommended soil cleanup values. VOCs detected at levels above SCGs in at least one subsurface soil sample, and the concentration range for each compound, are identified below:

- methylene chloride (24 - 750 ppb);and
- xylene (total) (not detected - 6,300 ppb)

Overall two analytical results (One result for each compound identified above) exceeded subsurface soil SCGs for VOCs. Four additional analytical results for acetone (2 results) and methylene chloride (2 results) were detected at levels above SCGs, but these results were considered invalid due to laboratory contamination.

The xylene analytical result exceeding the subsurface soil SCG was collected from test pit TP-1. The methylene chloride result exceeding the subsurface soil SCG was collected from boring MW-2. TP-1 and MW-2 are located on the northern portion of the site (see Figure 10).

Subsurface soils from test pit TP-1 also contained the highest concentration of VOC TICs (133,000 ppb 7 to 8 ft. below ground surface and 109,000 ppb 3 to 5 ft. below ground surface). None of the other subsurface soil samples had a VOC TIC concentration above 300 ppb.

4.4.3.4 Subsurface Soil - Inorganic Compounds

A total of 23 different inorganic compounds were detected in the 10 subsurface soil samples analyzed for TAL metals. Ten of the compounds were detected at concentrations above TAGM 4046 recommended soil cleanup values. Inorganic compounds detected at levels above SCGs in at least one subsurface soil sample, and the concentration range for each compound, are identified below:

- arsenic (4.7 - 113 ppm);
- barium (28.5 - 828 ppm);
- beryllium (0.15 - 2.20 ppm);
- calcium (1280 - 85,100 ppm);

- chromium (9.40 - 59.3 ppm);
- copper (8.10 - 143 ppm);
- magnesium (396 - 35800 ppm);
- nickel (14 to 35.6 ppm);
- mercury (not detected - 4 ppm); and
- zinc (54.7 - 663 ppm).

The remaining 13 inorganic compounds were detected at levels below TAGM 4046 recommended soil cleanup values. As indicated on Figure 10, subsurface soils containing inorganic compounds exceeding SCGs were located across the site. Maximum concentrations for five of the nine inorganic compounds detected at levels above SCGs were obtained from test pit TP-2 approximately 5-ft. below ground surface.

4.4.3.5 Subsurface Soil - Pesticides and PCBs

Eight subsurface soil samples were collected and analyzed for pesticides and PCBs. PCBs were not detected in any of the subsurface soil samples. The pesticide Aldrin was detected at low levels (2.6 ppb) in one subsurface soil sample. No other pesticides were detected in the subsurface soil. The analytical results for pesticides and PCBs are summarized in Table 20.

4.4.3.6 Subsurface Soil -Toxicity Characteristic Leachate Procedure (TCLP)

Two subsurface soil samples from TP-1 were analyzed for TCLP parameters. No compounds were detected above regulatory levels in the two samples analyzed for TCLP compounds. The TCLP analytical results are provided in Table 21.

4.4.4 Groundwater Quality

A total of three groundwater samples were collected from the three overburden monitoring wells completed at the site and analyzed for the parameters shown in Table 1. Several metals, VOCs, and SVOCs were detected in groundwater samples at levels above SCGs. Compounds detected at levels above SCGs in at least one groundwater sample, and the concentration range for each compound, are identified in the following sections.

The VOC and SVOC analyses also detected the presence of a number of additional compounds that are not on the standard TCL. The laboratory only calibrates the analytical instruments to identify and quantify the TCL compounds. Compounds that are not on the TCL, but are detected during analysis, are called TICs and the identity and concentration of these compounds are estimated. As indicated in Tables 22 and 24, total TIC concentrations in the groundwater samples ranged from not detected to 650 ppb for VOCs and 67 to 1,250 ppb for SVOCs. Concentration estimates for individual TICs are provided with the analytical data in Appendix C.

Groundwater sample locations are shown on Figure 4. Groundwater locations are identified as MW-1, MW-2, and MW-3 in the tables and figures. Figure 11 presents a summary of groundwater results exceeding SCGs.

People in the area are not using area groundwater for a source of drinking water. Residents and businesses in the area are served by a public water supply provided by the City of Rochester Water Bureau and there are no known private or public wells nearby.

The results of the 1999-2000 investigations are summarized in the following tables:

- Table 6 provides a statistical summary of the results;
- Table 22 summarizes the SVOC results sorted by compound;
- Table 23 summarizes the TPH results;
- Table 24 summarizes the VOC results sorted by compound;
- Table 25 summarizes the inorganic compound results sorted by sample location; and
- Table 26 summarizes the inorganic compound results sorted by compound.

The analytical data from RECRA Environmental Inc. are provided in Appendix C.

4.4.4.1 Groundwater - Semi-Volatile Organic Compounds

A total of eight different SVOCs, plus TICs, were detected in the three groundwater samples analyzed for TCL SVOCs. As indicated on Figure 11, the compound phenol was detected at a concentration above the TOGS 1.1.1groundwater standard in one sample (MW-1). The phenol concentration in the groundwater samples ranged from not detected to 7 ppb. The remaining seven SVOCs were detected at levels below TOGS 1.1.1 groundwater standards and guidance values.

SVOC TICs were detected in each of the three groundwater samples. The highest concentration of SVOC TICs was detected at well MW-1 (1,250 ppb), followed by well MW-2 (125 ppb) and well MW-3 (67 ppb).

4.4.4.2 Groundwater - Total Petroleum Hydrocarbons

One groundwater sample from each of the three wells was collected and analyzed for TPH. As shown on Figure 11, TPH was detected in the groundwater at one well, MW-1, at a concentration of 3.7 ppm. TPH was not detected at wells MW-2 or MW-3. There are no SCGs for TPH.

4.4.4.3 Groundwater - Volatile Organic Compounds

A total of seven different VOCs, plus TICs, were detected in the three groundwater samples analyzed for TCL VOCs. Five of the compounds were detected at concentrations above TOGS 1.1.1 groundwater standards and guidance values. VOCs detected at levels above SCGs in at least one groundwater sample, and the concentration range for each compound, are identified below:

- benzene (not detected - 95 ppb);
- 1,1,1-dichloroethane (not detected - 13 ppb);
- ethyl benzene (not detected - 49 ppb);
- 1,1,2-trichloroethane (not detected - 2 ppb); and
- xylene (total) (not detected - 190 ppb).

Methylene chloride was also detected at levels above SCGs in the samples collected at the site, but the methylene chloride results were considered invalid due to laboratory contamination.

Table 6 also indicates that well MW-1 contained the highest groundwater concentration of each detected VOC except 1,1-dichloroethane. VOC TICs were detected in one of the three groundwater samples. VOC TICs were detected at well MW-1 at a concentration of 650 ppb (Figure 11).

4.4.4.4 Groundwater - Inorganic Compounds

A total of 19 different inorganic compounds were detected in the three groundwater samples analyzed for TAL metals. Five of the compounds were detected at concentrations above TOGS 1.1.1 groundwater standards and guidance values. Inorganic compounds detected at levels above SCGs in at least groundwater sample, and the concentration range for each compound, are identified below:

- iron (9360 - 21,700 ppb);
- lead (11.1 - 62.4 ppb);
- magnesium (49600 - 76,200 ppb);
- manganese (181 - 1,730 ppb);
- sodium (10800 - 152,000 ppb);

The remaining 14 inorganic compounds were detected at levels below TOGS 1.1.1 groundwater standards and guidance values. As indicated on Figure 11, inorganic compounds exceeding groundwater SCGs were detected in each of the three wells.

4.4.5 Quality Assurance/Quality Control (QA/QC) Sample Results

The QA/QC program implemented for this project included both field and analytical components. Field components included use of acceptable sample collection methods, use of clean equipment to minimize the potential for cross contamination, and trip blank samples. Analytical components included instrument calibration, laboratory blanks, and MS/MSD samples. Overall, the quantitative results of the QA/QC program indicated the data collected by the NYSDEC at Vacuum Oil were of acceptable quality for the objectives of the investigation except for methylene chloride. As discussed below, laboratory contamination of methylene chloride resulted in the sample results for methylene chloride to be invalidated or considered biased high.

Trip blanks consisted of vials filled in the RECRA Labnet laboratory with uncontaminated water. These vials accompanied sample collection personnel in the field and were treated identically to other water samples but were never opened. One (1) trip blank sample was collected by NYSDEC during this investigation for VOC analysis. The trip blank results provided in Table 24 indicate the presence of methylene chloride at a concentration of 9 ppb. The concentration of methylene chloride in the associated groundwater samples (B70622, B70623, and B70624) and method blank samples was 8 ppb. These results indicate that the methylene chloride detected in samples B70622, B70623, and B70624 was the result of laboratory contamination.

MS/MSD results, method blank results and additional QA/QC data are provided along with the analytical results in Appendix C. The results of the analytical QA/QC program are summarized below:

SVOCs

- The samples were extracted and analyzed within required holding times.
- Non-target compounds were detected in the samples.
- Due to a suspected GPC malfunction, a reserve pre-GPC aliquot was analyzed and reported in association with sample B70617.
- Samples B70601 and B70602 required a 20-fold dilution due to high levels of non-target compounds.
- All samples B70603 to B70615 (except B70605 and B70612) required 2 to 1000-fold dilutions due to high levels of both target and non-target compounds.
- Sample B70623 required a 5-fold dilution due to high levels of non-target compounds.
- Three of 32 surrogate recoveries were outside EPA QC limits for samples B70601 and B70602. However, EPA CLP surrogate recovery criteria were met (i.e. no more than one outlier per fraction {acid and base neutral} and no recoveries less than 10%).
- Two of 104 obtainable surrogate recoveries were outside EPA QC limits for samples B70603 to B70615. However, EPA CLP surrogate recovery criteria were met (i.e. no more than one outlier per fraction {acid and base neutral} and no recoveries less than 10%).
- All surrogate recoveries were within EPA QC limits for samples B70617, B70622, B70623, and B70624.
- Five of 11 blank spike recoveries were outside EPA QC limits for samples B70601 and B70602. The out of limit recoveries were slightly high; however, there was no impact on the data.
- Five of 11 blank spike recoveries were outside EPA QC limits for samples B70603 to B70615.
- Two of 11 blank spike recoveries were outside EPA QC limits for sample B70617.
- Two of 11 blank spike recoveries were outside EPA QC limits for samples B70622 to B70624.
- Two of 22 matrix spike recoveries were outside EPA QC limits for samples B70603 to B70615. The spike concentration of Pyrene proved to be too low for the sample matrix (Pyrene was present in the sample).
- Five of 22 matrix spike recoveries were outside EPA QC limits for samples B70622 to B70624.
- Some method blanks contained the common laboratory contaminants Di-n-butylphthalate and bis(2-ethylhexyl)phthalate at levels less than the CRQL.
- All internal standard area and retention time criteria were met.

TPH

- For samples B70616 to B70620, the matrix spike recovery for total petroleum hydrocarbons was below the 75 to 125% control limits.
- For samples B70616 to B70620, the replicate analysis for percent solids was within the 20% RPD control limit, however replicate analysis for TPH was outside the control limit.
- The poor recovery and reproducibility for TPH for samples B70616 to B70620 may be

attributed to low spike level and sample inhomogeneity.

VOCs

- The required holding time for analysis was met.
- Non-target compounds were detected in the samples.
- Samples B70601, B70602, and B70617 required medium level analysis due to high levels of both target and non-target compounds.
- Four of 18 surrogate recoveries were outside EPA QC limits for samples B70601 and B70602. The analysis of the method blank fulfills the reanalysis requirement of sample 99LVN492-MB1 BS. The surrogate recovery criteria were not met for samples B70601 and B70602 due to the TIC interferences; however, samples were not reanalyzed because no significant target compounds were detected in the samples.
- Two of 60 surrogate recoveries were outside EPA QC limits for samples B70603 to B70615. Sample B70610 was reanalyzed due to internal standard , surrogate recoveries being out of range and the contamination of methylene chloride. The initial analysis also had surrogate, internal standard out of criteria and higher concentration of methylene chloride contamination. Further analysis was not performed due to exceeded holding time.
- All surrogate recoveries were within EPA QC limits for samples B70617, B70622, B70623, and B70624.
- The soil method blank samples associated with samples B70603 to B70615 contained the common laboratory contaminants methylene chloride, acetone, and 2-butanone at concentrations not exceeding 23 ppb, 10 ppb, and 2 ppb, respectively. **The analytical results for these compounds, especially methylene chloride, for samples B70603 to B70615 may be biased high due to laboratory contamination as indicated by the method blank results.**
- The soil method blank, 99LVN490-MB1, contained the common laboratory contaminants methylene chloride, acetone, and 2-butanone at concentrations of 2000 ppb, 420 ppb, and 130 ppb, respectively. Method blank sample 99LVN490-MB1 is associated with samples B70601 and B70602. The analytical results for methylene chloride, acetone, and 2-butanone for samples B70601 and B70602 were similar to or less than the associated method blank results indicating that the methylene chloride detected in the samples was the result of laboratory contamination and not site soil contamination. **Based on this information, the analytical results for methylene chloride, acetone, and 2-butanone for samples B70601 and B70602 were considered invalid.**
- The soil method blank, 00LVH052-MB1, contained the common laboratory contaminants methylene chloride and acetone at concentrations of 530 ppb and 380 ppb, respectively. Method blank sample 00LVH052-MB1 is associated with sample B70617. Acetone was not detected in sample B70617. Methylene chloride was detected in sample B70617 at a concentration of 750 ppb. **The concentration of methylene chloride in sample B70617 may be biased high due to laboratory contamination as indicated by the method blank results.**
- The water method blank samples associated with samples B70622 to B70624 contained the common laboratory contaminants methylene chloride and acetone at concentrations of 8 ppb each. The analytical results for methylene chloride for samples B70622 to B70624 were the same as the associated method blank results indicating that the methylene chloride detected

in the samples was the result of laboratory contamination and not groundwater contamination. **Based on this information, the analytical results for methylene chloride for samples B70622 to B70624 were considered invalid.**

- All matrix spike recoveries were within EPA QC limits.
- One blank spike recovery was outside EPA QC limits.
- All internal standard area and retention time criteria were met.

Inorganic Compounds

- All analyses were performed within the required hold times.
- All initial and continuing calibration verifications (ICV/CCVs) were within control limits.
- All initial and continuing calibration blanks (ICB/CCBs) were within control limits.
- All preparation/method blanks were within method criteria.
- All ICP interference check samples (ICSA and ICSAB) were within control limits with the exception of the ending ICSAB for selenium at 126.6% in TA1215A associated with samples B70601 and B70602. All of the samples were surrounded by CCVs which were within the control limits. The concentration of the interfering analytes was lower in the samples as compared to the ICSAB solution. Therefore, it is unlikely that the samples are significantly impacted.
- All laboratory control samples (LCS) were within the 80 to 120% control limits.
- All serial dilution percent differences were within method control limits.
- The TCLP extract from sample B70601 was selected for the matrix spike for this analytical batch. All TCLP matrix spike recoveries were greater than 50% as per method criteria.
- The matrix spike recovery for 1 analyte for samples B70617 to B70620, was outside the 75 to 125% control limits.
- The matrix spike recoveries for 2 analytes for samples B70603 to B70615 were outside the 75 to 125% control limits.
- The matrix spike recoveries for 2 analytes for samples B70622 to B70624 were outside the 75 to 125% control limits.
- The duplicate analysis for 1 analyte for samples B70617 to B70620 was outside the method criteria.

Pesticide/PCB

- Linearity and breakdown criteria were met for each of the analytical columns.
- Retention time criteria were met for all compounds on both analytical columns.
- Resolution of all pesticides in the Resolution Check Standard were within EPA QC limits.
- The RPDs of the pesticides in the Individual Mixes analyzed for calibration verification were within 25% for both analytical columns.
- The RPDs of the pesticides in the Performance Evaluation Mixes analyzed for calibration verification were within 25% for both analytical columns.
- All obtainable surrogate recoveries were within the advisory EPA QC limits.
- All blank spike recoveries were within EPA QC limits.
- Matrix spike recoveries for samples for samples B70603 to B70615 were unobtainable due to the dilution required for analysis.
- Recoveries of pesticides for the Florisil Cartridge Check were within EPA QC limits.
- Recoveries of pesticides for the GPC Calibration Check were within EPA QC limits.

SVOCs - TCLP

- All required holding times for extraction and analysis were met.
- All surrogate recoveries were within EPA QC limits.
- All blank spike recoveries were within EPA QC limits.
- Internal standard area criteria were not met for the method blank spike 99LE1549-MB1 BS. The analysis of associated blank spike duplicate 99LE1549-MB1 BSD fulfills the reanalysis requirement.

VOC - TCLP

- The required holding time for analysis was met.
- The samples were analyzed at five-fold dilution due to the leachate matrix.
- All surrogate recoveries were within EPA QC limits.
- Internal standard area and retention time criteria were met.

Pesticide - TCLP

- All required holding times for extraction and analysis were met.
- All method blanks were below the reporting limits for all target compounds.
- All surrogate recoveries were within acceptance criteria.
- All blank spike recoveries were within acceptance criteria.
- All continuing calibration standards analyzed prior to sample extracts were within acceptance criteria.

Herbicide - TCLP

- All required holding times for extraction and analysis were met.
- All method blanks were below the reporting limits for all target compounds.
- One of six surrogate recoveries were outside acceptance criteria.
- All blank spike recoveries were within acceptance criteria.
- All initial calibrations were within acceptance criteria.
- All continuing calibration standards analyzed prior to sample extracts were within acceptance criteria.

4.5 CONCLUSIONS

Significant findings of this investigation relative to project objectives are provided below.

4.5.1 Extent of Contamination

The 1999-2000 investigation was designed to provide additional information concerning the nature and extent of contamination in the overburden on a portion of the property formerly occupied by the Vacuum Oil Company. The 1999-2000 investigation was not designed to completely define the nature and extent of contamination at the site. Rather the scope of work was designed to provide some information about all areas of the site, identify some heavily contaminated areas, and, if possible, determine if a consequential amount of hazardous waste was disposed of on the site.

Elevated levels of SVOCs, VOCs, inorganic compounds, and pesticides were detected throughout the site. The extent of contamination for specific compounds is discussed below. No PCBs were detected at the site during the 1999-2000 investigation.

4.5.1.1 Semi-Volatile Organic Compounds and Total Petroleum Hydrocarbons

The TPH soil gas results indicated that there were two large areas with the potential for significant petroleum related contamination at the site. The first area was centered around soil gas sample point B-3 and the second area was centered around soil gas sample point F-5 (see Figure 7). All of the test pits, except TP-10, were located within these two TPH plumes. The test pit and soil boring sampling results indicated that the soils in the B-3 plume area contained more SVOC compounds at higher concentrations than the soils in the F-5 plume. For example, Figure 10 indicates that a total of 17 different SVOCs were detected at concentrations above SCGs in the subsurface soils at TP-2 (in the B3 plume area) and all of those compounds were detected at concentrations between 100,000 ppb and 1,600,000 ppb. By comparison, 7 different SVOCs were detected at concentrations above SCGs in the subsurface soils at TP-8 (in the F-5 plume area) and none of those compounds were detected at concentrations above 10,000 ppb.

SVOCs were detected above SCGs in surface and subsurface soil samples collected throughout the B-3 plume area. The most heavily SVOC contaminated soils were encountered in the vicinity of soil gas location C-3. The C-3 area included surface soil location SS-2, test pit TP-2 and well MW-2 (see Figures 7, 9, and 10). SVOCs exceeding SCGs were also detected in the B-3 plume in surface soil sample SS-1 and test pit TP-3 indicating that the SVOC contamination may be widespread.

Test pit TP-1 and well MW-1 were located immediately adjacent to soil gas point B-3 (Figure 7). No SVOCs were detected above SCGs in the subsurface soil samples collected from TP-1 or MW-1, but soils from MW-1 contained the highest TPH concentration (1,140 ppm) and soils from TP-1 contained the second highest concentration of SVOC TICs (814,000 ppb; Figure 10). The nature of the contamination in the soils at TP-1 and MW-1 also appeared to be different from TP-2, MW-2, and TP-3. The PID field screening results, provided in Appendix A, did not indicate the presence of contamination in the soils at TP-2 or TP-3. The PID did indicate the presence of some contamination in the 6 to 12 ft. interval of MW-2. At TP-1 and MW-1, the contamination was more volatile in nature as the PID results indicated contamination was present from 4 ft. until refusal at 16.5 ft and the soils had a strong petroleum odor.

The groundwater results (see Figure 11), indicate that the SVOC contamination at the site has primarily impacted site soils as phenol was the only SVOC detected in the groundwater at concentrations above SCGs. Phenol was detected at a concentration of 7 ppb at well MW-1, the NYS groundwater standard for phenol is 1 ppb. Phenol was not detected in the groundwater at wells MW-2 or MW-3.

Figure 11 also indicates that the groundwater at MW-1 was more contaminated with SVOCs and TPH than MW-2. This is based on the following:

- Phenol at MW-1 was the only SVOC detected in the groundwater at concentrations above

SCGs;

- The groundwater at MW-1 contained a higher concentration of SVOC TICS (1,250 ppb) than MW-2 (125 ppb); and
- The groundwater at MW-1 contained a higher concentration of TPH (3.7 ppm) than MW-2 (not detected).

These groundwater results do not correlate well with the soil results which indicated that the soils in the vicinity of MW-2 were more contaminated with SVOCs than the soils in the vicinity of MW-1.

4.5.1.2 Volatile Organic Compounds

The VOC soil gas results detected the presence of petroleum-related VOCs (BTEX, trimethylbenzenes, and naphthalene) and chlorinated VOCs (1,1,1-trichloroethane, trichloroethene, and tetrachloroethene). The soil gas data, presented in Appendix E, indicated a correlation between the petroleum VOC soil gas results and the TPH soil gas results. Subsequent sampling of the surface soil, subsurface soil and groundwater indicated that petroleum-related VOC contamination was present in the subsurface soil and groundwater in the vicinity of MW-1 and TP-1 (see Figures 10 and 11). In the subsurface soil from TP-1, xylene was detected at a concentration of 6,300 ppb at MW-1. The TAGM 4046 recommended soil cleanup objective for xylene is 1,200 ppb. Subsurface soil samples from TP-1 also contained the highest level of VOC TICs (133,000 ppb). The next highest level of VOC TICs in the subsurface soil was 237 ppb from TP-3. In the groundwater, the petroleum-related compounds benzene, ethyl benzene, and xylene were detected above NYS groundwater standards at well MW-1 which is adjacent to test pit TP-1 (see Figure 11). Petroleum-related VOCs were not detected in wells MW-2 or MW-3.

Chlorinated VOCs were detected less frequently in the soil vapor than the petroleum VOCs and there was not a strong correlation between the chlorinated VOC soil gas results and the soil gas results for other compounds. Total chlorinated VOC concentrations detected in the soil gas are shown on Figure 8. Figure 8 indicated that the area around soil gas points C-3 and D-3 was a potential source of chlorinated compound contamination, but additional sampling at the site did not identify the presence of a consequential chlorinated VOC source area. This conclusion was based on the following:

- Except for methylene chloride, no chlorinated VOCs were detected in the surface soil samples (Table 9).
- In the subsurface, chlorinated VOCs (excluding methylene chloride) were detected in one sample (TP-3) at a total concentration of about 42 ppb. Trichloroethene was the individual chlorinated VOC detected at the highest concentration, 28 ppb, which was much lower than the TAGM 4046 recommended soil cleanup objective of 700 ppb (see Tables 16 and 17).
- In the groundwater, chlorinated compounds (excluding methylene chloride) were detected at concentrations above NYS groundwater standards at wells MW-1 and MW-2 (Figure 11). 1,1-Dichloroethane was detected at the highest concentration, 13 ppb, which is only slightly higher than the NYS groundwater standard of 5 ppb.
- As discussed in Section 4.4.5, laboratory contamination resulted in invalid and biased high

analytical data for methylene chloride.

4.5.1.3 Inorganic Compounds

A total of 14 different inorganic compounds that were detected at concentrations above SCGs in either the surface soil, subsurface soil, or groundwater during the 1999-2000 investigation. The following two compounds were identified as compounds of concern for additional review:

- arsenic; and
- mercury.

These compounds were identified based on the number and magnitude of SCG exceedances (see Tables 4, 5 and 6) and the potential hazards of the compound in the environment.

Arsenic: Elevated levels of arsenic were detected throughout the site, particularly in the surface soil and subsurface soil. In the surface soil, elevated levels of arsenic (greater than the Eastern USA background concentration of 12 ppm) were detected in two of the five surface soil samples: SS-2 (60.7 ppm) and SS-5 (13.5 ppm). As shown on Figure 9, SS-2 was located in the northern portion of the site. SS-5 was located in the southern portion of the site in the vicinity of former "sludge pits" that were excavated in 1992 (Figure 3). The sludge pit soils reportedly contained arsenic at concentrations up to 930 ppm.

In the subsurface soils, elevated levels of arsenic (greater than the Eastern USA background concentration of 12 ppm) were detected in three of the nine test pits and borings sampled for metals at concentrations ranging from 16.1 ppm to 113 ppm (see Figure 10). The highest concentration of arsenic detected in the subsurface soil was 113 ppm at test pit TP-8. Elevated levels of arsenic were also detected in TP-5 (37.7 ppm) and TP-2 (16.1 ppm). Test pit TP-2 was located in the vicinity of surface soil sample location SS-2 where elevated levels of arsenic were also detected. Test pit TP-8 was located in the western portion of the site and TP-5 was located in the southeastern portion of the site. There were no other sample locations in the immediate vicinity of either TP-8 or TP-5. Figure 9 and Figure 10 indicate that there may be a correlation between elevated arsenic concentrations and elevated SVOC concentrations in the soil.

Site specific background samples were not collected as part of the 1999-2000 investigation, but samples collected at other sites in the City of Rochester indicated that the Eastern USA background concentration of 12 ppm identified in TAGM 4046 is an appropriate upper limit to use as a background level for arsenic. Based on these data, the elevated levels of arsenic detected at the site are likely the result of past site activities.

Arsenic was detected in each of the three groundwater samples, but the results were all less than the NYS groundwater standard of 25 ppb (Tables 25 and 26). The highest concentration of arsenic detected in the groundwater was 17 ppb at well MW-2. Well MW-2 was located adjacent to surface soil sample point SS-2 and test pit TP-2 where elevated levels of arsenic were detected.

Mercury: Elevated levels of mercury were detected throughout the site in the surface and

subsurface soils. In the surface soil, elevated levels of mercury (greater than the TAGM 4046 recommended cleanup value of 0.1 ppm) were detected in each of the five surface soil samples. The highest mercury concentration was 2.1 ppm at SS-4 located in the southwest portion of the site (see Figure 9).

In the subsurface soil, elevated levels of mercury (greater than the TAGM 4046 recommended cleanup value of 0.1 ppm) were detected in three of the nine test pits and borings sampled for metals at concentrations ranging from 0.12 ppm to 4 ppm (see Figure 10). The highest concentration of mercury detected in the subsurface soil was 4 ppm at test pit TP-1. Elevated levels of arsenic were also detected in TP-3 (0.12 ppm), TP-2 (1 ppm), and TP-10 (1.5 ppm). TP-1, TP-2, TP-3, and TP-10 are located in the northern portion of the site.

Site specific background samples were not collected as part of the 1999-2000 investigation, but samples collected at other sites in the City of Rochester indicated that approximately 1 ppm is an appropriate upper limit to use as a background level for mercury. Based on these data, two surface soil samples (SS-4 and SS-5) and three subsurface soil samples (TP-1, TP-2, and TP-10) contained levels of mercury that are likely the result of past site activities.

Mercury was not detected in the groundwater at concentrations above NYS groundwater standards.

4.5.1.4 Pesticides

The 1999-2000 investigation indicated the potential for limited pesticide contamination. Elevated levels of the pesticides dieldrin and heptachlor epoxide were detected in surface soil sample SS-1 (Figure 9). Dieldrin was detected at a concentration of 74 ppb and heptachlor epoxide was detected at a concentration of 30 ppb. The TAGM 4046 recommended cleanup objectives for dieldrin and heptachlor epoxide are 44 ppb and 20 ppb, respectively.

4.5.2 The NYS Listing of Inactive Hazardous Waste Disposal Sites

As discussed below, the results of the 1999-2000 investigation indicated that site contamination resulted from the disposal of petroleum-related compounds at the site. Some hazardous waste may have also been disposed of at the site, but the 1999-2000 investigation results did not identify a consequential amount of hazardous waste. Based on the results of the investigation NYSDEC will not include the Vacuum Oil site in the NYS Listing of Inactive Hazardous Waste Disposal Sites. This conclusion is based on the following:

- The primary contaminants at the site are petroleum related SVOCs and VOCs. This is consistent with the site's former use as an oil refinery.
- Site contamination could not be identified as a characteristic hazardous waste as defined in 6 NYCRR 371.3. Waste soils and water generated during the 1999-2000 investigation were tested and were not ignitable, corrosive, reactive, or toxic. TCLP analytical results for subsurface soil samples from TP-1 (see Table 21), were below regulatory levels. During the 1992 soil removal at the site, arsenic was detected in the sludge pit soils at concentrations up to 930 ppm, but TCLP results for the sludge pit soils were below regulatory levels. The

highest arsenic concentration detected in the soil during the 1999-2000 investigation was 113 ppm.

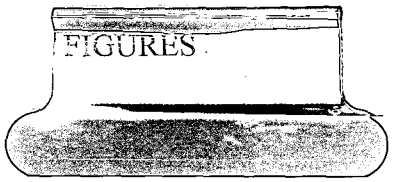
- The petroleum contamination at the site could not be identified as a listed hazardous waste as defined in 6 NYCRR 371.4. The following hazardous waste codes apply to specific wastes from petroleum refineries: F037, F038, and K048 to K052. Since the NYSDEC has no knowledge as to what operations at Vacuum Oil caused the petroleum contamination, it is not appropriate to classify the site using the listed hazardous waste codes.
- The chlorinated compounds detected at the site may have been caused by the disposal of listed hazardous waste (either waste code F001 or F002), but the sampling results indicated that the amount of hazardous waste disposed was not consequential.

5.0 RECOMMENDATIONS

In 1999-2000, the NYSDEC conducted a site investigation of a portion of the former Vacuum Oil Company facility in Rochester, New York. Soil gas, surface soil, subsurface soil, and groundwater samples were collected at the site and analyzed for TCL SVOCs, TPH, TCL VOCs, TAL metals, cyanide, pesticides, PCBs, and TCLP.

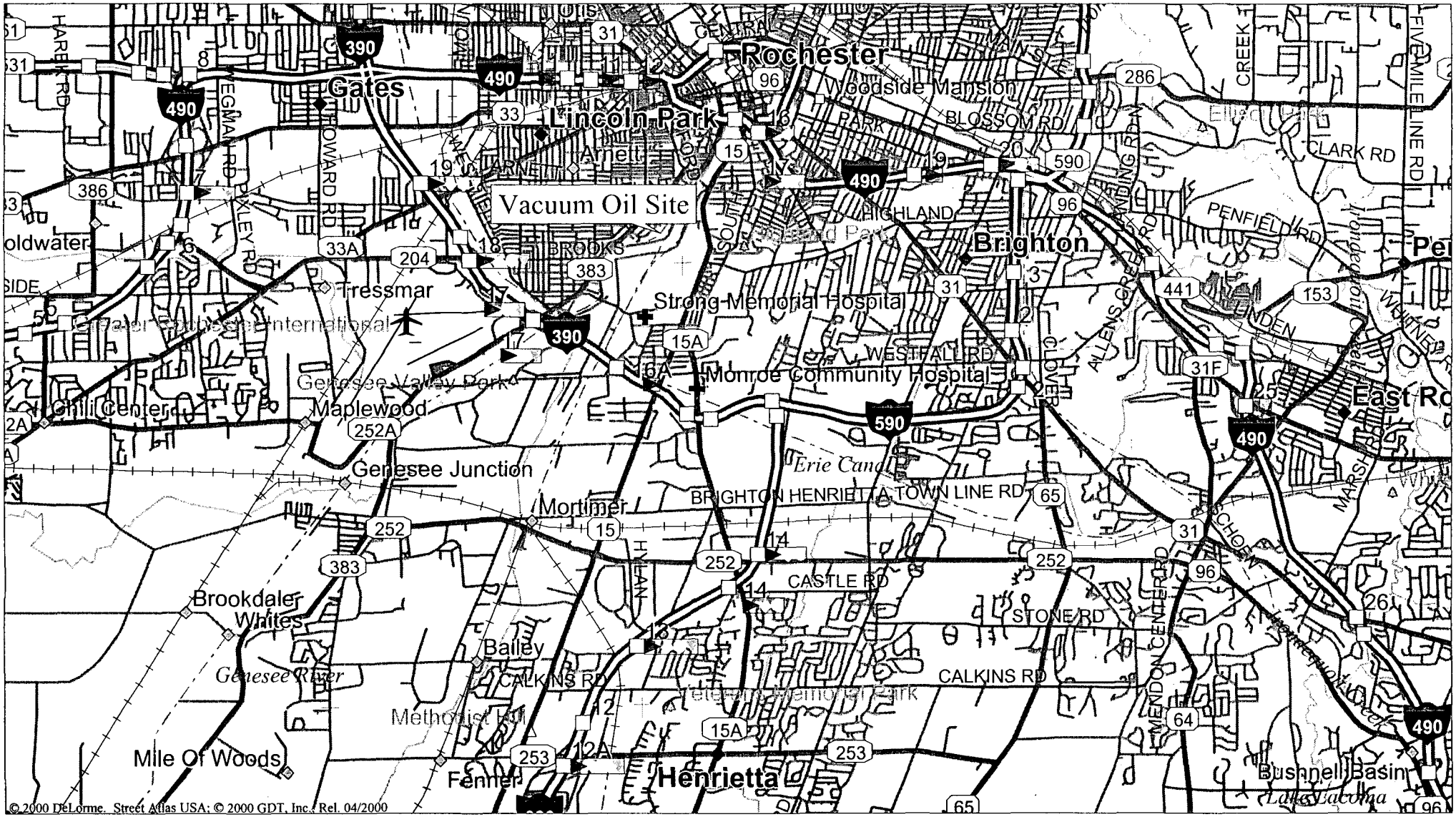
The results of the NYSDEC investigation indicated widespread petroleum contamination in the surface soil, subsurface soil, and groundwater at the site. To a lesser extent, chlorinated VOCs, metals, and pesticides were also detected above NYS standards at the site

The results of the 1999-2000 investigation indicated that site contamination was not the result of disposal of a consequential amount of hazardous waste. NYSDEC will not include the site in the New York State Listing of Inactive Hazardous Waste Disposal Sites at this time.


FIGURES

FIGURES

Figure 1. Rochester, New York Location of Former Vacuum Oil Facility



Mag 12.00
Mon Dec 11 10:57 2000

Scale 1:87,500 (at center)
2 Miles
2 KM

Local Road
Major Connector
State Route
Walkway/Stairway
Trail
Interstate/Limited Access

Survey Notes:

1) Horizontal information shown heron is referenced to the NAD '83 New York West Zone.

2) Vertical information shown heron is referenced to the NGVD '88 as generated from the Rochester City Datum.

General Notes

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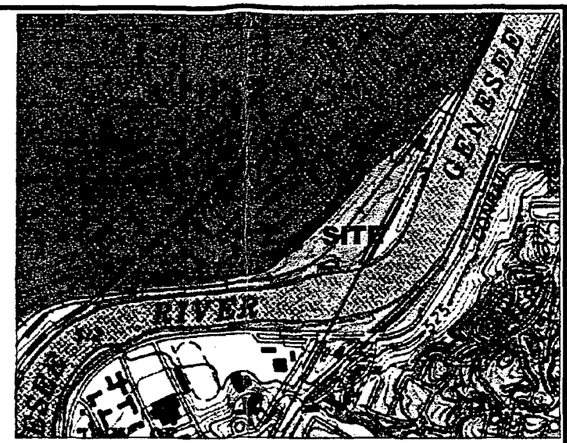
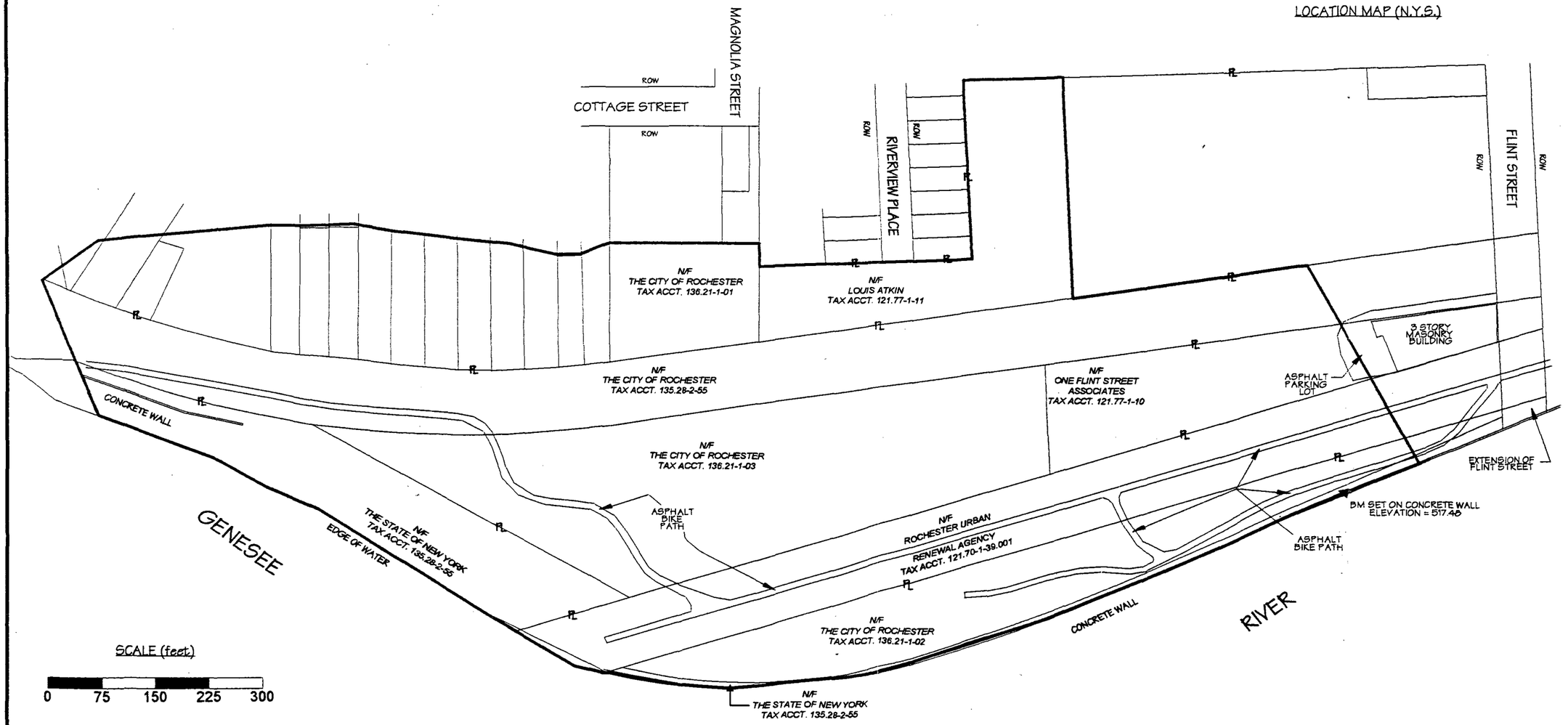


LOCATION MAP (N.Y.S.)



NO.	REVISIONS	BY	DATE

NEW YORK STATE DEC
DIVISION OF ENVIRONMENTAL REMEDIATION
REGION 8

PROJECT MANAGER:
FRANK SOWERS

FIGURE 2

PROJECT:
FORMER VACUUM OIL COMPANY
CITY OF ROCHESTER, COUNTY OF MONROE, STATE OF NEW YORK

FIGURE #2:
SITE BOUNDARIES FOR THE 1999-2000 SITE INVESTIGATION

SCALE: 1" = 150'
* VALID FOR 11X17" DRAWINGS ONLY

DATE: SEPTEMBER 5, 2000

Survey Notes:

1) Horizontal information shown heron is referenced to the NAD '83 New York West Zone.

2) Vertical information shown heron is referenced to the NGVD '88 as generated from the Rochester City Datum.

General Notes

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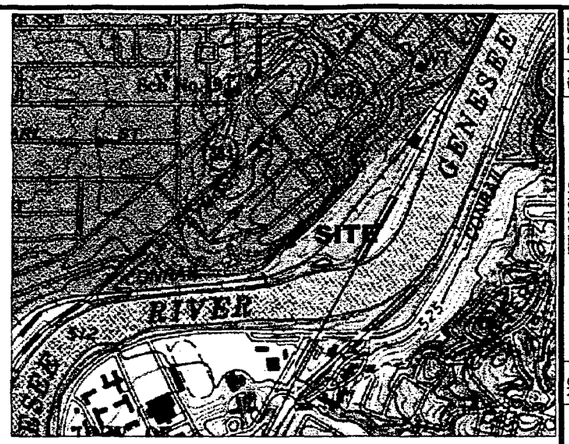

LOCATION MAP (N.Y.S.)

LEGEND

- ⊕ MONITORING WELL
- ☒ SOIL GAS SAMPLE
- ◇ TEST PIT
- ✕ SURFACE SOIL SAMPLE
- F-2 ← Sample Point Identification ☒

MAGNOLIA STREET
ROW
COTTAGE STREET
ROW
ROW
RIVERVIEW PLACE
ROW
FLINT STREET
ROW
N/F THE CITY OF ROCHESTER TAX ACCT. 136.21-1-01
N/F LOUIS ATKIN TAX ACCT. 121.77-1-11
N/F THE CITY OF ROCHESTER TAX ACCT. 135.28-2-55
N/F THE CITY OF ROCHESTER TAX ACCT. 136.21-1-03
N/F ONE FLINT STREET ASSOCIATES TAX ACCT. 121.77-1-10
N/F ROCHESTER URBAN RENEWAL AGENCY TAX ACCT. 121.70-1-39.001
N/F THE CITY OF ROCHESTER TAX ACCT. 136.21-1-02
N/F THE STATE OF NEW YORK TAX ACCT. 135.28-2-55
N/F THE STATE OF NEW YORK TAX ACCT. 135.28-2-55
3 STORY MASONRY BUILDING
ASPHALT PARKING LOT
ASPHALT BIKE PATH
ASPHALT BIKE PATH
CONCRETE WALL
CONCRETE WALL
EDGE OF WATER
EXTENSION OF FLINT STREET
River
BM SET ON CONCRETE WALL ELEVATION = 517.45
GENESEE
RIVER
APPROXIMATE LOCATION OF SLUDGE PITS
SS-1
SS-2
SS-3
SS-4
SS-5
MW-1
MW-2
MW-3
TP-1
TP-2
TP-3
TP-4
TP-5
TP-6
TP-7
TP-8
TP-9
TP-10

SCALE (feet)

0 75 150 225 300

NO.	REVISIONS	BY	DATE

NEW YORK STATE DEC
DIVISION OF ENVIRONMENTAL REMEDIATION
REGION 8

PROJECT MANAGER: FRANK SOWERS

FIGURE 3

PROJECT: FORMER VACUUM OIL COMPANY
CITY OF ROCHESTER, COUNTY OF MONROE, STATE OF NEW YORK

FIGURE #3: LOCATION OF SLUDGE PITS REMOVED IN 1992

SCALE*: 1" = 150'
* VALID FOR 11X17" DRAWINGS ONLY

DATE: SEPTEMBER 6, 2000

Survey Notes:

1) Horizontal information shown heron is referenced to the NAD '83 New York West Zone.

2) Vertical information shown heron is referenced to the NGVD '88 as generated from the Rochester City Datum.

General Notes

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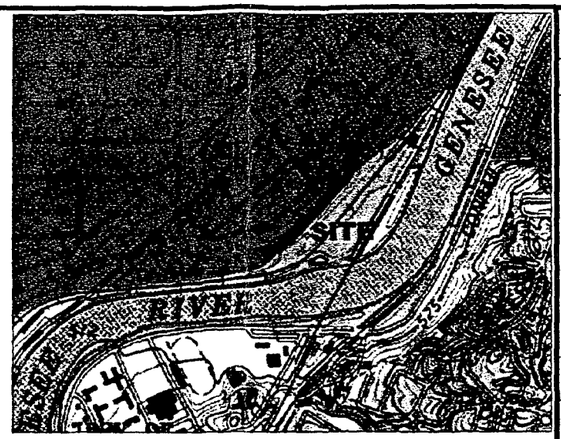
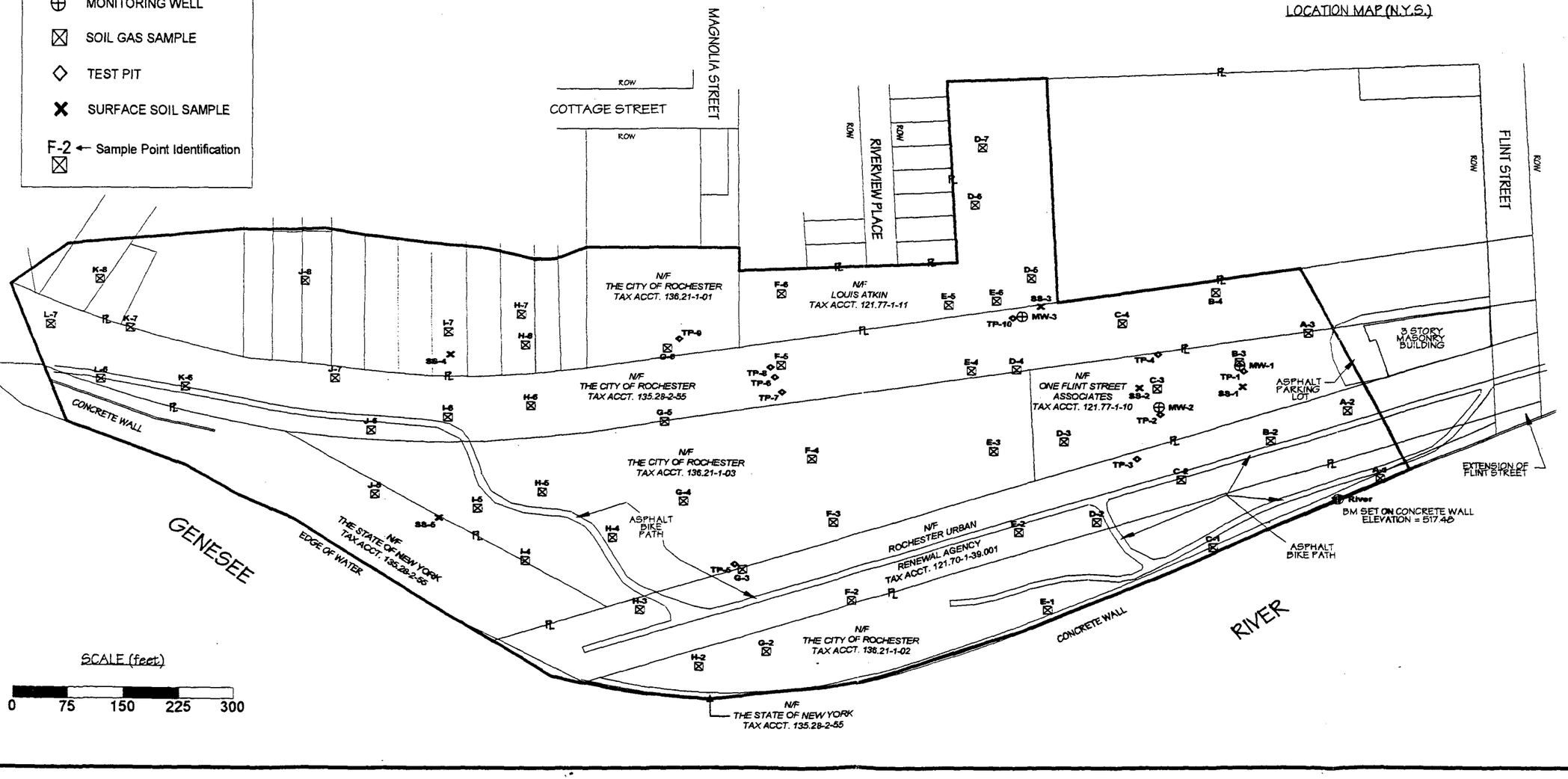


LOCATION MAP (N.Y.S.)

LEGEND

- ⊕ MONITORING WELL
- ⊠ SOIL GAS SAMPLE
- ◇ TEST PIT
- ✖ SURFACE SOIL SAMPLE
- F-2 ← Sample Point Identification ⊠



SCALE (feet)

0 75 150 225 300

NO.	REVISIONS	BY	DATE

NEW YORK STATE DEC
DIVISION OF ENVIRONMENTAL REMEDIATION
REGION 8

PROJECT MANAGER: FRANK SOWERS

FIGURE 4

PROJECT:
FORMER VACUUM OIL COMPANY
CITY OF ROCHESTER, COUNTY OF MONROE, STATE OF NEW YORK

FIGURE #4:
SAMPLE POINT LOCATION MAP

SCALE: 1" = 150'
*VALID FOR 11X17 DRAWINGS ONLY

DATE: AUGUST 30, 2000

LEGEND

⊕ MONITORING WELL

510.31 ← WATER ELEVATION (FEET)

⊕ MW-1 ← Sample Point Identification

Survey Notes:

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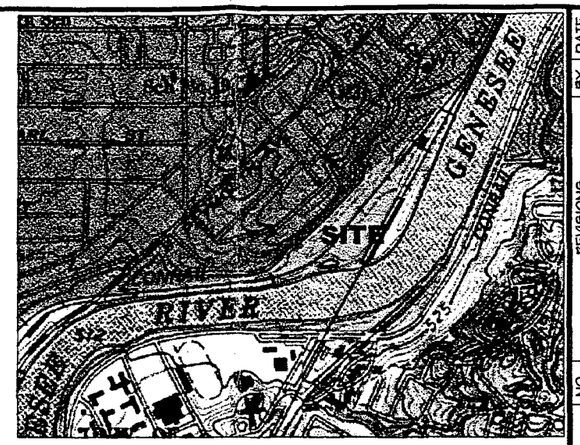
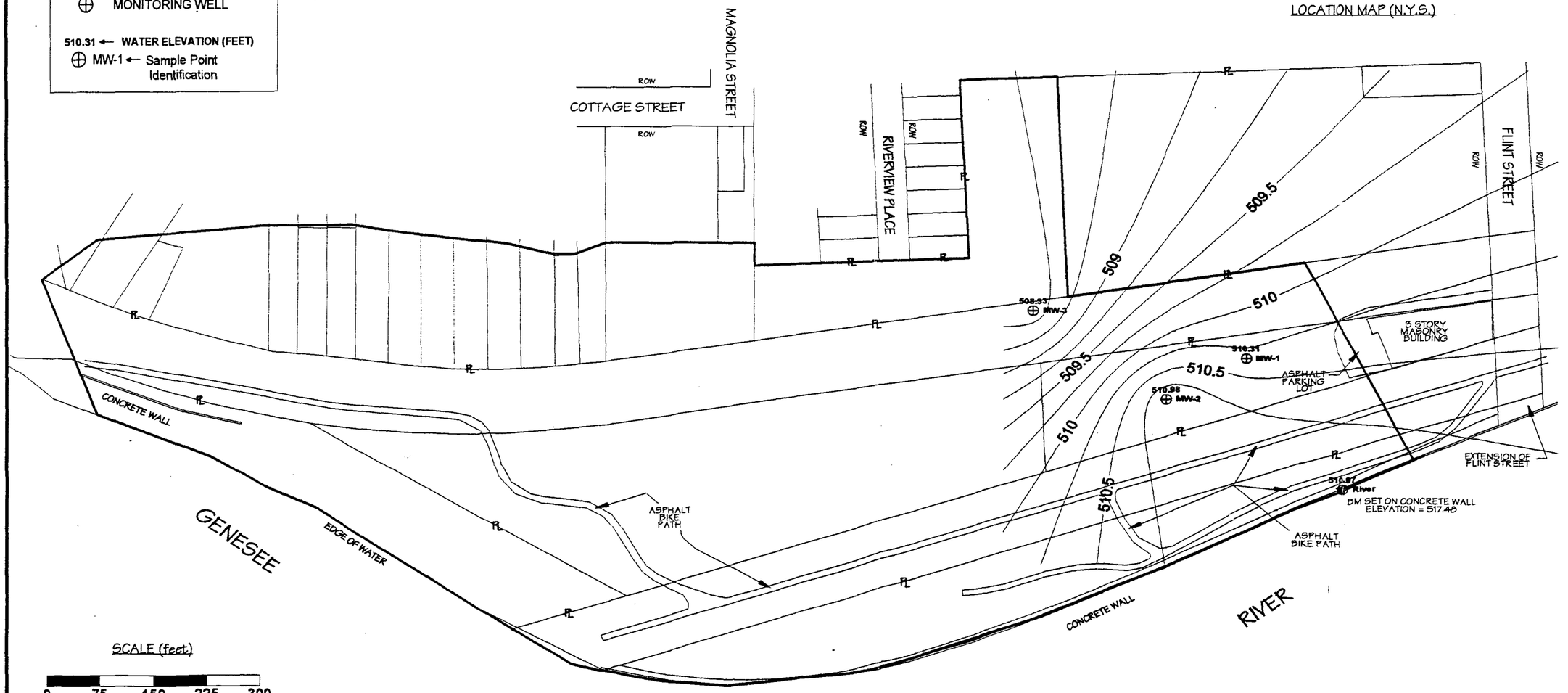


LOCATION MAP (N.Y.S.)



SCALE (feet)

0 75 150 225 300

NO.	REVISIONS	BY	DATE

NEW YORK STATE DEC
DIVISION OF ENVIRONMENTAL REMEDIATION
REGION 8

PROJECT MANAGER: FRANK SOWERS

FIGURE 5

PROJECT:
FORMER VACUUM OIL COMPANY
CITY OF ROCHESTER, COUNTY OF MONROE, STATE OF NEW YORK

FIGURE #5:
OVERBURDEN GROUNDWATER CONTOUR MAP
(MAY 4, 2000)

SCALE: 1" = 150'

DATE: SEPTEMBER 5, 2000

* VALID FOR 11X17" DRAWINGS ONLY

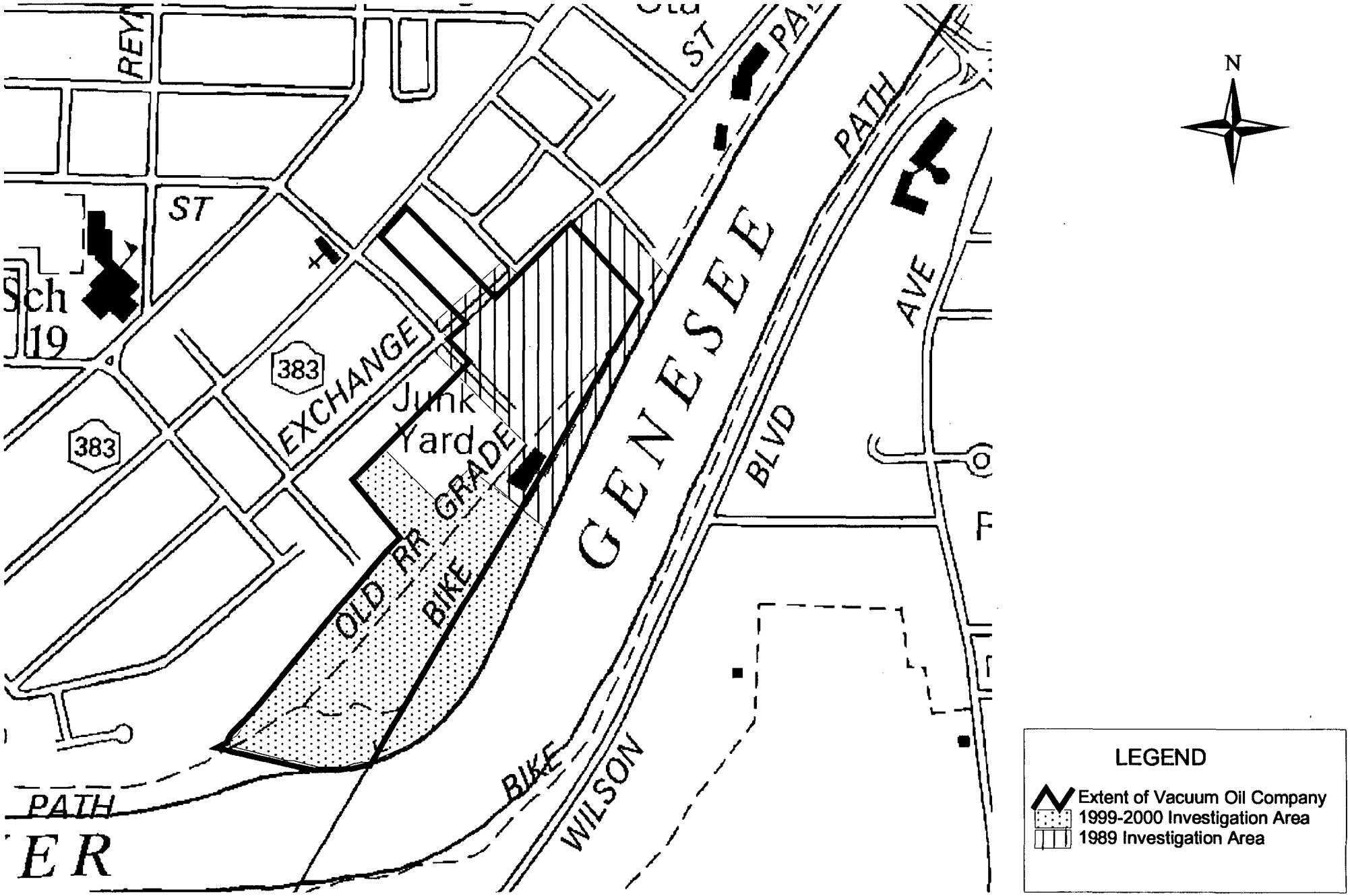


FIGURE 6. EXTENT OF FORMER VACUUM OIL FACILITY

LEGEND

- ⊕ MONITORING WELL
- ⊠ SOIL GAS SAMPLE
- ◇ TEST PIT
- ✕ SURFACE SOIL SAMPLE
- F-2 ⊠ ← Sample Point Identification
- U ← TPH Concentration in nanograms

Survey Notes:

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2) Vertical information shown heron is referenced to the NGVD '88 as generated from the Rochester City Datum.

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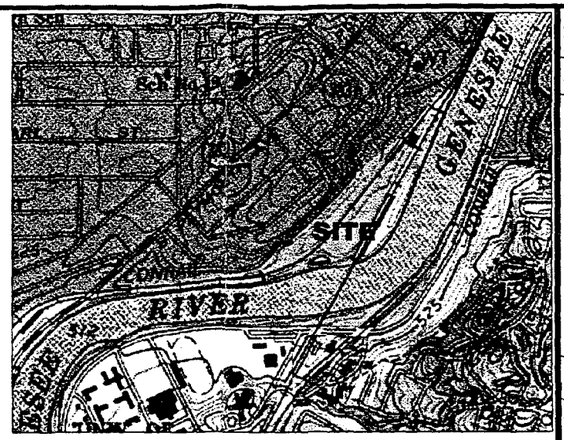
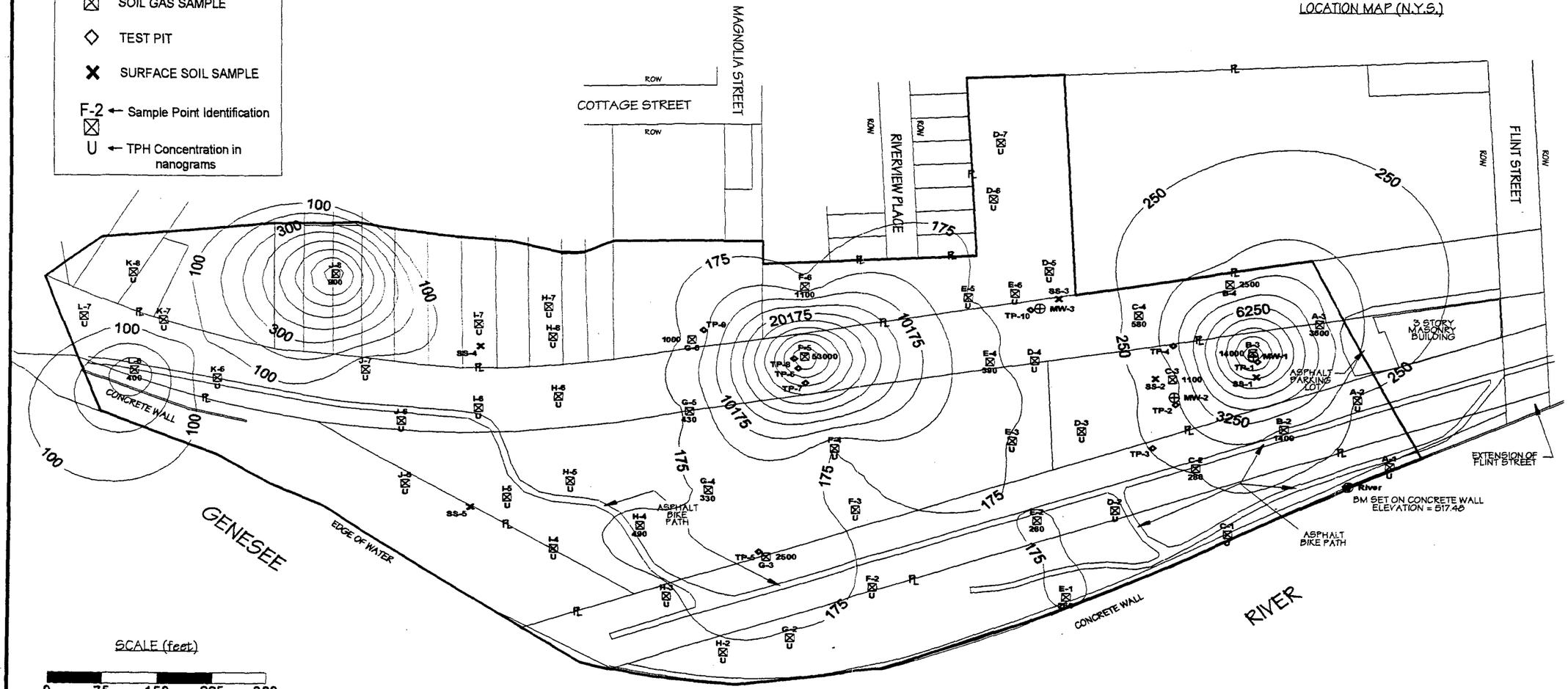
3) Contours were computed and added to this map using Golden Software Surfer, and the kriging method.



LOCATION MAP (N.Y.S.)



NO.	REVISIONS	BY	DATE

NEW YORK STATE DEC
DIVISION OF ENVIRONMENTAL REMEDIATION
REGION 8

PROJECT MANAGER: FRANK SOWERS

FIGURE 7

PROJECT:
FORMER VACUUM OIL COMPANY
CITY OF ROCHESTER, COUNTY OF MONROE, STATE OF NEW YORK.

FIGURE #7:
PASSIVE SOIL GAS SURVEY RESULTS AND CONTOUR MAP: TOTAL PETROLEUM HYDROCARBONS (TPH)

SCALE: 1" = 150'
* VALID FOR 11X17" DRAWINGS ONLY

DATE: SEPTEMBER 5, 2000

LEGEND

- ⊕ MONITORING WELL
- ⊠ SOIL GAS SAMPLE
- ◇ TEST PIT
- ✕ SURFACE SOIL SAMPLE
- F-2 ⊠ ← Sample Point Identification
- U ← TPH Concentration in nanograms

Survey Notes:

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2) Vertical information shown heron is referenced to the NGVD '88 as generated from the Rochester City Datum.

General Notes

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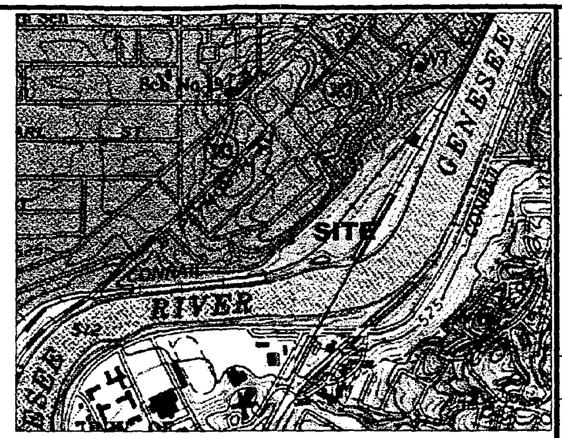
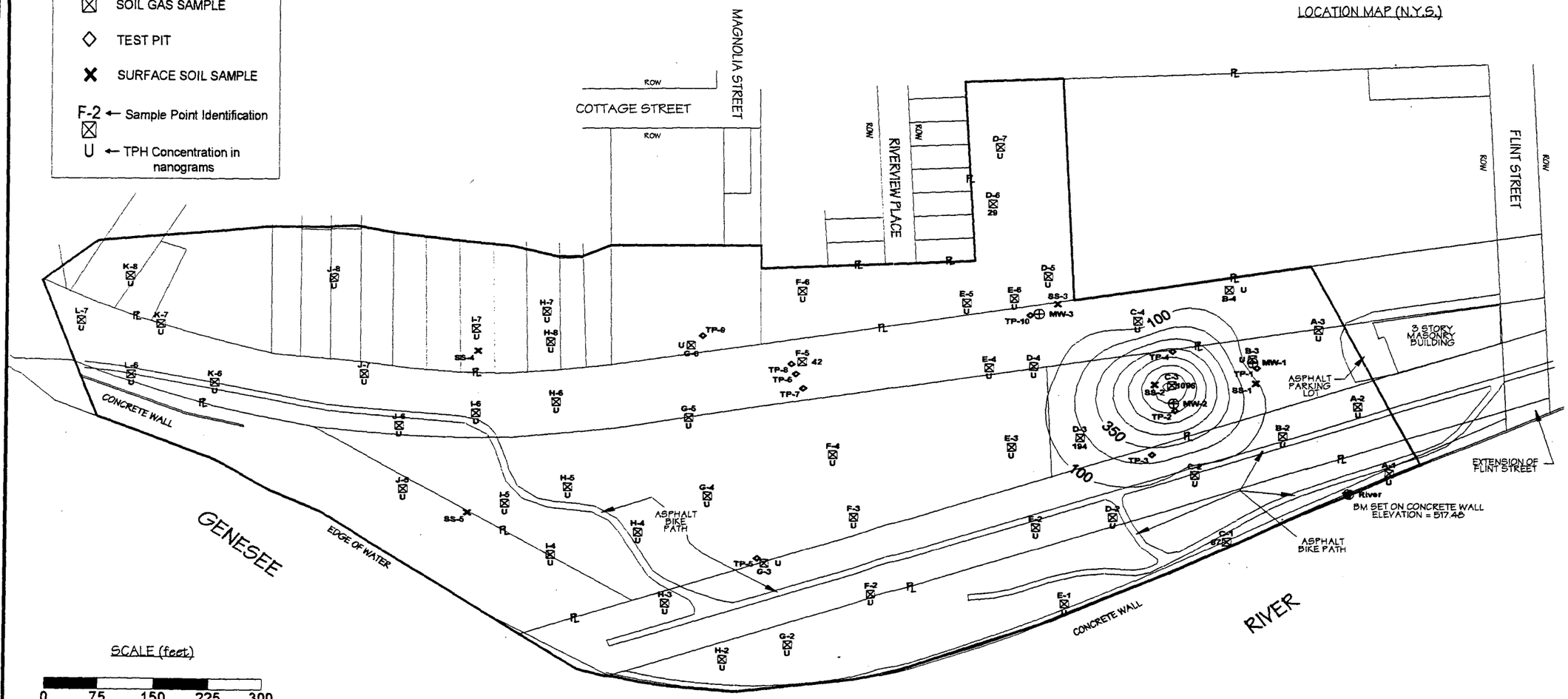


LOCATION MAP (N.Y.S.)



SCALE (feet)

0 75 150 225 300

NO.	REVISIONS	BY	DATE

PROJECT:
FORMER VACUUM OIL COMPANY
CITY OF ROCHESTER, COUNTY OF MONROE, STATE OF NEW YORK

FIGURE #8:
PASSIVE SOIL GAS SURVEY RESULTS AND CONTOUR MAP: TOTAL CHLORINATED VOLATILES

SCALE: 1" = 150'
* VALID FOR 11X17" DRAWINGS ONLY

DATE: SEPTEMBER 6, 2000

NEW YORK STATE DEC
DIVISION OF ENVIRONMENTAL REMEDIATION
REGION 8

PROJECT MANAGER:
FRANK SOWERS

FIGURE 8

LEGEND

- ⊕ MONITORING WELL
- ◇ TEST PIT
- ✕ SURFACE SOIL SAMPLE

Metals (ppm)	Result	SCG
As	60.7	12

Element or Compound — Sample Concentration; units in parantheses above — New York State Standard, Criteria or Guidance Value

Survey Notes:

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2) Vertical information shown heron is referenced to the NGVD '88 as generated from the Rochester City Datum.

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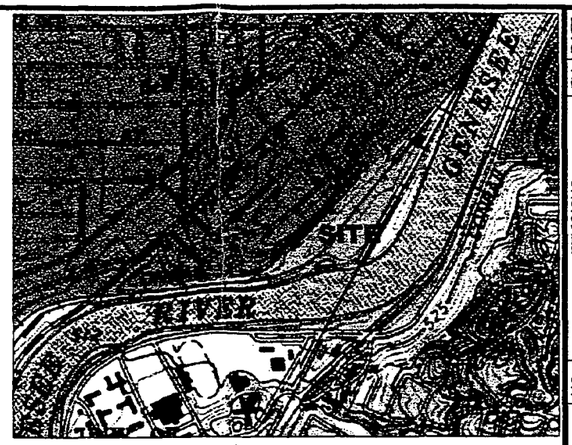
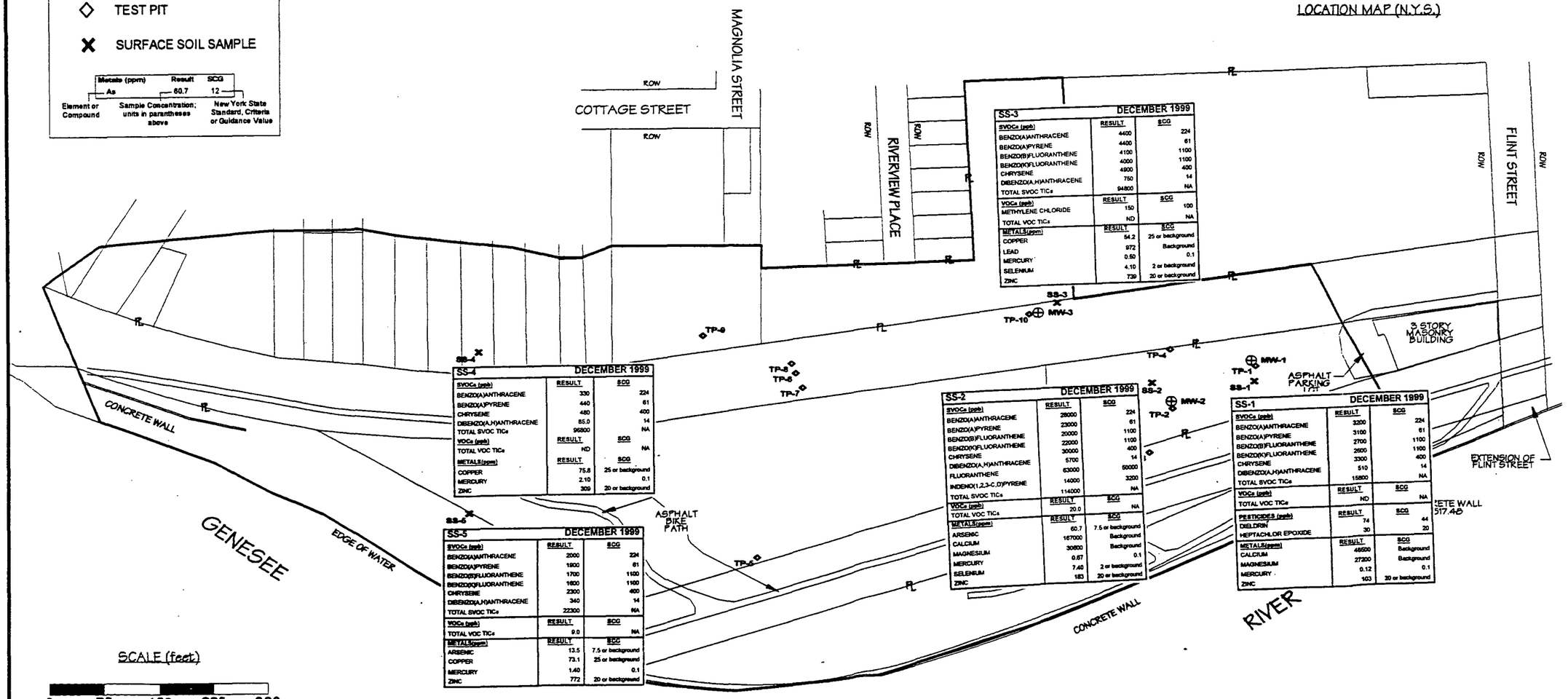
3) The term "TICs" stands for Tentatively Identified Compounds.



LOCATION MAP (N.Y.S.)



SS-3	DECEMBER 1999	
SVOCs (ppb)	RESULT	SCG
BENZO(A)ANTHRACENE	4400	224
BENZO(A)PYRENE	4400	61
BENZO(B)FLUORANTHENE	4100	1100
BENZO(K)FLUORANTHENE	4000	1100
CHRYSENE	4900	400
DIBENZO(A,H)ANTHRACENE	750	14
TOTAL SVOC TICs	94800	NA
VOCs (ppb)	RESULT	SCG
METHYLENE CHLORIDE	150	100
TOTAL VOC TICs	ND	NA
METALS(ppm)	RESULT	SCG
COPPER	54.2	25 or background
LEAD	972	Background
MERCURY	0.50	0.1
SELENIUM	4.10	2 or background
ZINC	739	20 or background

SS-4	DECEMBER 1999	
SVOCs (ppb)	RESULT	SCG
BENZO(A)ANTHRACENE	330	224
BENZO(A)PYRENE	440	61
CHRYSENE	480	400
DIBENZO(A,H)ANTHRACENE	85.0	14
TOTAL SVOC TICs	96800	NA
VOCs (ppb)	RESULT	SCG
TOTAL VOC TICs	ND	NA
METALS(ppm)	RESULT	SCG
COPPER	75.8	25 or background
MERCURY	2.10	0.1
ZINC	309	20 or background

SS-5	DECEMBER 1999	
SVOCs (ppb)	RESULT	SCG
BENZO(A)ANTHRACENE	2000	224
BENZO(A)PYRENE	1900	61
BENZO(B)FLUORANTHENE	1700	1100
BENZO(K)FLUORANTHENE	1600	1100
CHRYSENE	2300	400
DIBENZO(A,H)ANTHRACENE	340	14
TOTAL SVOC TICs	22300	NA
VOCs (ppb)	RESULT	SCG
TOTAL VOC TICs	9.0	NA
METALS(ppm)	RESULT	SCG
ARSENIC	13.5	7.5 or background
COPPER	73.1	25 or background
MERCURY	1.40	0.1
ZINC	772	20 or background

SS-2	DECEMBER 1999	
SVOCs (ppb)	RESULT	SCG
BENZO(A)ANTHRACENE	28000	224
BENZO(A)PYRENE	23000	61
BENZO(B)FLUORANTHENE	20000	1100
BENZO(K)FLUORANTHENE	22000	1100
CHRYSENE	30000	400
DIBENZO(A,H)ANTHRACENE	5700	14
FLUORANTHENE	63000	50000
INDENO(1,2,3-C,D)PYRENE	14000	3200
TOTAL SVOC TICs	114000	NA
VOCs (ppb)	RESULT	SCG
TOTAL VOC TICs	20.0	NA
METALS(ppm)	RESULT	SCG
ARSENIC	60.7	7.5 or background
CALCIUM	167000	Background
MAGNESIUM	30800	Background
MERCURY	0.87	0.1
SELENIUM	7.40	2 or background
ZINC	183	20 or background

SS-1	DECEMBER 1999	
SVOCs (ppb)	RESULT	SCG
BENZO(A)ANTHRACENE	3200	224
BENZO(A)PYRENE	3100	61
BENZO(B)FLUORANTHENE	2700	1100
BENZO(K)FLUORANTHENE	2600	1100
CHRYSENE	3300	400
DIBENZO(A,H)ANTHRACENE	510	14
TOTAL SVOC TICs	15800	NA
VOCs (ppb)	RESULT	SCG
TOTAL VOC TICs	ND	NA
PESTICIDES (ppb)	RESULT	SCG
DIELDRIN	74	44
HEPTACHLOR EPOXIDE	30	20
METALS(ppm)	RESULT	SCG
CALCIUM	46500	Background
MAGNESIUM	27200	Background
MERCURY	0.12	0.1
ZINC	103	20 or background

SCALE (feet)

0 — 75 — 150 — 225 — 300

NO.	REVISIONS	BY	DATE

NEW YORK STATE DEC
DIVISION OF ENVIRONMENTAL REMEDIATION
REGION 8

PROJECT MANAGER:
FRANK SOWERS

FIGURE 9

PROJECT:
FORMER VACUUM OIL COMPANY
CITY OF ROCHESTER, COUNTY OF MONROE, STATE OF NEW YORK.

FIGURE #9:
SUMMARY OF SURFACE SOIL RESULTS EXCEEDING SCGS PLUS TOTAL TENTATIVELY IDENTIFIED COMPOUNDS

SCALE: 1" = 150'

DATE: SEPTEMBER 27, 2000

* VALID FOR 11X17" DRAWINGS ONLY

LEGEND

- ⊕ MONITORING WELL
- ◇ TEST PIT
- ✕ SURFACE SOIL SAMPLE

Metals (ppm)	Result	SCG
As	60.7	12

Element or Compound — Sample Concentration; units in parantheses above — New York State Standard, Criteria or Guidance Value

Survey Notes:

1) Horizontal information shown heron is referenced to the NAD '83 New York West Zone.

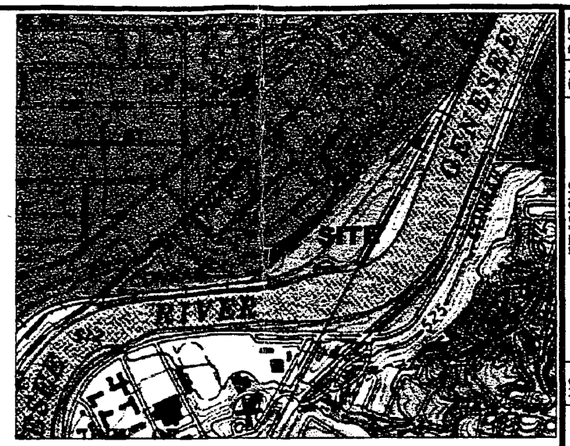
2) Vertical information shown heron is referenced to the NGVD '88 as generated from the Rochester City Datum.

General Notes

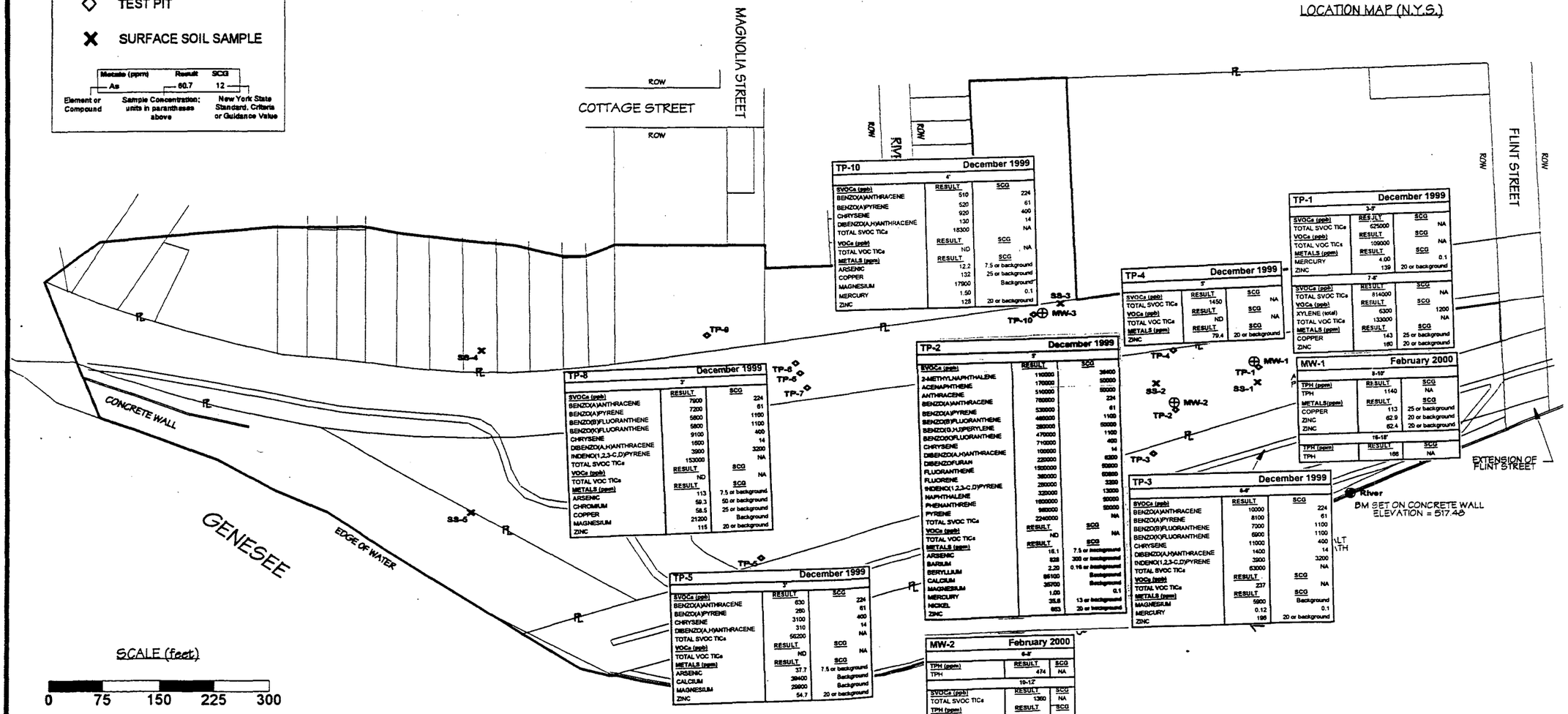
1) No boundary survey was performed, ROW and property lines were developed from tax maps, and are approximate.

2) This map was originally prepared by Larsen Engineers, for use by the NYSDEC. It is not to be used, in whole or in part, for any other project or purpose without the written consent of Larsen Engineers, P.E., L.S., P.G. The original map was prepared on April 15, 2000. This map was altered by C. Hauptfleisch, NYSDEC intern, on August 28, 2000.

3) The term "TICs" stands for Tentatively Identified Compounds.



LOCATION MAP (N.Y.S.)



TP-10 — December 1999 — 4'

SVOCs (ppb)	RESULT	SCG
BENZO(A)ANTHRACENE	510	224
BENZO(A)PYRENE	520	61
CHRYSENE	920	400
DIBENZO(A,H)ANTHRACENE	130	14
TOTAL SVOC TICs	18300	NA
VOCs (ppb)	**RESULT**	**SCG**
TOTAL VOC TICs	ND	NA
METALS (ppm)	**RESULT**	**SCG**
ARSENIC	12.2	7.5 or background
COPPER	132	25 or background
MAGNESIUM	17900	Background*
MERCURY	1.50	0.1
ZINC	128	20 or background

TP-8 — December 1999 — 3'

SVOCs (ppb)	RESULT	SCG
BENZO(A)ANTHRACENE	7900	224
BENZO(A)PYRENE	7200	61
BENZO(B)FLUORANTHENE	5800	1100
BENZO(K)FLUORANTHENE	5800	1100
CHRYSENE	9100	400
DIBENZO(A,H)ANTHRACENE	1600	14
INDENO(1,2,3-C,D)PYRENE	3000	3200
TOTAL SVOC TICs	153000	NA
VOCs (ppb)	**RESULT**	**SCG**
TOTAL VOC TICs	ND	NA
METALS (ppm)	**RESULT**	**SCG**
ARSENIC	113	7.5 or background
CHROMIUM	59.3	50 or background
COPPER	58.5	25 or background
MAGNESIUM	21200	Background
ZINC	115	20 or background

TP-5 — December 1999 — 3'

SVOCs (ppb)	RESULT	SCG
BENZO(A)ANTHRACENE	630	224
BENZO(A)PYRENE	280	61
CHRYSENE	3100	400
DIBENZO(A,H)ANTHRACENE	310	14
TOTAL SVOC TICs	56200	NA
VOCs (ppb)	**RESULT**	**SCG**
TOTAL VOC TICs	ND	NA
METALS (ppm)	**RESULT**	**SCG**
ARSENIC	37.7	7.5 or background
CALCIUM	39400	Background
MAGNESIUM	29900	Background
ZINC	54.7	20 or background

TP-2 — December 1999 — 3'

SVOCs (ppb)	RESULT	SCG
2-METHYLNAPHTHALENE	190000	36400
ACENAPHTHENE	170000	50000
ANTHRACENE	510000	50000
BENZO(A)ANTHRACENE	760000	224
BENZO(A)PYRENE	530000	61
BENZO(B)FLUORANTHENE	460000	1100
BENZO(G,H,I)PERYLENE	280000	50000
BENZO(K)FLUORANTHENE	470000	1100
CHRYSENE	710000	400
DIBENZO(A,H)ANTHRACENE	100000	14
DIBENZOFURAN	220000	6200
FLUORANTHENE	1500000	50000
FLUORENE	380000	50000
INDENO(1,2,3-C,D)PYRENE	280000	3200
NAPHTHALENE	320000	13000
PHENANTHRENE	1600000	50000
PYRENE	980000	50000
TOTAL SVOC TICs	2240000	NA
VOCs (ppb)	**RESULT**	**SCG**
TOTAL VOC TICs	ND	NA
METALS (ppm)	**RESULT**	**SCG**
ARSENIC	16.1	7.5 or background
BARIUM	828	300 or background
BERYLLIUM	2.20	0.16 or background
CALCIUM	85100	Background
MAGNESIUM	35700	Background
MERCURY	1.09	0.1
NICKEL	35.8	13 or background
ZINC	653	20 or background

MW-2 — February 2000

6-8'	RESULT	SCG
TPH (ppm)	474	NA
TPH		
10-12'	RESULT	SCG
SVOCs (ppb)		
TOTAL SVOC TICs	1360	NA
TPH (ppm)	RESULT	SCG
TPH	22.3	NA
VOCs (ppb)	RESULT	SCG
METHYLENE CHLORIDE	750	100
TOTAL VOC TICs	130	NA

TP-4 — December 1999 — 5'

SVOCs (ppb)	RESULT	SCG
TOTAL SVOC TICs	1450	NA
VOCs (ppb)	RESULT	SCG
TOTAL VOC TICs	ND	NA
METALS (ppm)	RESULT	SCG
ZINC	79.4	20 or background

TP-3 — December 1999 — 6-8'

SVOCs (ppb)	RESULT	SCG
BENZO(A)ANTHRACENE	10000	224
BENZO(A)PYRENE	8100	61
BENZO(B)FLUORANTHENE	7000	1100
BENZO(K)FLUORANTHENE	6900	1100
CHRYSENE	11000	400
DIBENZO(A,H)ANTHRACENE	1400	14
INDENO(1,2,3-C,D)PYRENE	3900	3200
TOTAL SVOC TICs	63000	NA
VOCs (ppb)	RESULT	SCG
TOTAL VOC TICs	237	NA
METALS (ppm)	RESULT	SCG
MAGNESIUM	5900	Background
MERCURY	0.12	0.1
ZINC	198	20 or background

TP-1 — December 1999

3-5'	RESULT	SCG
SVOCs (ppb)		
TOTAL SVOC TICs	625000	NA
VOCs (ppb)	RESULT	SCG
TOTAL VOC TICs	109000	NA
METALS (ppm)	RESULT	SCG
MERCURY	4.00	0.1
ZINC	139	20 or background
7-8'	RESULT	SCG
SVOCs (ppb)		
TOTAL SVOC TICs	814000	NA
VOCs (ppb)	RESULT	SCG
XYLENE (total)	6300	1200
TOTAL VOC TICs	133000	NA
METALS (ppm)	RESULT	SCG
COPPER	143	25 or background
ZINC	160	20 or background

MW-1 — February 2000

8-10'	RESULT	SCG
TPH (ppm)		
TPH	1140	NA
METALS (ppm)	RESULT	SCG
COPPER	113	25 or background
ZINC	62.9	20 or background
ZINC	62.4	20 or background
16-18'	RESULT	SCG
TPH (ppm)		
TPH	166	NA

NEW YORK STATE DEC
DIVISION OF ENVIRONMENTAL REMEDIATION
REGION 8

FIGURE 10

PROJECT MANAGER: FRANK SOWERS

NO.	REVISIONS	BY	DATE

PROJECT:
FORMER VACUUM OIL COMPANY
CITY OF ROCHESTER, COUNTY OF MONROE, STATE OF NEW YORK

FIGURE #10
SUMMARY OF SUBSURFACE SOIL RESULTS EXCEEDING SCGS PLUS TOTAL TENTATIVELY IDENTIFIED COMPOUNDS AND TOTAL PETROLEUM HYDROCARBONS

SCALE: 1" = 150'

DATE: SEPTEMBER 27, 2000

* VALID FOR 11X17" DRAWINGS ONLY

LEGEND

- ⊕ MONITORING WELL
- ◇ TEST PIT
- ✕ SURFACE SOIL SAMPLE

Metals (ppm)	Result	SCG
As	60.7	12

Element or Compound — Sample Concentration; units in parantheses above — New York State Standard, Criteria or Guidance Value

Survey Notes:

1) Horizontal information shown heron is referenced to the NAD '83 New York West Zone.

2) Vertical information shown heron is referenced to the NGVD '88 as generated from the Rochester City Datum.

General Notes

1) No boundary survey was performed, ROW and property lines were developed from tax maps, and are approximate.

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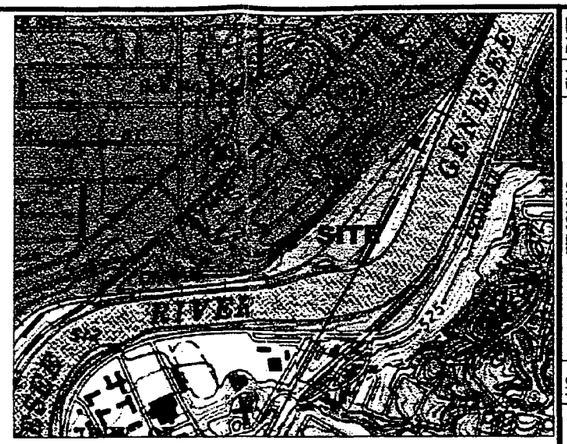
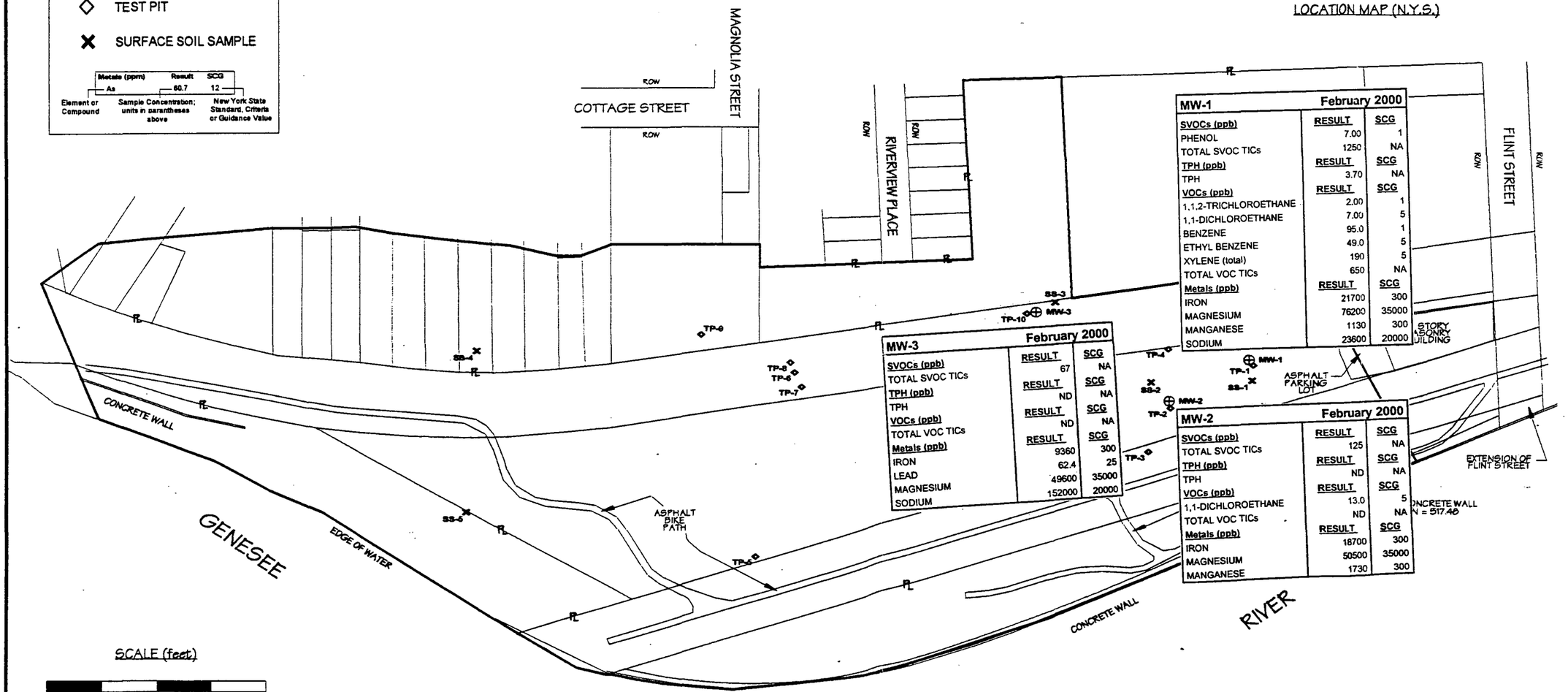
3) The term "TICs" stands for Tentatively Identified Compounds.



LOCATION MAP (N.Y.S.)



MW-3	February 2000	
SVOCs (ppb)	RESULT	SCG
TOTAL SVOC TICs	67	NA
TPH (ppb)	RESULT	SCG
TPH	ND	NA
VOCs (ppb)	RESULT	SCG
TOTAL VOC TICs	ND	NA
Metals (ppb)	RESULT	SCG
IRON	9360	300
LEAD	62.4	25
MAGNESIUM	49600	35000
SODIUM	152000	20000

MW-1	February 2000	
SVOCs (ppb)	RESULT	SCG
PHENOL	7.00	1
TOTAL SVOC TICs	1250	NA
TPH (ppb)	RESULT	SCG
TPH	3.70	NA
VOCs (ppb)	RESULT	SCG
1,1,2-TRICHLOROETHANE	2.00	1
1,1-DICHLOROETHANE	7.00	5
BENZENE	95.0	1
ETHYL BENZENE	49.0	5
XYLENE (total)	190	5
TOTAL VOC TICs	650	NA
Metals (ppb)	RESULT	SCG
IRON	21700	300
MAGNESIUM	76200	35000
MANGANESE	1130	300
SODIUM	23600	20000

MW-2	February 2000	
SVOCs (ppb)	RESULT	SCG
TOTAL SVOC TICs	125	NA
TPH (ppb)	RESULT	SCG
TPH	ND	NA
VOCs (ppb)	RESULT	SCG
1,1-DICHLOROETHANE	13.0	5
TOTAL VOC TICs	ND	NA
Metals (ppb)	RESULT	SCG
IRON	18700	300
MAGNESIUM	50500	35000
MANGANESE	1730	300

SCALE (feet)

0 75 150 225 300

NO.	REVISIONS	BY	DATE

NEW YORK STATE DEC
DIVISION OF ENVIRONMENTAL REMEDIATION
REGION 8

PROJECT MANAGER: FRANK SOWERS

FIGURE 11

PROJECT:
FORMER VACUUM OIL COMPANY
CITY OF ROCHESTER, COUNTY OF MONROE, STATE OF NEW YORK

FIGURE #1:
SUMMARY OF GROUNDWATER RESULTS EXCEEDING SCGS PLUS TOTAL TENTATIVELY IDENTIFIED COMPOUNDS AND TOTAL PETROLEUM HYDROCARBONS

SCALE: 1" = 150'

DATE: SEPTEMBER 27, 2000

*VALID FOR 11X17 DRAWINGS ONLY

TABLES

TABLES

Table 1. Sample Collection/Analytical Matrix
Former Vacuum Oil Company - 1999-2000 Site Investigation

Sample Location	Matrix	Sample Collection Date	Analytical Parameter						
			VOCs (ASP Method 95-1)	SVOCs (ASP Method 95-2)	Pesticides/ PCBs (ASP Method 95-3)	Total Metals	Cyanide	TPH	TCLP
SS-1	Surface Soil	12/07/99	x	x	x	x	x		
SS-2	Surface Soil	12/07/99	x	x	x	x	x		
SS-3	Surface Soil	12/07/99	x	x	x	x	x		
SS-4	Surface Soil	12/07/99	x	x	x	x	x		
SS-5	Surface Soil	12/07/99	x	x	x	x	x		
TP-1 (3-5')	Soil	12/06/99	x	x	x	x	x		x
TP-1 (7-8')	Soil	12/06/99	x	x	x	x	x		x
TP-2 (5')	Soil	12/06/99	x	x	x	x	x		
TP-3 (8-9')	Soil	12/06/99	x	x	x	x	x		
TP-4 (4')	Soil	12/06/99	x	x	x	x	x		
TP-5 (3')	Soil	12/06/99	x	x	x	x	x		
TP-8 (3')	Soil	12/06/99	x (+MS/MSD)	x (+MS/MSD)	x (+MS/MSD)	x (+MS/MSD)	x (+MS/MSD)		
TP-10 (4')	Soil	12/06/99	x	x	x	x	x		
MW-2 (6-8')	Soil	2/08/00				x		x	
MW-2 (10-12')	Soil	2/08/00	x	x				x	
MW-1 (8-10')	Soil	2/08/00				xo		xo	
MW-1 (16-18')	Soil	2/08/00						x	
MW-1	Water	2/23/00	x	x		x		x	
MW-2	Water	2/23/00	x (+MS/MSD)	x (+MS/MSD)		x (+MS/MSD)		x (+MS/MSD)	
MW-3	Water	2/23/00	x	x		x		x	

Notes
X - Field sample.
O - Field duplicate sample.
VOC - Volatile Organic Compound
SVOC- Semi-Volatile Organic Compound
TPH - Total Petroleum Hydrocarbon
TCLP- Toxicity Characteristic Leachate Procedure
MS/MSD- Matrix Spike/Matrix Spike Duplicate

Table 2. Site Survey Data
Former Vacuum Oil Company
1999-2000 Site Investigation

SAMPLE	NORTH	EAST	ELEVATION (ft.)	DESCRIPTION
MW-1	1144237.05	1405147.46	515.67	TOP OF CONC. PAD
			518.02	CASE
			517.81	PVC RISER
MW-2	1144117.41	1405111.91	513.20	TOP OF CONC. PAD
			514.98	CASE
			514.88	PVC RISER
MW-3	1144095.65	1404885.62	510.12	TOP OF CONC. PAD
			512.42	CASE
			511.95	PVC RISER
GENESEE RIVER	NOT AVAILABLE	NOT AVAILABLE	517.48	TOP OF WALL
TP-1	1144237.1	1405147.5	515.7	TEST PIT
TP-2	1144117.4	1405111.9	512.9	TEST PIT
TP-3	1144040.4	1405143.9	511.8	TEST PIT
TP-4	1144175.2	1405056.0	511.2	TEST PIT
TP-5	1143561.6	1404863.0	514.0	TEST PIT
TP-6	1143804.2	1404707.7	510.1	TEST PIT
TP-7	1143794.9	1404729.8	510.5	TEST PIT
TP-8	1143811.8	1404693.1	509.6	TEST PIT
TP-9	1143760.8	1404576.0	513.6	TEST PIT
TP-10	1144084.9	1404878.3	509.3	TEST PIT
A-1	1144237.5	1405399.3	N/A	SOIL GAS SAMPLE
A-2	1144283.6	1405297.6	N/A	SOIL GAS SAMPLE
A-3	1144333.5	1405177.5	N/A	SOIL GAS SAMPLE
B-2	1144182.0	1405254.8	N/A	SOIL GAS SAMPLE
B-3	1144239.2	1405143.2	N/A	SOIL GAS SAMPLE
B-4	1144297.3	1405050.2	N/A	SOIL GAS SAMPLE
C-1	1144011.1	1405309.4	N/A	SOIL GAS SAMPLE
C-2	1144059.3	1405200.9	N/A	SOIL GAS SAMPLE
C-3	1144133.5	1405089.7	N/A	SOIL GAS SAMPLE
C-4	1144175.7	1404987.9	N/A	SOIL GAS SAMPLE
D-2	1143936.1	1405172.6	N/A	SOIL GAS SAMPLE
D-3	1143994.6	1405054.6	N/A	SOIL GAS SAMPLE
D-4	1144030.7	1404936.4	N/A	SOIL GAS SAMPLE
D-5	1144145.0	1404854.8	N/A	SOIL GAS SAMPLE
D-6	1144176.4	1404725.8	N/A	SOIL GAS SAMPLE
D-7	1144245.3	1404671.8	N/A	SOIL GAS SAMPLE
E-1	1143793.6	1405214.4	N/A	SOIL GAS SAMPLE
E-2	1143852.7	1405103.1	N/A	SOIL GAS SAMPLE
E-3	1143920.7	1404997.2	N/A	SOIL GAS SAMPLE
E-4	1143989.3	1404893.0	N/A	SOIL GAS SAMPLE
E-5	1144042.8	1404804.2	N/A	SOIL GAS SAMPLE
E-6	1144090.5	1404844.9	N/A	SOIL GAS SAMPLE
F-2	1143625.2	1405012.5	N/A	SOIL GAS SAMPLE
F-3	1143697.9	1404913.4	N/A	SOIL GAS SAMPLE
F-4	1143747.4	1404827.8	N/A	SOIL GAS SAMPLE
F-5	1143825.9	1404702.6	N/A	SOIL GAS SAMPLE
F-6	1143905.2	1404630.9	N/A	SOIL GAS SAMPLE
G-2	1143494.3	1404983.2	N/A	SOIL GAS SAMPLE

Table 2. Site Survey Data
Former Vacuum Oil Company
1999-2000 Site Investigation

SAMPLE	NORTH	EAST	ELEVATION (ft.)	DESCRIPTION
G-3	1143562.9	1404875.1	N/A	SOIL GAS SAMPLE
G-4	1143585.9	1404747.3	N/A	SOIL GAS SAMPLE
G-5	1143656.5	1404647.2	N/A	SOIL GAS SAMPLE
G-6	1143738.6	1404571.5	N/A	SOIL GAS SAMPLE
H-2	1143418.6	1404933.8	N/A	SOIL GAS SAMPLE
H-3	1143426.2	1404816.9	N/A	SOIL GAS SAMPLE
H-4	1143481.0	1404715.9	N/A	SOIL GAS SAMPLE
H-5	1143467.2	1404599.2	N/A	SOIL GAS SAMPLE
H-6	1143552.2	1404499.6	N/A	SOIL GAS SAMPLE
H-7	1143644.0	1404395.8	N/A	SOIL GAS SAMPLE
H-8	1143613.6	1404432.7	N/A	SOIL GAS SAMPLE
I-4	1143377.8	1404653.6	N/A	SOIL GAS SAMPLE
I-5	1143389.5	1404550.7	N/A	SOIL GAS SAMPLE
I-6	1143465.2	1404430.5	N/A	SOIL GAS SAMPLE
I-7	1143617.9	1404372.6	N/A	SOIL GAS SAMPLE
J-5	1143315.2	1404440.2	N/A	SOIL GAS SAMPLE
J-6	1143381.8	1404369.5	N/A	SOIL GAS SAMPLE
J-7	1143406.0	1404281.2	N/A	SOIL GAS SAMPLE
J-8	1143487.3	1404150.6	N/A	SOIL GAS SAMPLE
K-6	1143258.3	1404139.3	N/A	SOIL GAS SAMPLE
K-7	1143274.1	1404027.2	N/A	SOIL GAS SAMPLE
K-8	1143302.3	1403946.8	N/A	SOIL GAS SAMPLE
L-6	1143193.9	1404051.6	N/A	SOIL GAS SAMPLE
L-7	1143206.4	1403946.9	N/A	SOIL GAS SAMPLE

1. Vertical information is referenced to the NGVD '88 as generated from the Rochester City Datum.
2. Horizontal information is referenced to the NAD'83 New York West Zone.

Table 3. Groundwater Elevation Data
Former Vacuum Oil Company
1999-2000 Site Investigation

Location Id.	Date	Reference Elevation (ft. AMSL)	Depth to Water (ft.)	Water Elevation (ft. AMSL)
MW-1	02/23/2000	517.81	9.78	508.03
MW-2	02/23/2000	514.88	6.70	508.18
MW-3	02/23/2000	511.95	4.65	507.30
MW-1	05/04/2000	517.81	7.50	510.31
MW-2	05/04/2000	514.88	3.90	510.98
MW-3	05/04/2000	511.95	3.62	508.33
Genesee River	05/04/2000	517.48	6.51	510.97

AMSL - Above Mean Sea Level

Table 4. Surface Soil Statistical Summary of Detected Compounds
Former Vacuum Oil Company - 1999-2000 Site Investigation

Compound	Analysis	Number of Samples	Number of Valid Detections	SCG (TAGM 4046)	Eastern USA Background (ppm)	Number of Valid Detections > SCG	Maximum	Location of Maximum
Aluminum	TAL Metals	5	5	Background	33,000	0	11,900 ppm	SS-4
Antimony	TAL Metals	5	2	Background	Not Available	0	3.7 ppm	SS-5
Arsenic	TAL Metals	5	5	7.5 ppm or background	3 - 12	2	60.7 ppm	SS-2
Barium	TAL Metals	5	5	300 ppm or background	15 - 600	0	366 ppm	SS-2
Beryllium	TAL Metals	5	4	0.16 ppm or background	0 - 1.75	0	0.63 ppm	SS-2
Cadmium	TAL Metals	5	5	10 ppm or background	0.1 - 1	0	3.5 ppm	SS-3
Calcium	TAL Metals	5	5	Background	130 - 35,000	2	167,000 ppm	SS-2
Chromium	TAL Metals	5	5	50 ppm or background	1.5 - 40	0	24 ppm	SS-4
Cobalt	TAL Metals	5	5	30 ppm or background	2.5 - 60	0	8.4 ppm	SS-4
Copper	TAL Metals	5	5	25 ppm or background	1 - 50	3	75.8 ppm	SS-4
Iron	TAL Metals	5	5	2000 ppm or background	2,000 - 550,000	0	22,800 ppm	SS-4
Lead	TAL Metals	5	5	Background	200 - 500	1	972 ppm	SS-3
Magnesium	TAL Metals	5	5	Background	100 - 5,000	2	30,600 ppm	SS-2
Manganese	TAL Metals	5	5	Background	50 - 5,000	0	1,500 ppm	SS-2

Table 4. Surface Soil Statistical Summary of Detected Compounds (Continued)
Former Vacuum Oil Company - 1998-1999 Site Investigation

Compound	Analysis	Number of Samples	Number of Valid Detections	SCG (TAGM 4046)	Eastern USA Background (ppm)	Number of Valid Detections > SCG	Maximum	Location of Maximum
Mercury	TAL Metals	5	5	0.1 ppm	0.001 - 0.2	5	2.1 ppm	SS-4
Nickel	TAL Metals	5	5	13 ppm or background	0.5 - 25	0	24.2 ppm	SS-4
Potassium	TAL Metals	5	5	Background	8,500 - 43,000	0	2,240 ppm	SS-2
Selenium	TAL Metals	5	4	2 ppm or background	0.1 - 3.9	2	7.4 ppm	SS-2
Silver	TAL Metals	5	4	Background	Not Available	0	1.2 ppm	SS-3
Sodium	TAL Metals	5	5	Background	6,000 - 8,000	0	497 ppm	SS-2
Vanadium	TAL Metals	5	5	150 ppm or background	1 - 300	0	28.6 ppm	SS-2
Zinc	TAL Metals	5	5	20 ppm or background	9 - 50	5	772 ppm	SS-5
4,4-DDE	ASP 95-3	5	1	2,100 ppb	Not Applicable	0	19 ppb	SS-5
4,4'-DDT (P,P'-DDT	ASP 95-3	5	1	2,100 ppb	Not Applicable	0	21 ppb	SS-5
Alpha Chlordane	ASP 95-3	5	1	540 ppb	Not Applicable	0	210 ppb	SS-1
Gamma Chlordane	ASP 95-3	5	1	540 ppb	Not Applicable	0	170 ppb	SS-1
Dieldrin	ASP 95-3	5	2	44 ppb	Not Applicable	1	74 ppb	SS-1
Heptachlor Epoxide	ASP 95-3	5	1	20 ppb	Not Applicable	1	30 ppb	SS-1
2-Methylnaphthalene	ASP 95-2	5	2	36,400 ppb	Not Applicable	0	140 ppb	SS-5
Acenaphthene	ASP 95-2	5	4	50,000 ppb	Not Applicable	0	3,700 ppb	SS-2

Table 4. Surface Soil Statistical Summary of Detected Compounds (Continued)
Former Vacuum Oil Company - 1998-1999 Site Investigation

Compound	Analysis	Number of Samples	Number of Valid Detections	SCG (TAGM 4046)	Eastern USA Background (ppm)	Number of Valid Detections > SCG	Maximum	Location of Maximum
Acenaphthylene	ASP 95-2	5	1	41,000 ppb	Not Applicable	0	190 ppb	SS-3
Anthracene	ASP 95-2	5	4	50,000 ppb	Not Applicable	0	12,000 ppb	SS-2
Benzo(a)anthracene	ASP 95-2	5	5	224 ppb	Not Applicable	5	28,000 ppb	SS-2
Benzo(a)pyrene	ASP 95-2	5	5	61 ppb	Not Applicable	5	23,000 ppb	SS-2
Benzo(b)fluoranthene	ASP 95-2	5	5	1,100 ppb	Not Applicable	4	20,000 ppb	SS-2
Benzo(k)fluoranthene	ASP 95-2	5	5	1,100 ppb	Not Applicable	4	22,000 ppb	SS-2
Benzo(g,h,i)perylene	ASP 95-2	5	5	50,000 ppb	Not Applicable	0	15,000 ppb	SS-2
Bis(2-ethylhexyl)phthalate	ASP 95-2	5	2	50,000 ppb	Not Applicable	0	230 ppb	SS-3
Carbazole	ASP 95-2	5	4	Not Available	Not Applicable	0	4,000 ppb	SS-2
Chrysene	ASP 95-2	5	5	400 ppb	Not Applicable	5	30,000 ppb	SS-2
Dibenzo(a,h)anthracene	ASP 95-2	5	5	14 ppb	Not Applicable	5	5,700 ppb	SS-2
Dibenzofuran	ASP 95-2	5	5	6,200 ppb	Not Applicable	0	2,300 ppb	SS-2
Fluoranthene	ASP 95-2	5	5	50,000 ppb	Not Applicable	1	63,000 ppb	SS-2
Fluorene	ASP 95-2	5	4	50,000 ppb	Not Applicable	0	3,900 ppb	SS-2
Indeno(1,2,3-c,d)pyrene	ASP 95-2	5	5	3,200 ppb	Not Applicable	1	14,000 ppb	SS-2
Naphthalene	ASP 95-2	5	3	13,000 ppb	Not Applicable	0	2,400 ppb	SS-2
Phenanthrene	ASP 95-2	5	5	50,000 ppb	Not Applicable	0	46,000 ppb	SS-2
Pyrene	ASP 95-2	5	5	50,000 ppb	Not Applicable	0	47,000 ppb	SS-2
Acetone	ASP 95-1	5	1	200 ppb	Not Applicable	0	30 ppb	SS-3
Methylene Chloride	ASP 95-1	5	5	100 ppb	Not Applicable	1	150 ppb	SS-3

Table 5. Subsurface Soil Statistical Summary of Detected Compounds
Former Vacuum Oil Company - 1999-2000 Site Investigation

Compound	Analysis	Number of Samples	Number of Valid Detections	SCG (TAGM 4046)	Eastern USA Background (ppm)	Number of Valid Detections > SCG	Maximum	Location of Maximum
Aluminum	TAL Metals	10	10	Background	33,000	0	22,200 ppm	TP-5; 3'
Antimony	TAL Metals	10	1	Background	Not Available	0	5.7 ppm	MW-1; 8-10'
Arsenic	TAL Metals	10	10	7.5 ppm or background	3 - 12	3	113 ppm	TP-8; 3'
Barium	TAL Metals	10	10	300 ppm or background	15 - 600	1	828 ppm	TP-2; 5'
Beryllium	TAL Metals	10	10	0.16 ppm or background	0 - 1.75	1	2.2 ppm	TP-2; 5'
Cadmium	TAL Metals	10	8	10 ppm or background	0.1 - 1	0	2.4 ppm	TP-2; 5'
Calcium	TAL Metals	10	10	Background	130 - 35,000	2	85,100 ppm	TP-2; 5'
Chromium	TAL Metals	10	10	50 ppm or background	1.5 - 40	1	59.3 ppm	TP-8; 3'
Cobalt	TAL Metals	10	10	30 ppm or background	2.5 - 60	0	11.5 ppm	TP-4; 5'
Copper	TAL Metals	10	10	25 ppm or background	1 - 50	4	143 ppm	TP-1; 7-8'
Iron	TAL Metals	10	10	2000 ppm or background	2,000 - 550,000	0	65,500 ppm	TP-8; 3'
Lead	TAL Metals	10	10	Background	200 - 500	0	473 ppm	TP-10; 4'

Table 5. Subsurface Soil Statistical Summary of Detected Compounds (Continued)
Former Vacuum Oil Company - 1999-2000 Site Investigation

Compound	Analysis	Number of Samples	Number of Valid Detections	SCG (TAGM 4046)	Eastern USA Background (ppm)	Number of Valid Detections > SCG	Maximum	Location of Maximum
Magnesium	TAL Metals	10	10	Background	100 - 5000	5	35,800 ppm	TP-2; 5'
Manganese	TAL Metals	10	10	Background	50 - 5,000	0	3,480 ppm	TP-2; 5'
Mercury	TAL Metals	10	7	0.1 ppm	0.001 - 0.2	4	4.0 ppm	TP-1; 3-5'
Nickel	TAL Metals	10	10	13 ppm or background	0.5 - 25	1	35.6 ppm	TP-2; 5'
Potassium	TAL Metals	10	10	Background	8,500 - 43,000	0	3,400 ppm	TP-5; 3'
Selenium	TAL Metals	10	9	2 ppm or background	0.1 - 3.9	0	3.5 ppm	TP-10; 4'
Silver	TAL Metals	10	1	Background	Not Available	0	0.24 ppm	TP-2; 5'
Sodium	TAL Metals	10	10	Background	6,000 - 8,000	0	824 ppm	TP-5; 3'
Vanadium	TAL Metals	10	10	150 ppm or background	1 - 300	0	13.9 ppm	MW-2; 6-8'
Zinc	TAL Metals	10	10	20 ppm or background	9 - 50	9	663 ppm	TP-2; 5'
Cyanide	Cyanide	8	1	Site Specific	Not Available	0	1.1 ppm	TP-3; 8-9'
Aldrin	ASP 95-3	8	1	41 ppb	Not Applicable	0	2.6 ppb	TP-1; 7-8'
Acetone	ASP 95-1	9	3	200 ppb	Not Applicable	0	100 ppb	TP-10; 4'
2-Butanone	ASP 95-1	9	2	300 ppb	Not Applicable	0	240 ppb	TP-1; 7-8'
Carbon Disulfide	ASP 95-1	9	1	2700 ppb	Not Applicable	0	2 ppb	TP-3; 8-9'
1,1-Dichloroethane	ASP 95-1	9	1	200 ppb	Not Applicable	0	8 ppb	TP-3; 8-9'

Table 5. Subsurface Soil Statistical Summary of Detected Compounds (Continued)
Former Vacuum Oil Company - 1999-2000 Site Investigation

Compound	Analysis	Number of Samples	Number of Valid Detections	SCG (TAGM 4046)	Eastern USA Background (ppm)	Number of Valid Detections > SCG	Maximum	Location of Maximum
1,2-Dichloroethene (total)	ASP 95-1	9	1	Not Available	Not Applicable	0	6 ppb	TP-3; 8-9'
Methylene Chloride	ASP 95-1	9	7	100 ppb	Not Applicable	1	750 ppb	MW-2; 10-12'
Toluene	ASP 95-1	9	1	1,500 ppb	Not Applicable	0	3 ppb	TP-3; 8-9'
Trichloroethene	ASP 95-1	9	1	700 ppb	Not Applicable	0	28 ppb	TP-3; 8-9'
(m+p) Xylene	ASP 95-1	9	1	1,200 ppb	Not Applicable	1	6,300 ppb	TP-1; 7-8'
Total Petroleum Hydrocarbon	TPH	4	4	Not Available	Not Applicable	0	1,140 ppm	MW-1; 8-10'
Acenaphthene	ASP 95-2	9	3	50,000 ppb	Not Applicable	1	17,0000 ppb	TP-2; 5'
Acenaphthylene	ASP 95-2	9	3	41,000 ppb	Not Applicable	0	540 ppb	TP-8; 3'
Anthracene	ASP 95-2	9	4	50,000 ppb	Not Applicable	0	510,000 ppb	TP-2; 5'
Benzo(a)Anthracene	ASP 95-2	9	6	224 ppb	Not Applicable	5	760,000 ppb	TP-2; 5'
Benzo(a)Pyrene	ASP 95-2	9	6	61 ppb	Not Applicable	5	530,000 ppb	TP-2; 5'
Benzo(b)Fluoranthene	ASP 95-2	9	6	1,100 ppb	Not Applicable	3	480,000 ppb	TP-2; 5'
Benzo(k)Fluoranthene	ASP 95-2	9	6	1,100 ppb	Not Applicable	3	470,000 ppb	TP-2; 5'
Benzo(g,h,i)Perylene	ASP 95-2	9	6	50,000 ppb	Not Applicable	1	280,000 ppb	TP-2; 5'
Bis(2-Ethylhexyl)Phthalate	ASP 95-2	9	1	50,000 ppb	Not Applicable	0	440 ppb	TP-10; 4'
Carbazole	ASP 95-2	9	4	Not Available	Not Applicable	0	170,000 ppb	TP-2; 5'
Chrysene	ASP 95-2	9	7	400 ppb	Not Applicable	5	710,000 ppb	TP-2; 5'

Table 5. Subsurface Soil Statistical Summary of Detected Compounds (Continued)
Former Vacuum Oil Company - 1999-2000 Site Investigation

Compound	Analysis	Number of Samples	Number of Valid Detections	SCG (TAGM 4046)	Eastern USA Background (ppm)	Number of Valid Detections > SCG	Maximum	Location of Maximum
Dibenzo(a,h)anthracene	ASP 95-2	9	5	14 ppb	Not Applicable	5	100,000 ppb	TP-2; 5'
Dibenzofuran	ASP 95-2	9	4	6,200 ppb	Not Applicable	1	220,000 ppb	TP-2; 5'
Di-n-octylphthalate	ASP 95-2	9	1	50,000 ppb	Not Applicable	0	130 ppb	TP-5; 3'
Fluoranthene	ASP 95-2	9	6	50,000 ppb	Not Applicable	1	1,500,000 ppb	TP-2; 5'
Fluorene	ASP 95-2	9	3	50,000 ppb	Not Applicable	1	360,000 ppb	TP-2; 5'
2-Methylnaphthalene	ASP 95-2	9	5	36,400 ppb	Not Applicable	1	110,000 ppb	TP-2; 5'
Indeno(1,2,3-c,d)pyrene	ASP 95-2	9	6	3200 ppb	Not Applicable	3	280,000 ppb	TP-2; 5'
Napthalene	ASP 95-2	9	3	13,000 ppb	Not Applicable	1	320,000 ppb	TP-2; 5'
Phenanthrene	ASP 95-2	9	9	50,000 ppb	Not Applicable	1	1,600,000 ppb	TP-2; 5'
Pyrene	ASP 95-2	9	7	50,000 ppb	Not Applicable	1	960,000 ppb	TP-2; 5'
Barium	TCLP	2	2	10,0000 ppb*	Not Applicable	0	910 ppb	TP-1; 3-5'
Lead	TCLP	2	2	5,000 ppb*	Not Applicable	0	62 ppb	TP-1; 7-8'
Mercury	TCLP	2	1	200 ppb*	Not Applicable	0	0.18 ppb	TP-1; 7-8'
Benzene	TCLP	2	1	500 ppb*	Not Applicable	0	97 ppb	TP-1; 7-8'
2-Butanone	TCLP	2	1	200,000 ppb*	Not Applicable	0	11 ppb	TP-1; 7-8'

*SCGs for TCLP analyses are from 6 NYCRR 371.3(e).

Table 6. Groundwater Statistical Summary of Detected Compounds
Former Vacuum Oil Company - 1999-2000 Site Investigation

Compound	Analysis	Number of Samples	Number of Valid Detections	SCG (TOGS 1.1.1)	Number of Valid Detections > SCG	Maximum	Location of Maximum
Aluminum	TAL Metals	3	3	Not Applicable	0	7,380 ppb	MW-1
Arsenic	TAL Metals	3	3	25 ppb	0	17 ppb	MW-2
Barium	TAL Metals	3	3	1000 ppb	0	246 ppb	MW-2
Beryllium	TAL Metals	3	3	3 ppb	0	0.68 ppb	MW-1
Cadmium	TAL Metals	3	2	5 ppb	0	0.87	MW-2
Calcium	TAL Metals	3	3	Not Applicable	0	212,000 ppb	MW-1
Chromium	TAL Metals	3	3	50 ppb	0	10 ppb	MW-1
Cobalt	TAL Metals	3	3	Not Applicable	0	6.3 ppb	MW-1
Copper	TAL Metals	3	3	200 ppb	0	30 ppb	MW-3
Iron	TAL Metals	3	3	300 ppb	3	21,700 ppb	MW-1
Lead	TAL Metals	3	3	25 ppb	1	62.4 ppb	MW-3
Magnesium	TAL Metals	3	3	35,000 ppb	3	76,200 ppb	MW-1
Manganese	TAL Metals	3	3	300 ppb	2	1,730 ppb	MW-2
Mercury	TAL Metals	3	1	0.7 ppb	0	0.23 ppb	MW-3
Nickel	TAL Metals	3	3	100 ppb	0	19.4 ppb	MW-1
Potassium	TAL Metals	3	3	Not Applicable	0	10,700 ppb	MW-3
Sodium	TAL Metals	3	3	20,000 ppb	2	152,000 ppb	MW-3
Vanadium	TAL Metals	3	3	Not Applicable	0	12 ppb	MW-1

Table 6. Groundwater Statistical Summary of Detected Compounds (Continued)
FormerVacuum Oil Company - 1999-2000 Site Investigation

Compound	Analysis	Number of Samples	Number of Valid Detections	SCG (TOGS 1.1.1)	Number of Valid Detections > SCG	Maximum	Location of Maximum
Zinc	TAL Metals	3	3	2,000 ppb	0	274 ppb	MW-3
Acetone	ASP 95-1	3	2	50 ppb	0	28 ppb	MW-1
Benzene	ASP 95-1	3	1	1 ppb	1	95 ppb	MW-1
1,1-Dichloroethane	ASP 95-1	3	2	5 ppb	2	13 ppb	MW-2
Ethyl Benzene	ASP 95-1	3	1	5 ppb	1	49 ppb	MW-1
1,1,2-Trichloroethane	ASP 95-1	3	1	1 ppb	1	2 ppb	MW-1
Methylene Chloride	ASP 95-1	3	0	5 ppb	0	NA	NA
Toluene	ASP 95-1	3	1	5 ppb	0	4 ppb	MW-1
Xylene	ASP 95-1	3	1	5 ppb	1	190 ppb	MW-1
Total Petroleum Hydrocarbon	TPH	3	1	Not Available	0	3.7 ppm	MW-1
Acenaphthene	ASP 95-2	3	1	20 ppb	0	0.6 ppb	MW-2
Carbazole	ASP 95-2	3	1	Not Available	0	0.9 ppb	MW-2
Dibenzofuran	ASP 95-2	3	1	Not Available	0	0.6 ppb	MW-2
Di-n-octylphthalate	ASP 95-2	3	1	50 ppb	0	0.8 ppb	MW-2
Fluorene	ASP 95-2	3	1	50 ppb	0	0.8 ppb	MW-2
4-Methylphenol	ASP 95-2	3	1	1 ppb	0	0.8 ppb	MW-2
Naphthalenee	ASP 95-2	3	1	10 ppb	0	1 ppb	MW-2
Phenol	ASP 95-2	3	1	1 ppb	1	7 ppb	MW-1

Table 7. Summary of Surface Soil Sample Results
Semi-Volatile Organic Compounds Sorted by Location
Former Vacuum Oil Company
1999-2000 Site Invesigation

Location Id.	Depth (ft)	Sample Date	Sample Number	Compound	Concentration	Units	Standard/ Guidance	Units
SS-4	SURFACE	12/07/99	B70612	DIBENZO(A,H)ANTHRACENE	85.0	ppb	14	ppb
SS-4	SURFACE	12/07/99	B70612	FLUORANTHENE	700	ppb	50000	ppb
SS-4	SURFACE	12/07/99	B70612	INDENO(1,2,3-C,D)PYRENE	310	ppb	3200	ppb
SS-4	SURFACE	12/07/99	B70612	PHENANTHRENE	270	ppb	50000	ppb
SS-4	SURFACE	12/07/99	B70612	PYRENE	570	ppb	50000	ppb
SS-4	SURFACE	12/07/99	B70612	TOTAL SVOC TICs	96800	ppb	NA	ppb
SS-5	SURFACE	12/07/99	B70615	2-METHYLNAPHTHALENE	140	ppb	36400	ppb
SS-5	SURFACE	12/07/99	B70615	ACENAPHTHENE	310	ppb	50000	ppb
SS-5	SURFACE	12/07/99	B70615	ANTHRACENE	740	ppb	50000	ppm
SS-5	SURFACE	12/07/99	B70615	BENZO(A)ANTHRACENE	2000	ppb	224	ppb
SS-5	SURFACE	12/07/99	B70615	BENZO(A)PYRENE	1900	ppb	61	ppb
SS-5	SURFACE	12/07/99	B70615	BENZO(B)FLUORANTHENE	1700	ppb	1100	ppb
SS-5	SURFACE	12/07/99	B70615	BENZO(G,H,I)PERYLENE	1200	ppb	50000	ppb
SS-5	SURFACE	12/07/99	B70615	BENZO(K)FLUORANTHENE	1600	ppb	1100	ppb
SS-5	SURFACE	12/07/99	B70615	CARBAZOLE	400	ppb	NA	ppb
SS-5	SURFACE	12/07/99	B70615	CHRYSENE	2300	ppb	400	ppb
SS-5	SURFACE	12/07/99	B70615	DIBENZO(A,H)ANTHRACENE	340	ppb	14	ppb
SS-5	SURFACE	12/07/99	B70615	DIBENZOFURAN	210	ppb	6200	ppb
SS-5	SURFACE	12/07/99	B70615	FLUORANTHENE	4800	ppb	50000	ppb
SS-5	SURFACE	12/07/99	B70615	FLUORENE	320	ppb	50000	ppb
SS-5	SURFACE	12/07/99	B70615	INDENO(1,2,3-C,D)PYRENE	1100	ppb	3200	ppb
SS-5	SURFACE	12/07/99	B70615	NAPHTHALENE	150	ppb	13000	ppb
SS-5	SURFACE	12/07/99	B70615	PHENANTHRENE	4100	ppb	50000	ppb
SS-5	SURFACE	12/07/99	B70615	PYRENE	3700	ppb	50000	ppb
SS-5	SURFACE	12/07/99	B70615	TOTAL SVOC TICs	22300	ppb	NA	ppb

NA- Not Applicable

Table 8. Summary of Surface Soil Sample Results
Semi-Volatile Organic Compounds Sorted by Compound
Former Vacuum Oil Company
1999-2000 Site Invesigation

Location Id.	Depth (ft)	Sample Date	Sample Number	Compound	Concentration	Units	Standard/ Guidance	Units
SS-5	SURFACE	12/07/99	B70615	2-METHYLNAPHTHALENE	140	ppb	36400	ppb
SS-1	SURFACE	12/07/99	B70611	2-METHYLNAPHTHALENE	98.0	ppb	36400	ppb
SS-2	SURFACE	12/07/99	B70613	ACENAPHTHENE	3700	ppb	50000	ppb
SS-1	SURFACE	12/07/99	B70611	ACENAPHTHENE	780	ppb	50000	ppb
SS-5	SURFACE	12/07/99	B70615	ACENAPHTHENE	310	ppb	50000	ppb
SS-3	SURFACE	12/07/99	B70614	ACENAPHTHENE	180	ppb	50000	ppb
SS-3	SURFACE	12/07/99	B70614	ACENAPHTHYLENE	190	ppb	41000	ppb
SS-2	SURFACE	12/07/99	B70613	ANTHRACENE	12000	ppb	50000	ppm
SS-1	SURFACE	12/07/99	B70611	ANTHRACENE	1600	ppb	50000	ppm
SS-3	SURFACE	12/07/99	B70614	ANTHRACENE	920	ppb	50000	ppm
SS-5	SURFACE	12/07/99	B70615	ANTHRACENE	740	ppb	50000	ppm
SS-2	SURFACE	12/07/99	B70613	BENZO(A)ANTHRACENE	28000	ppb	224	ppb
SS-3	SURFACE	12/07/99	B70614	BENZO(A)ANTHRACENE	4400	ppb	224	ppb
SS-1	SURFACE	12/07/99	B70611	BENZO(A)ANTHRACENE	3200	ppb	224	ppb
SS-5	SURFACE	12/07/99	B70615	BENZO(A)ANTHRACENE	2000	ppb	224	ppb
SS-4	SURFACE	12/07/99	B70612	BENZO(A)ANTHRACENE	330	ppb	224	ppb
SS-2	SURFACE	12/07/99	B70613	BENZO(A)PYRENE	23000	ppb	61	ppb
SS-3	SURFACE	12/07/99	B70614	BENZO(A)PYRENE	4400	ppb	61	ppb
SS-1	SURFACE	12/07/99	B70611	BENZO(A)PYRENE	3100	ppb	61	ppb
SS-5	SURFACE	12/07/99	B70615	BENZO(A)PYRENE	1900	ppb	61	ppb
SS-4	SURFACE	12/07/99	B70612	BENZO(A)PYRENE	440	ppb	61	ppb
SS-2	SURFACE	12/07/99	B70613	BENZO(B)FLUORANTHENE	20000	ppb	1100	ppb
SS-3	SURFACE	12/07/99	B70614	BENZO(B)FLUORANTHENE	4100	ppb	1100	ppb
SS-1	SURFACE	12/07/99	B70611	BENZO(B)FLUORANTHENE	2700	ppb	1100	ppb
SS-5	SURFACE	12/07/99	B70615	BENZO(B)FLUORANTHENE	1700	ppb	1100	ppb
SS-4	SURFACE	12/07/99	B70612	BENZO(B)FLUORANTHENE	470	ppb	1100	ppb
SS-2	SURFACE	12/07/99	B70613	BENZO(G,H,I)PERYLENE	15000	ppb	50000	ppb
SS-3	SURFACE	12/07/99	B70614	BENZO(G,H,I)PERYLENE	2600	ppb	50000	ppb
SS-1	SURFACE	12/07/99	B70611	BENZO(G,H,I)PERYLENE	1900	ppb	50000	ppb
SS-5	SURFACE	12/07/99	B70615	BENZO(G,H,I)PERYLENE	1200	ppb	50000	ppb
SS-4	SURFACE	12/07/99	B70612	BENZO(G,H,I)PERYLENE	350	ppb	50000	ppb
SS-2	SURFACE	12/07/99	B70613	BENZO(K)FLUORANTHENE	22000	ppb	1100	ppb
SS-3	SURFACE	12/07/99	B70614	BENZO(K)FLUORANTHENE	4000	ppb	1100	ppb
SS-1	SURFACE	12/07/99	B70611	BENZO(K)FLUORANTHENE	2600	ppb	1100	ppb
SS-5	SURFACE	12/07/99	B70615	BENZO(K)FLUORANTHENE	1600	ppb	1100	ppb
SS-4	SURFACE	12/07/99	B70612	BENZO(K)FLUORANTHENE	420	ppb	1100	ppb
SS-3	SURFACE	12/07/99	B70614	BIS(2-ETHYLHEXYL)PHTHALATE	230	ppb	50000	ppb
SS-4	SURFACE	12/07/99	B70612	BIS(2-ETHYLHEXYL)PHTHALATE	160	ppb	50000	ppb
SS-2	SURFACE	12/07/99	B70613	CARBAZOLE	4000	ppb	NA	ppb
SS-1	SURFACE	12/07/99	B70611	CARBAZOLE	850	ppb	NA	ppb
SS-3	SURFACE	12/07/99	B70614	CARBAZOLE	580	ppb	NA	ppb
SS-5	SURFACE	12/07/99	B70615	CARBAZOLE	400	ppb	NA	ppb
SS-2	SURFACE	12/07/99	B70613	CHRYSENE	30000	ppb	400	ppb
SS-3	SURFACE	12/07/99	B70614	CHRYSENE	4900	ppb	400	ppb
SS-1	SURFACE	12/07/99	B70611	CHRYSENE	3300	ppb	400	ppb
SS-5	SURFACE	12/07/99	B70615	CHRYSENE	2300	ppb	400	ppb
SS-4	SURFACE	12/07/99	B70612	CHRYSENE	480	ppb	400	ppb
SS-2	SURFACE	12/07/99	B70613	DIBENZO(A,H)ANTHRACENE	5700	ppb	14	ppb
SS-3	SURFACE	12/07/99	B70614	DIBENZO(A,H)ANTHRACENE	750	ppb	14	ppb
SS-1	SURFACE	12/07/99	B70611	DIBENZO(A,H)ANTHRACENE	510	ppb	14	ppb
SS-5	SURFACE	12/07/99	B70615	DIBENZO(A,H)ANTHRACENE	340	ppb	14	ppb
SS-4	SURFACE	12/07/99	B70612	DIBENZO(A,H)ANTHRACENE	85.0	ppb	14	ppb
SS-2	SURFACE	12/07/99	B70613	DIBENZOFURAN	2300	ppb	6200	ppb
SS-1	SURFACE	12/07/99	B70611	DIBENZOFURAN	420	ppb	6200	ppb
SS-5	SURFACE	12/07/99	B70615	DIBENZOFURAN	210	ppb	6200	ppb
SS-2	SURFACE	12/07/99	B70613	FLUORANTHENE	63000	ppb	50000	ppb
SS-1	SURFACE	12/07/99	B70611	FLUORANTHENE	9700	ppb	50000	ppb
SS-3	SURFACE	12/07/99	B70614	FLUORANTHENE	8100	ppb	50000	ppb
SS-5	SURFACE	12/07/99	B70615	FLUORANTHENE	4800	ppb	50000	ppb
SS-4	SURFACE	12/07/99	B70612	FLUORANTHENE	700	ppb	50000	ppb

Table 8. Summary of Surface Soil Sample Results
Semi-Volatile Organic Compounds Sorted by Compound
Former Vacuum Oil Company
1999-2000 Site Invesigation

Location Id.	Depth (ft)	Sample Date	Sample Number	Compound	Concentration	Units	Standard/ Guidance	Units
SS-2	SURFACE	12/07/99	B70613	FLUORENE	3900	ppb	50000	ppb
SS-1	SURFACE	12/07/99	B70611	FLUORENE	730	ppb	50000	ppb
SS-5	SURFACE	12/07/99	B70615	FLUORENE	320	ppb	50000	ppb
SS-3	SURFACE	12/07/99	B70614	FLUORENE	240	ppb	50000	ppb
SS-2	SURFACE	12/07/99	B70613	INDENO(1,2,3-C,D)PYRENE	14000	ppb	3200	ppb
SS-3	SURFACE	12/07/99	B70614	INDENO(1,2,3-C,D)PYRENE	2500	ppb	3200	ppb
SS-1	SURFACE	12/07/99	B70611	INDENO(1,2,3-C,D)PYRENE	1700	ppb	3200	ppb
SS-5	SURFACE	12/07/99	B70615	INDENO(1,2,3-C,D)PYRENE	1100	ppb	3200	ppb
SS-4	SURFACE	12/07/99	B70612	INDENO(1,2,3-C,D)PYRENE	310	ppb	3200	ppb
SS-2	SURFACE	12/07/99	B70613	NAPHTHALENE	2400	ppb	13000	ppb
SS-1	SURFACE	12/07/99	B70611	NAPHTHALENE	260	ppb	13000	ppb
SS-5	SURFACE	12/07/99	B70615	NAPHTHALENE	150	ppb	13000	ppb
SS-2	SURFACE	12/07/99	B70613	PHENANTHRENE	46000	ppb	50000	ppb
SS-1	SURFACE	12/07/99	B70611	PHENANTHRENE	7300	ppb	50000	ppb
SS-5	SURFACE	12/07/99	B70615	PHENANTHRENE	4100	ppb	50000	ppb
SS-3	SURFACE	12/07/99	B70614	PHENANTHRENE	3300	ppb	50000	ppb
SS-4	SURFACE	12/07/99	B70612	PHENANTHRENE	270	ppb	50000	ppb
SS-2	SURFACE	12/07/99	B70613	PYRENE	47000	ppb	50000	ppb
SS-1	SURFACE	12/07/99	B70611	PYRENE	7200	ppb	50000	ppb
SS-3	SURFACE	12/07/99	B70614	PYRENE	7100	ppb	50000	ppb
SS-5	SURFACE	12/07/99	B70615	PYRENE	3700	ppb	50000	ppb
SS-4	SURFACE	12/07/99	B70612	PYRENE	570	ppb	50000	ppb
SS-2	SURFACE	12/07/99	B70613	TOTAL SVOC TICs	114000	ppb	NA	ppb
SS-4	SURFACE	12/07/99	B70612	TOTAL SVOC TICs	96800	ppb	NA	ppb
SS-3	SURFACE	12/07/99	B70614	TOTAL SVOC TICs	94800	ppb	NA	ppb
SS-5	SURFACE	12/07/99	B70615	TOTAL SVOC TICs	22300	ppb	NA	ppb
SS-1	SURFACE	12/07/99	B70611	TOTAL SVOC TICs	15800	ppb	NA	ppb

NA- Not Applicable

Table 9. Summary of Surface Soil Sample Results
Volatile Organic Compounds
Former Vacuum Oil Company
1999-2000 Site Invesigation

Location Id.	Depth (ft)	Sample Date	Sample Number	Compound	Concentration	Units	Standard/ Guidance	Units	Comments
SS-3	SURFACE	12/07/99	B70614	ACETONE	30.0	ppb	200	ppb	
SS-3	SURFACE	12/07/99	B70614	METHYLENE CHLORIDE	150	ppb	100	ppb	Result biased high due to laboratory contamination.
SS-5	SURFACE	12/07/99	B70615	METHYLENE CHLORIDE	82.0	ppb	100	ppb	Result biased high due to laboratory contamination.
SS-4	SURFACE	12/07/99	B70612	METHYLENE CHLORIDE	63.0	ppb	100	ppb	Result biased high due to laboratory contamination.
SS-2	SURFACE	12/07/99	B70613	METHYLENE CHLORIDE	40.0	ppb	100	ppb	Result biased high due to laboratory contamination.
SS-1	SURFACE	12/07/99	B70611	METHYLENE CHLORIDE	24.0	ppb	100	ppb	Result biased high due to laboratory contamination.
SS-2	SURFACE	12/07/99	B70613	TOTAL VOC TICs	20.0	ppb	NA	ppb	
SS-5	SURFACE	12/07/99	B70615	TOTAL VOC TICs	9.0	ppb	NA	ppb	
SS-1	SURFACE	12/07/99	B70611	TOTAL VOC TICs	ND	ppb	NA	ppb	
SS-3	SURFACE	12/07/99	B70614	TOTAL VOC TICs	ND	ppb	NA	ppb	
SS-4	SURFACE	12/07/99	B70612	TOTAL VOC TICs	ND	ppb	NA	ppb	

ND- Not Detected
NA- Not Applicable

Table 10. Summary of Surface Soil Sample Results
Inorganic Compounds Sorted by Location
Former Vacuum Oil Company
1999-2000 Site Invesigation

Location Id.	Depth (ft)	Sample Date	Sample Number	Compound	Concentration	Units	Standard/Guidance	Units
SS-1	SURFACE	12/07/99	B70611	ALUMINUM	6770	ppm	Background	ppm
SS-1	SURFACE	12/07/99	B70611	ARSENIC	4.60	ppm	7.5 or background	ppm
SS-1	SURFACE	12/07/99	B70611	BARIUM	51.0	ppm	300 or background	ppm
SS-1	SURFACE	12/07/99	B70611	BERYLLIUM	0.34	ppm	0.16 or background	ppm
SS-1	SURFACE	12/07/99	B70611	CADMIUM	0.34	ppm	10 or background	ppm
SS-1	SURFACE	12/07/99	B70611	CALCIUM	46500	ppm	Background	ppm
SS-1	SURFACE	12/07/99	B70611	CHROMIUM	10.1	ppm	50 or background	ppm
SS-1	SURFACE	12/07/99	B70611	COBALT	4.70	ppm	30 or background	ppm
SS-1	SURFACE	12/07/99	B70611	COPPER	17.9	ppm	25 or background	ppm
SS-1	SURFACE	12/07/99	B70611	IRON	14900	ppm	2000 or background	ppm
SS-1	SURFACE	12/07/99	B70611	LEAD	152	ppm	Background	ppm
SS-1	SURFACE	12/07/99	B70611	MAGNESIUM	27200	ppm	Background	ppm
SS-1	SURFACE	12/07/99	B70611	MANGANESE	440	ppm	Background	ppm
SS-1	SURFACE	12/07/99	B70611	MERCURY	0.12	ppm	0.1	ppm
SS-1	SURFACE	12/07/99	B70611	NICKEL	10.1	ppm	13 or background	ppm
SS-1	SURFACE	12/07/99	B70611	POTASSIUM	1000	ppm	Background	ppm
SS-1	SURFACE	12/07/99	B70611	SODIUM	118	ppm	Background	ppm
SS-1	SURFACE	12/07/99	B70611	VANADIUM	16.6	ppm	150 or background	ppm
SS-1	SURFACE	12/07/99	B70611	ZINC	103	ppm	20 or background	ppm
SS-2	SURFACE	12/07/99	B70613	ALUMINUM	7000	ppm	Background	ppm
SS-2	SURFACE	12/07/99	B70613	ANTIMONY	1.20	ppm	Background	ppm
SS-2	SURFACE	12/07/99	B70613	ARSENIC	60.7	ppm	7.5 or background	ppm
SS-2	SURFACE	12/07/99	B70613	BARIUM	366	ppm	300 or background	ppm
SS-2	SURFACE	12/07/99	B70613	BERYLLIUM	0.63	ppm	0.16 or background	ppm
SS-2	SURFACE	12/07/99	B70613	CADMIUM	2.30	ppm	10 or background	ppm
SS-2	SURFACE	12/07/99	B70613	CALCIUM	167000	ppm	Background	ppm
SS-2	SURFACE	12/07/99	B70613	CHROMIUM	14.1	ppm	50 or background	ppm
SS-2	SURFACE	12/07/99	B70613	COBALT	4.90	ppm	30 or background	ppm
SS-2	SURFACE	12/07/99	B70613	COPPER	44.1	ppm	25 or background	ppm
SS-2	SURFACE	12/07/99	B70613	IRON	17400	ppm	2000 or background	ppm
SS-2	SURFACE	12/07/99	B70613	LEAD	119	ppm	Background	ppm
SS-2	SURFACE	12/07/99	B70613	MAGNESIUM	30600	ppm	Background	ppm
SS-2	SURFACE	12/07/99	B70613	MANGANESE	1500	ppm	Background	ppm
SS-2	SURFACE	12/07/99	B70613	MERCURY	0.67	ppm	0.1	ppm
SS-2	SURFACE	12/07/99	B70613	NICKEL	23.6	ppm	13 or background	ppm
SS-2	SURFACE	12/07/99	B70613	POTASSIUM	2240	ppm	Background	ppm
SS-2	SURFACE	12/07/99	B70613	SELENIUM	7.40	ppm	2 or background	ppm
SS-2	SURFACE	12/07/99	B70613	SILVER	0.36	ppm	Background	ppm
SS-2	SURFACE	12/07/99	B70613	SODIUM	497	ppm	Background	ppm
SS-2	SURFACE	12/07/99	B70613	VANADIUM	28.6	ppm	150 or background	ppm
SS-2	SURFACE	12/07/99	B70613	ZINC	183	ppm	20 or background	ppm
SS-3	SURFACE	12/07/99	B70614	ALUMINUM	2970	ppm	Background	ppm
SS-3	SURFACE	12/07/99	B70614	ARSENIC	4.30	ppm	7.5 or background	ppm
SS-3	SURFACE	12/07/99	B70614	BARIUM	358	ppm	300 or background	ppm
SS-3	SURFACE	12/07/99	B70614	CADMIUM	3.50	ppm	10 or background	ppm
SS-3	SURFACE	12/07/99	B70614	CALCIUM	22600	ppm	Background	ppm
SS-3	SURFACE	12/07/99	B70614	CHROMIUM	10.4	ppm	50 or background	ppm
SS-3	SURFACE	12/07/99	B70614	COBALT	3.10	ppm	30 or background	ppm
SS-3	SURFACE	12/07/99	B70614	COPPER	54.2	ppm	25 or background	ppm
SS-3	SURFACE	12/07/99	B70614	IRON	21200	ppm	2000 or background	ppm
SS-3	SURFACE	12/07/99	B70614	LEAD	972	ppm	Background	ppm
SS-3	SURFACE	12/07/99	B70614	MAGNESIUM	2490	ppm	Background	ppm
SS-3	SURFACE	12/07/99	B70614	MANGANESE	189	ppm	Background	ppm
SS-3	SURFACE	12/07/99	B70614	MERCURY	0.50	ppm	0.1	ppm
SS-3	SURFACE	12/07/99	B70614	NICKEL	11.4	ppm	13 or background	ppm
SS-3	SURFACE	12/07/99	B70614	POTASSIUM	1300	ppm	Background	ppm
SS-3	SURFACE	12/07/99	B70614	SELENIUM	4.10	ppm	2 or background	ppm
SS-3	SURFACE	12/07/99	B70614	SILVER	1.20	ppm	Background	ppm

Table 10. Summary of Surface Soil Sample Results
Inorganic Compounds Sorted by Location
Former Vacuum Oil Company
1999-2000 Site Invesigation

Location Id.	Depth (ft)	Sample Date	Sample Number	Compound	Concentration	Units	Standard/Guidance	Units
SS-3	SURFACE	12/07/99	B70614	SODIUM	186	ppm	Background	ppm
SS-3	SURFACE	12/07/99	B70614	VANADIUM	12.9	ppm	150 or background	ppm
SS-3	SURFACE	12/07/99	B70614	ZINC	739	ppm	20 or background	ppm
SS-4	SURFACE	12/07/99	B70612	ALUMINUM	11900	ppm	Background	ppm
SS-4	SURFACE	12/07/99	B70612	ARSENIC	8.70	ppm	7.5 or background	ppm
SS-4	SURFACE	12/07/99	B70612	BARIUM	138	ppm	300 or background	ppm
SS-4	SURFACE	12/07/99	B70612	BERYLLIUM	0.58	ppm	0.16 or background	ppm
SS-4	SURFACE	12/07/99	B70612	CADMIUM	1.80	ppm	10 or background	ppm
SS-4	SURFACE	12/07/99	B70612	CALCIUM	11900	ppm	Background	ppm
SS-4	SURFACE	12/07/99	B70612	CHROMIUM	24.0	ppm	50 or background	ppm
SS-4	SURFACE	12/07/99	B70612	COBALT	8.40	ppm	30 or background	ppm
SS-4	SURFACE	12/07/99	B70612	COPPER	75.8	ppm	25 or background	ppm
SS-4	SURFACE	12/07/99	B70612	IRON	22800	ppm	2000 or background	ppm
SS-4	SURFACE	12/07/99	B70612	LEAD	164	ppm	Background	ppm
SS-4	SURFACE	12/07/99	B70612	MAGNESIUM	4510	ppm	Background	ppm
SS-4	SURFACE	12/07/99	B70612	MANGANESE	352	ppm	Background	ppm
SS-4	SURFACE	12/07/99	B70612	MERCURY	2.10	ppm	0.1	ppm
SS-4	SURFACE	12/07/99	B70612	NICKEL	24.2	ppm	13 or background	ppm
SS-4	SURFACE	12/07/99	B70612	POTASSIUM	1790	ppm	Background	ppm
SS-4	SURFACE	12/07/99	B70612	SELENIUM	3.10	ppm	2 or background	ppm
SS-4	SURFACE	12/07/99	B70612	SILVER	1.20	ppm	Background	ppm
SS-4	SURFACE	12/07/99	B70612	SODIUM	458	ppm	Background	ppm
SS-4	SURFACE	12/07/99	B70612	VANADIUM	24.8	ppm	150 or background	ppm
SS-4	SURFACE	12/07/99	B70612	ZINC	309	ppm	20 or background	ppm
SS-5	SURFACE	12/07/99	B70615	ALUMINUM	4400	ppm	Background	ppm
SS-5	SURFACE	12/07/99	B70615	ANTIMONY	3.70	ppm	Background	ppm
SS-5	SURFACE	12/07/99	B70615	ARSENIC	13.5	ppm	7.5 or background	ppm
SS-5	SURFACE	12/07/99	B70615	BARIUM	224	ppm	300 or background	ppm
SS-5	SURFACE	12/07/99	B70615	BERYLLIUM	0.39	ppm	0.16 or background	ppm
SS-5	SURFACE	12/07/99	B70615	CADMIUM	3.40	ppm	10 or background	ppm
SS-5	SURFACE	12/07/99	B70615	CALCIUM	19600	ppm	Background	ppm
SS-5	SURFACE	12/07/99	B70615	CHROMIUM	13.1	ppm	50 or background	ppm
SS-5	SURFACE	12/07/99	B70615	COBALT	5.90	ppm	30 or background	ppm
SS-5	SURFACE	12/07/99	B70615	COPPER	73.1	ppm	25 or background	ppm
SS-5	SURFACE	12/07/99	B70615	IRON	18700	ppm	2000 or background	ppm
SS-5	SURFACE	12/07/99	B70615	LEAD	261	ppm	Background	ppm
SS-5	SURFACE	12/07/99	B70615	MAGNESIUM	4870	ppm	Background	ppm
SS-5	SURFACE	12/07/99	B70615	MANGANESE	250	ppm	Background	ppm
SS-5	SURFACE	12/07/99	B70615	MERCURY	1.40	ppm	0.1	ppm
SS-5	SURFACE	12/07/99	B70615	NICKEL	17.3	ppm	13 or background	ppm
SS-5	SURFACE	12/07/99	B70615	POTASSIUM	853	ppm	Background	ppm
SS-5	SURFACE	12/07/99	B70615	SELENIUM	2.90	ppm	2 or background	ppm
SS-5	SURFACE	12/07/99	B70615	SILVER	0.66	ppm	Background	ppm
SS-5	SURFACE	12/07/99	B70615	SODIUM	180	ppm	Background	ppm
SS-5	SURFACE	12/07/99	B70615	VANADIUM	17.8	ppm	150 or background	ppm
SS-5	SURFACE	12/07/99	B70615	ZINC	772	ppm	20 or background	ppm

Table 11. Summary of Surface Soil Sample Results
Inorganic Compounds Sorted by Compound
Former Vacuum Oil Company
1999-2000 Site Invesigation

Location Id.	Depth (ft)	Sample Date	Sample Number	Compound	Concentration	Units	Standard/Guidance	Units
SS-4	SURFACE	12/07/99	B70612	ALUMINUM	11900	ppm	Background	ppm
SS-2	SURFACE	12/07/99	B70613	ALUMINUM	7000	ppm	Background	ppm
SS-1	SURFACE	12/07/99	B70611	ALUMINUM	6770	ppm	Background	ppm
SS-5	SURFACE	12/07/99	B70615	ALUMINUM	4400	ppm	Background	ppm
SS-3	SURFACE	12/07/99	B70614	ALUMINUM	2970	ppm	Background	ppm
SS-5	SURFACE	12/07/99	B70615	ANTIMONY	3.70	ppm	Background	ppm
SS-2	SURFACE	12/07/99	B70613	ANTIMONY	1.20	ppm	Background	ppm
SS-2	SURFACE	12/07/99	B70613	ARSENIC	60.7	ppm	7.5 or background	ppm
SS-5	SURFACE	12/07/99	B70615	ARSENIC	13.5	ppm	7.5 or background	ppm
SS-4	SURFACE	12/07/99	B70612	ARSENIC	8.70	ppm	7.5 or background	ppm
SS-1	SURFACE	12/07/99	B70611	ARSENIC	4.60	ppm	7.5 or background	ppm
SS-3	SURFACE	12/07/99	B70614	ARSENIC	4.30	ppm	7.5 or background	ppm
SS-2	SURFACE	12/07/99	B70613	BARIUM	366	ppm	300 or background	ppm
SS-3	SURFACE	12/07/99	B70614	BARIUM	358	ppm	300 or background	ppm
SS-5	SURFACE	12/07/99	B70615	BARIUM	224	ppm	300 or background	ppm
SS-4	SURFACE	12/07/99	B70612	BARIUM	138	ppm	300 or background	ppm
SS-1	SURFACE	12/07/99	B70611	BARIUM	51.0	ppm	300 or background	ppm
SS-2	SURFACE	12/07/99	B70613	BERYLLIUM	0.63	ppm	0.16 or background	ppm
SS-4	SURFACE	12/07/99	B70612	BERYLLIUM	0.58	ppm	0.16 or background	ppm
SS-5	SURFACE	12/07/99	B70615	BERYLLIUM	0.39	ppm	0.16 or background	ppm
SS-1	SURFACE	12/07/99	B70611	BERYLLIUM	0.34	ppm	0.16 or background	ppm
SS-3	SURFACE	12/07/99	B70614	CADMIUM	3.50	ppm	10 or background	ppm
SS-5	SURFACE	12/07/99	B70615	CADMIUM	3.40	ppm	10 or background	ppm
SS-2	SURFACE	12/07/99	B70613	CADMIUM	2.30	ppm	10 or background	ppm
SS-4	SURFACE	12/07/99	B70612	CADMIUM	1.80	ppm	10 or background	ppm
SS-1	SURFACE	12/07/99	B70611	CADMIUM	0.34	ppm	10 or background	ppm
SS-2	SURFACE	12/07/99	B70613	CALCIUM	167000	ppm	Background	ppm
SS-1	SURFACE	12/07/99	B70611	CALCIUM	46500	ppm	Background	ppm
SS-3	SURFACE	12/07/99	B70614	CALCIUM	22600	ppm	Background	ppm
SS-5	SURFACE	12/07/99	B70615	CALCIUM	19600	ppm	Background	ppm
SS-4	SURFACE	12/07/99	B70612	CALCIUM	11900	ppm	Background	ppm
SS-4	SURFACE	12/07/99	B70612	CHROMIUM	24.0	ppm	50 or background	ppm
SS-2	SURFACE	12/07/99	B70613	CHROMIUM	14.1	ppm	50 or background	ppm
SS-5	SURFACE	12/07/99	B70615	CHROMIUM	13.1	ppm	50 or background	ppm
SS-3	SURFACE	12/07/99	B70614	CHROMIUM	10.4	ppm	50 or background	ppm
SS-1	SURFACE	12/07/99	B70611	CHROMIUM	10.1	ppm	50 or background	ppm
SS-4	SURFACE	12/07/99	B70612	COBALT	8.40	ppm	30 or background	ppm
SS-5	SURFACE	12/07/99	B70615	COBALT	5.90	ppm	30 or background	ppm
SS-2	SURFACE	12/07/99	B70613	COBALT	4.90	ppm	30 or background	ppm
SS-1	SURFACE	12/07/99	B70611	COBALT	4.70	ppm	30 or background	ppm
SS-3	SURFACE	12/07/99	B70614	COBALT	3.10	ppm	30 or background	ppm
SS-4	SURFACE	12/07/99	B70612	COPPER	75.8	ppm	25 or background	ppm
SS-5	SURFACE	12/07/99	B70615	COPPER	73.1	ppm	25 or background	ppm
SS-3	SURFACE	12/07/99	B70614	COPPER	54.2	ppm	25 or background	ppm
SS-2	SURFACE	12/07/99	B70613	COPPER	44.1	ppm	25 or background	ppm
SS-1	SURFACE	12/07/99	B70611	COPPER	17.9	ppm	25 or background	ppm
SS-4	SURFACE	12/07/99	B70612	IRON	22800	ppm	2000 or background	ppm
SS-3	SURFACE	12/07/99	B70614	IRON	21200	ppm	2000 or background	ppm
SS-5	SURFACE	12/07/99	B70615	IRON	18700	ppm	2000 or background	ppm
SS-2	SURFACE	12/07/99	B70613	IRON	17400	ppm	2000 or background	ppm
SS-1	SURFACE	12/07/99	B70611	IRON	14900	ppm	2000 or background	ppm
SS-3	SURFACE	12/07/99	B70614	LEAD	972	ppm	Background	ppm
SS-5	SURFACE	12/07/99	B70615	LEAD	261	ppm	Background	ppm
SS-4	SURFACE	12/07/99	B70612	LEAD	164	ppm	Background	ppm
SS-1	SURFACE	12/07/99	B70611	LEAD	152	ppm	Background	ppm
SS-2	SURFACE	12/07/99	B70613	LEAD	119	ppm	Background	ppm

Table 11. Summary of Surface Soil Sample Results
Inorganic Compounds Sorted by Compound
Former Vacuum Oil Company
1999-2000 Site Invesigation

Location Id.	Depth (ft)	Sample Date	Sample Number	Compound	Concentration	Units	Standard/Guidance	Units
SS-2	SURFACE	12/07/99	B70613	MAGNESIUM	30600	ppm	Background	ppm
SS-1	SURFACE	12/07/99	B70611	MAGNESIUM	27200	ppm	Background	ppm
SS-5	SURFACE	12/07/99	B70615	MAGNESIUM	4870	ppm	Background	ppm
SS-4	SURFACE	12/07/99	B70612	MAGNESIUM	4510	ppm	Background	ppm
SS-3	SURFACE	12/07/99	B70614	MAGNESIUM	2490	ppm	Background	ppm
SS-2	SURFACE	12/07/99	B70613	MANGANESE	1500	ppm	Background	ppm
SS-1	SURFACE	12/07/99	B70611	MANGANESE	440	ppm	Background	ppm
SS-4	SURFACE	12/07/99	B70612	MANGANESE	352	ppm	Background	ppm
SS-5	SURFACE	12/07/99	B70615	MANGANESE	250	ppm	Background	ppm
SS-3	SURFACE	12/07/99	B70614	MANGANESE	189	ppm	Background	ppm
SS-4	SURFACE	12/07/99	B70612	MERCURY	2.10	ppm	0.1	ppm
SS-5	SURFACE	12/07/99	B70615	MERCURY	1.40	ppm	0.1	ppm
SS-2	SURFACE	12/07/99	B70613	MERCURY	0.67	ppm	0.1	ppm
SS-3	SURFACE	12/07/99	B70614	MERCURY	0.50	ppm	0.1	ppm
SS-1	SURFACE	12/07/99	B70611	MERCURY	0.12	ppm	0.1	ppm
SS-4	SURFACE	12/07/99	B70612	NICKEL	24.2	ppm	13 or background	ppm
SS-2	SURFACE	12/07/99	B70613	NICKEL	23.6	ppm	13 or background	ppm
SS-5	SURFACE	12/07/99	B70615	NICKEL	17.3	ppm	13 or background	ppm
SS-3	SURFACE	12/07/99	B70614	NICKEL	11.4	ppm	13 or background	ppm
SS-1	SURFACE	12/07/99	B70611	NICKEL	10.1	ppm	13 or background	ppm
SS-2	SURFACE	12/07/99	B70613	POTASSIUM	2240	ppm	Background	ppm
SS-4	SURFACE	12/07/99	B70612	POTASSIUM	1790	ppm	Background	ppm
SS-3	SURFACE	12/07/99	B70614	POTASSIUM	1300	ppm	Background	ppm
SS-1	SURFACE	12/07/99	B70611	POTASSIUM	1000	ppm	Background	ppm
SS-5	SURFACE	12/07/99	B70615	POTASSIUM	853	ppm	Background	ppm
SS-2	SURFACE	12/07/99	B70613	SELENIUM	7.40	ppm	2 or background	ppm
SS-3	SURFACE	12/07/99	B70614	SELENIUM	4.10	ppm	2 or background	ppm
SS-4	SURFACE	12/07/99	B70612	SELENIUM	3.10	ppm	2 or background	ppm
SS-5	SURFACE	12/07/99	B70615	SELENIUM	2.90	ppm	2 or background	ppm
SS-3	SURFACE	12/07/99	B70614	SILVER	1.20	ppm	Background	ppm
SS-4	SURFACE	12/07/99	B70612	SILVER	1.20	ppm	Background	ppm
SS-5	SURFACE	12/07/99	B70615	SILVER	0.66	ppm	Background	ppm
SS-2	SURFACE	12/07/99	B70613	SILVER	0.36	ppm	Background	ppm
SS-2	SURFACE	12/07/99	B70613	SODIUM	497	ppm	Background	ppm
SS-4	SURFACE	12/07/99	B70612	SODIUM	458	ppm	Background	ppm
SS-3	SURFACE	12/07/99	B70614	SODIUM	186	ppm	Background	ppm
SS-5	SURFACE	12/07/99	B70615	SODIUM	180	ppm	Background	ppm
SS-1	SURFACE	12/07/99	B70611	SODIUM	118	ppm	Background	ppm
SS-2	SURFACE	12/07/99	B70613	VANADIUM	28.6	ppm	150 or background	ppm
SS-4	SURFACE	12/07/99	B70612	VANADIUM	24.8	ppm	150 or background	ppm
SS-5	SURFACE	12/07/99	B70615	VANADIUM	17.8	ppm	150 or background	ppm
SS-1	SURFACE	12/07/99	B70611	VANADIUM	16.6	ppm	150 or background	ppm
SS-3	SURFACE	12/07/99	B70614	VANADIUM	12.9	ppm	150 or background	ppm
SS-5	SURFACE	12/07/99	B70615	ZINC	772	ppm	20 or background	ppm
SS-3	SURFACE	12/07/99	B70614	ZINC	739	ppm	20 or background	ppm
SS-4	SURFACE	12/07/99	B70612	ZINC	309	ppm	20 or background	ppm
SS-2	SURFACE	12/07/99	B70613	ZINC	183	ppm	20 or background	ppm
SS-1	SURFACE	12/07/99	B70611	ZINC	103	ppm	20 or background	ppm

Table 12. Summary of Surface Soil Sample Results
Pesticides and PCBs
Former Vacuum Oil Company
1999-2000 Site Invesigation

Location Id.	Depth (ft)	Sample Date	Sample Number	Compound	Concentration	Units	Standard/Guidance	Units
SS-5	SURFACE	12/07/99	B70615	4,4'-DDE	19.0	ppb	2100	ppb
SS-5	SURFACE	12/07/99	B70615	4,4'-DDT (P,P'-DDT)	21.0	ppb	2100	ppb
SS-1	SURFACE	12/07/99	B70611	ALPHA CHLORDANE	210	ppb	540 (Chlordane)	ppb
SS-1	SURFACE	12/07/99	B70611	DIELDRIN	74.0	ppb	44	ppb
SS-3	SURFACE	12/07/99	B70614	DIELDRIN	15.0	ppb	44	ppb
SS-1	SURFACE	12/07/99	B70611	GAMMA CHLORDANE	170	ppb	540	ppb
SS-1	SURFACE	12/07/99	B70611	HEPTACHLOR EPOXIDE	30.0	ppb	20	ppb
SS-2	SURFACE	12/07/99	B70613	ALL PESTICIDES/PCBs	ND	ppb	NA	ppb
SS-4	SURFACE	12/07/99	B70612	ALL PESTICIDES/PCBs	ND	ppb	NA	ppb

ND- Not Detected
NA- Not Applicable

Table 13. Summary of Subsurface Soil Sample Results
Semi-Volatile Organic Compounds Sorted by Depth
Former Vacuum Oil Company
1999-2000 Site Invesigation

Location Id.	Depth (ft)	Sample Date	Sample Number	Compound	Concentration	Units	Standard/ Guidance	Units
MW-2	10-12	02/08/00	B70617	PHENANTHRENE	29.0	ppb	50000	ppb
MW-2	10-12	02/08/00	B70617	TOTAL SVOC TICs	1360	ppb	NA	ppb
TP-1	3-5	12/06/99	B70601	2-METHYLNAPHTHALENE	1500	ppb	36400	ppb
TP-1	3-5	12/06/99	B70601	CHRYSENE	390	ppb	400	ppb
TP-1	3-5	12/06/99	B70601	FLUORANTHENE	500	ppb	50000	ppb
TP-1	3-5	12/06/99	B70601	PHENANTHRENE	1300	ppb	50000	ppb
TP-1	3-5	12/06/99	B70601	PYRENE	670	ppb	50000	ppb
TP-1	3-5	12/06/99	B70601	TOTAL SVOC TICs	625000	ppb	NA	ppb
TP-1	7-8	12/06/99	B70602	2-METHYLNAPHTHALENE	6400	ppb	36400	ppb
TP-1	7-8	12/06/99	B70602	PHENANTHRENE	1500	ppb	50000	ppb
TP-1	7-8	12/06/99	B70602	TOTAL SVOC TICs	814000	ppb	NA	ppb
TP-10	4	12/06/99	B70610	2-METHYLNAPHTHALENE	140	ppb	36400	ppb
TP-10	4	12/06/99	B70610	ACENAPHTHYLENE	71.0	ppb	41000	ppb
TP-10	4	12/06/99	B70610	ANTHRACENE	97.0	ppb	50000	ppb
TP-10	4	12/06/99	B70610	BENZO(A)ANTHRACENE	510	ppb	224	ppb
TP-10	4	12/06/99	B70610	BENZO(A)PYRENE	520	ppb	61	ppb
TP-10	4	12/06/99	B70610	BENZO(B)FLUORANTHENE	690	ppb	1100	ppb
TP-10	4	12/06/99	B70610	BENZO(G,H,I)PERYLENE	460	ppb	50000	ppb
TP-10	4	12/06/99	B70610	BENZO(K)FLUORANTHENE	560	ppb	1100	ppb
TP-10	4	12/06/99	B70610	BIS(2-ETHYLHEXYL)PHTHALATE	440	ppb	50000	ppb
TP-10	4	12/06/99	B70610	CARBAZOLE	55.0	ppb	NA	ppb
TP-10	4	12/06/99	B70610	CHRYSENE	920	ppb	400	ppb
TP-10	4	12/06/99	B70610	DIBENZO(A,H)ANTHRACENE	130	ppb	14	ppb
TP-10	4	12/06/99	B70610	DIBENZOFURAN	86.0	ppb	6200	ppb
TP-10	4	12/06/99	B70610	FLUORANTHENE	870	ppb	50000	ppb
TP-10	4	12/06/99	B70610	INDENO(1,2,3-C,D)PYRENE	380	ppb	3200	ppb
TP-10	4	12/06/99	B70610	NAPHTHALENE	86.0	ppb	13000	ppb
TP-10	4	12/06/99	B70610	PHENANTHRENE	580	ppb	50000	ppb
TP-10	4	12/06/99	B70610	PYRENE	720	ppb	50000	ppb
TP-10	4	12/06/99	B70610	TOTAL SVOC TICs	18300	ppb	NA	ppb
TP-2	5	12/06/99	B70603	2-METHYLNAPHTHALENE	110000	ppb	36400	ppb
TP-2	5	12/06/99	B70603	ACENAPHTHENE	170000	ppb	50000	ppb
TP-2	5	12/06/99	B70603	ANTHRACENE	510000	ppb	50000	ppb
TP-2	5	12/06/99	B70603	BENZO(A)ANTHRACENE	760000	ppb	224	ppb
TP-2	5	12/06/99	B70603	BENZO(A)PYRENE	530000	ppb	61	ppb
TP-2	5	12/06/99	B70603	BENZO(B)FLUORANTHENE	480000	ppb	1100	ppb
TP-2	5	12/06/99	B70603	BENZO(G,H,I)PERYLENE	280000	ppb	50000	ppb
TP-2	5	12/06/99	B70603	BENZO(K)FLUORANTHENE	470000	ppb	1100	ppb
TP-2	5	12/06/99	B70603	CARBAZOLE	170000	ppb	NA	ppb
TP-2	5	12/06/99	B70603	CHRYSENE	710000	ppb	400	ppb
TP-2	5	12/06/99	B70603	DIBENZO(A,H)ANTHRACENE	100000	ppb	14	ppb
TP-2	5	12/06/99	B70603	DIBENZOFURAN	220000	ppb	6200	ppb
TP-2	5	12/06/99	B70603	FLUORANTHENE	1500000	ppb	50000	ppb
TP-2	5	12/06/99	B70603	FLUORENE	360000	ppb	50000	ppb
TP-2	5	12/06/99	B70603	INDENO(1,2,3-C,D)PYRENE	280000	ppb	3200	ppb
TP-2	5	12/06/99	B70603	NAPHTHALENE	320000	ppb	13000	ppb
TP-2	5	12/06/99	B70603	PHENANTHRENE	1600000	ppb	50000	ppb
TP-2	5	12/06/99	B70603	PYRENE	960000	ppb	50000	ppb
TP-2	5	12/06/99	B70603	TOTAL SVOC TICs	2240000	ppb	NA	ppb
TP-3	8-9	12/06/99	B70604	2-METHYLNAPHTHALENE	670	ppb	36400	ppb
TP-3	8-9	12/06/99	B70604	ACENAPHTHENE	1700	ppb	50000	ppb
TP-3	8-9	12/06/99	B70604	ACENAPHTHYLENE	310	ppb	41000	ppb
TP-3	8-9	12/06/99	B70604	ANTHRACENE	4700	ppb	50000	ppb
TP-3	8-9	12/06/99	B70604	BENZO(A)ANTHRACENE	10000	ppb	224	ppb
TP-3	8-9	12/06/99	B70604	BENZO(A)PYRENE	8100	ppb	61	ppb
TP-3	8-9	12/06/99	B70604	BENZO(B)FLUORANTHENE	7000	ppb	1100	ppb
TP-3	8-9	12/06/99	B70604	BENZO(G,H,I)PERYLENE	4200	ppb	50000	ppb
TP-3	8-9	12/06/99	B70604	BENZO(K)FLUORANTHENE	6900	ppb	1100	ppb
TP-3	8-9	12/06/99	B70604	CARBAZOLE	2500	ppb	NA	ppb
TP-3	8-9	12/06/99	B70604	CHRYSENE	11000	ppb	400	ppb
TP-3	8-9	12/06/99	B70604	DIBENZO(A,H)ANTHRACENE	1400	ppb	14	ppb

Table 13. Summary of Subsurface Soil Sample Results
Semi-Volatile Organic Compounds Sorted by Depth
Former Vacuum Oil Company
1999-2000 Site Invesigation

Location Id.	Depth (ft)	Sample Date	Sample Number	Compound	Concentration	Units	Standard/ Guidance	Units
TP-3	8-9	12/06/99	B70604	DIBENZOFURAN	1500	ppb	6200	ppb
TP-3	8-9	12/06/99	B70604	FLUORANTHENE	24000	ppb	50000	ppb
TP-3	8-9	12/06/99	B70604	FLUORENE	2400	ppb	50000	ppb
TP-3	8-9	12/06/99	B70604	INDENO(1,2,3-C,D)PYRENE	3900	ppb	3200	ppb
TP-3	8-9	12/06/99	B70604	NAPHTHALENE	2300	ppb	13000	ppb
TP-3	8-9	12/06/99	B70604	PHENANTHRENE	25000	ppb	50000	ppb
TP-3	8-9	12/06/99	B70604	PYRENE	20000	ppb	50000	ppb
TP-3	8-9	12/06/99	B70604	TOTAL SVOC TICs	63000	ppb	NA	ppb
TP-4	5	12/06/99	B70605	BENZO(A)ANTHRACENE	65.0	ppb	224	ppb
TP-4	5	12/06/99	B70605	BENZO(A)PYRENE	54.0	ppb	61	ppb
TP-4	5	12/06/99	B70605	BENZO(B)FLUORANTHENE	55.0	ppb	1100	ppb
TP-4	5	12/06/99	B70605	BENZO(G,H,I)PERYLENE	43.0	ppb	50000	ppb
TP-4	5	12/06/99	B70605	BENZO(K)FLUORANTHENE	59.0	ppb	1100	ppb
TP-4	5	12/06/99	B70605	CHRYSENE	72.0	ppb	400	ppb
TP-4	5	12/06/99	B70605	FLUORANTHENE	130	ppb	50000	ppb
TP-4	5	12/06/99	B70605	INDENO(1,2,3-C,D)PYRENE	35.0	ppb	3200	ppb
TP-4	5	12/06/99	B70605	PHENANTHRENE	99.0	ppb	50000	ppb
TP-4	5	12/06/99	B70605	PYRENE	110	ppb	50000	ppb
TP-4	5	12/06/99	B70605	TOTAL SVOC TICs	1450	ppb	NA	ppb
TP-5	3	12/06/99	B70606	BENZO(A)ANTHRACENE	630	ppb	224	ppb
TP-5	3	12/06/99	B70606	BENZO(A)PYRENE	260	ppb	61	ppb
TP-5	3	12/06/99	B70606	BENZO(B)FLUORANTHENE	460	ppb	1100	ppb
TP-5	3	12/06/99	B70606	BENZO(G,H,I)PERYLENE	300	ppb	50000	ppb
TP-5	3	12/06/99	B70606	BENZO(K)FLUORANTHENE	220	ppb	1100	ppb
TP-5	3	12/06/99	B70606	CHRYSENE	3100	ppb	400	ppb
TP-5	3	12/06/99	B70606	DIBENZO(A,H)ANTHRACENE	310	ppb	14	ppb
TP-5	3	12/06/99	B70606	DI-N-OCTYLPHTHALATE	130	ppb	50000	ppb
TP-5	3	12/06/99	B70606	INDENO(1,2,3-C,D)PYRENE	190	ppb	3200	ppb
TP-5	3	12/06/99	B70606	PHENANTHRENE	1400	ppb	50000	ppb
TP-5	3	12/06/99	B70606	PYRENE	120	ppb	50000	ppb
TP-5	3	12/06/99	B70606	TOTAL SVOC TICs	56200	ppb	NA	ppb
TP-8	3	12/06/99	B70607	ACENAPHTHENE	270	ppb	50000	ppb
TP-8	3	12/06/99	B70607	ACENAPHTHYLENE	540	ppb	41000	ppb
TP-8	3	12/06/99	B70607	ANTHRACENE	2000	ppb	50000	ppb
TP-8	3	12/06/99	B70607	BENZO(A)ANTHRACENE	7900	ppb	224	ppb
TP-8	3	12/06/99	B70607	BENZO(A)PYRENE	7200	ppb	61	ppb
TP-8	3	12/06/99	B70607	BENZO(B)FLUORANTHENE	5800	ppb	1100	ppb
TP-8	3	12/06/99	B70607	BENZO(G,H,I)PERYLENE	4500	ppb	50000	ppb
TP-8	3	12/06/99	B70607	BENZO(K)FLUORANTHENE	5800	ppb	1100	ppb
TP-8	3	12/06/99	B70607	CARBAZOLE	650	ppb	NA	ppb
TP-8	3	12/06/99	B70607	CHRYSENE	9100	ppb	400	ppb
TP-8	3	12/06/99	B70607	DIBENZO(A,H)ANTHRACENE	1600	ppb	14	ppb
TP-8	3	12/06/99	B70607	DIBENZOFURAN	380	ppb	6200	ppb
TP-8	3	12/06/99	B70607	FLUORANTHENE	20000	ppb	50000	ppb
TP-8	3	12/06/99	B70607	FLUORENE	450	ppb	50000	ppb
TP-8	3	12/06/99	B70607	INDENO(1,2,3-C,D)PYRENE	3900	ppb	3200	ppb
TP-8	3	12/06/99	B70607	PHENANTHRENE	12000	ppb	50000	ppb
TP-8	3	12/06/99	B70607	PYRENE	19000	ppb	50000	ppb
TP-8	3	12/06/99	B70607	TOTAL SVOC TICs	153000	ppb	NA	ppb

NA- Not Applicable

Table 14. Summary of Subsurface Soil Sample Results
Semi-Volatile Organic Compounds Sorted by Compound
Former Vacuum Oil Company
1999-2000 Site Invesigation

Location Id.	Depth (ft)	Sample Date	Sample Number	Compound	Concentration	Units	Standard/ Guidance
TP-2	5	12/06/99	B70603	2-METHYLNAPHTHALENE	110000	ppb	36400
TP-1	7-8	12/06/99	B70602	2-METHYLNAPHTHALENE	6400	ppb	36400
TP-1	3-5	12/06/99	B70601	2-METHYLNAPHTHALENE	1500	ppb	36400
TP-3	8-9	12/06/99	B70604	2-METHYLNAPHTHALENE	670	ppb	36400
TP-10	4	12/06/99	B70610	2-METHYLNAPHTHALENE	140	ppb	36400
TP-2	5	12/06/99	B70603	ACENAPHTHENE	170000	ppb	50000
TP-3	8-9	12/06/99	B70604	ACENAPHTHENE	1700	ppb	50000
TP-8	3	12/06/99	B70607	ACENAPHTHENE	270	ppb	50000
TP-8	3	12/06/99	B70607	ACENAPHTHYLENE	540	ppb	41000
TP-3	8-9	12/06/99	B70604	ACENAPHTHYLENE	310	ppb	41000
TP-10	4	12/06/99	B70610	ACENAPHTHYLENE	71.0	ppb	41000
TP-2	5	12/06/99	B70603	ANTHRACENE	510000	ppb	50000
TP-3	8-9	12/06/99	B70604	ANTHRACENE	4700	ppb	50000
TP-8	3	12/06/99	B70607	ANTHRACENE	2000	ppb	50000
TP-10	4	12/06/99	B70610	ANTHRACENE	97.0	ppb	50000
TP-2	5	12/06/99	B70603	BENZO(A)ANTHRACENE	760000	ppb	224
TP-3	8-9	12/06/99	B70604	BENZO(A)ANTHRACENE	10000	ppb	224
TP-8	3	12/06/99	B70607	BENZO(A)ANTHRACENE	7900	ppb	224
TP-5	3	12/06/99	B70606	BENZO(A)ANTHRACENE	630	ppb	224
TP-10	4	12/06/99	B70610	BENZO(A)ANTHRACENE	510	ppb	224
TP-4	5	12/06/99	B70605	BENZO(A)ANTHRACENE	65.0	ppb	224
TP-2	5	12/06/99	B70603	BENZO(A)PYRENE	530000	ppb	61
TP-3	8-9	12/06/99	B70604	BENZO(A)PYRENE	8100	ppb	61
TP-8	3	12/06/99	B70607	BENZO(A)PYRENE	7200	ppb	61
TP-10	4	12/06/99	B70610	BENZO(A)PYRENE	520	ppb	61
TP-5	3	12/06/99	B70606	BENZO(A)PYRENE	260	ppb	61
TP-4	5	12/06/99	B70605	BENZO(A)PYRENE	54.0	ppb	61
TP-2	5	12/06/99	B70603	BENZO(B)FLUORANTHENE	480000	ppb	1100
TP-3	8-9	12/06/99	B70604	BENZO(B)FLUORANTHENE	7000	ppb	1100
TP-8	3	12/06/99	B70607	BENZO(B)FLUORANTHENE	5800	ppb	1100
TP-10	4	12/06/99	B70610	BENZO(B)FLUORANTHENE	690	ppb	1100
TP-5	3	12/06/99	B70606	BENZO(B)FLUORANTHENE	460	ppb	1100
TP-4	5	12/06/99	B70605	BENZO(B)FLUORANTHENE	55.0	ppb	1100
TP-2	5	12/06/99	B70603	BENZO(G,H,I)PERYLENE	280000	ppb	50000
TP-8	3	12/06/99	B70607	BENZO(G,H,I)PERYLENE	4500	ppb	50000
TP-3	8-9	12/06/99	B70604	BENZO(G,H,I)PERYLENE	4200	ppb	50000
TP-10	4	12/06/99	B70610	BENZO(G,H,I)PERYLENE	460	ppb	50000
TP-5	3	12/06/99	B70606	BENZO(G,H,I)PERYLENE	300	ppb	50000
TP-4	5	12/06/99	B70605	BENZO(G,H,I)PERYLENE	43.0	ppb	50000
TP-2	5	12/06/99	B70603	BENZO(K)FLUORANTHENE	470000	ppb	1100
TP-3	8-9	12/06/99	B70604	BENZO(K)FLUORANTHENE	6900	ppb	1100
TP-8	3	12/06/99	B70607	BENZO(K)FLUORANTHENE	5800	ppb	1100
TP-10	4	12/06/99	B70610	BENZO(K)FLUORANTHENE	560	ppb	1100
TP-5	3	12/06/99	B70606	BENZO(K)FLUORANTHENE	220	ppb	1100
TP-4	5	12/06/99	B70605	BENZO(K)FLUORANTHENE	59.0	ppb	1100
TP-10	4	12/06/99	B70610	BIS(2-ETHYLHEXYL)PHTHALATE	440	ppb	50000
TP-2	5	12/06/99	B70603	CARBAZOLE	170000	ppb	NA
TP-3	8-9	12/06/99	B70604	CARBAZOLE	2500	ppb	NA
TP-8	3	12/06/99	B70607	CARBAZOLE	650	ppb	NA
TP-10	4	12/06/99	B70610	CARBAZOLE	55.0	ppb	NA
TP-2	5	12/06/99	B70603	CHRYSENE	710000	ppb	400
TP-3	8-9	12/06/99	B70604	CHRYSENE	11000	ppb	400
TP-8	3	12/06/99	B70607	CHRYSENE	9100	ppb	400
TP-5	3	12/06/99	B70606	CHRYSENE	3100	ppb	400
TP-10	4	12/06/99	B70610	CHRYSENE	920	ppb	400
TP-4	5	12/06/99	B70605	CHRYSENE	72.0	ppb	400
TP-1	3-5	12/06/99	B70601	CHRYSENE	390	ppb	400

Table 14. Summary of Subsurface Soil Sample Results
Semi-Volatile Organic Compounds Sorted by Compound
Former Vacuum Oil Company
1999-2000 Site Invesigation

Location Id.	Depth (ft)	Sample Date	Sample Number	Compound	Concentration	Units	Standard/ Guidance
TP-2	5	12/06/99	B70603	DIBENZO(A,H)ANTHRACENE	100000	ppb	14
TP-8	3	12/06/99	B70607	DIBENZO(A,H)ANTHRACENE	1600	ppb	14
TP-3	8-9	12/06/99	B70604	DIBENZO(A,H)ANTHRACENE	1400	ppb	14
TP-5	3	12/06/99	B70606	DIBENZO(A,H)ANTHRACENE	310	ppb	14
TP-10	4	12/06/99	B70610	DIBENZO(A,H)ANTHRACENE	130	ppb	14
TP-2	5	12/06/99	B70603	DIBENZOFURAN	220000	ppb	6200
TP-3	8-9	12/06/99	B70604	DIBENZOFURAN	1500	ppb	6200
TP-8	3	12/06/99	B70607	DIBENZOFURAN	380	ppb	6200
TP-10	4	12/06/99	B70610	DIBENZOFURAN	86.0	ppb	6200
TP-5	3	12/06/99	B70606	DI-N-OCTYLPHTHALATE	130	ppb	50000
TP-2	5	12/06/99	B70603	FLUORANTHENE	1500000	ppb	50000
TP-3	8-9	12/06/99	B70604	FLUORANTHENE	24000	ppb	50000
TP-8	3	12/06/99	B70607	FLUORANTHENE	20000	ppb	50000
TP-10	4	12/06/99	B70610	FLUORANTHENE	870	ppb	50000
TP-1	3-5	12/06/99	B70601	FLUORANTHENE	500	ppb	50000
TP-4	5	12/06/99	B70605	FLUORANTHENE	130	ppb	50000
TP-2	5	12/06/99	B70603	FLUORENE	360000	ppb	50000
TP-3	8-9	12/06/99	B70604	FLUORENE	2400	ppb	50000
TP-8	3	12/06/99	B70607	FLUORENE	450	ppb	50000
TP-2	5	12/06/99	B70603	INDENO(1,2,3-C,D)PYRENE	280000	ppb	3200
TP-3	8-9	12/06/99	B70604	INDENO(1,2,3-C,D)PYRENE	3900	ppb	3200
TP-8	3	12/06/99	B70607	INDENO(1,2,3-C,D)PYRENE	3900	ppb	3200
TP-10	4	12/06/99	B70610	INDENO(1,2,3-C,D)PYRENE	380	ppb	3200
TP-5	3	12/06/99	B70606	INDENO(1,2,3-C,D)PYRENE	190	ppb	3200
TP-4	5	12/06/99	B70605	INDENO(1,2,3-C,D)PYRENE	35.0	ppb	3200
TP-2	5	12/06/99	B70603	NAPHTHALENE	320000	ppb	13000
TP-3	8-9	12/06/99	B70604	NAPHTHALENE	2300	ppb	13000
TP-10	4	12/06/99	B70610	NAPHTHALENE	86.0	ppb	13000
TP-2	5	12/06/99	B70603	PHENANTHRENE	1600000	ppb	50000
TP-3	8-9	12/06/99	B70604	PHENANTHRENE	25000	ppb	50000
TP-8	3	12/06/99	B70607	PHENANTHRENE	12000	ppb	50000
TP-1	7-8	12/06/99	B70602	PHENANTHRENE	1500	ppb	50000
TP-5	3	12/06/99	B70606	PHENANTHRENE	1400	ppb	50000
TP-1	3-5	12/06/99	B70601	PHENANTHRENE	1300	ppb	50000
TP-10	4	12/06/99	B70610	PHENANTHRENE	580	ppb	50000
TP-4	5	12/06/99	B70605	PHENANTHRENE	99.0	ppb	50000
MW-2	10-12	02/08/00	B70617	PHENANTHRENE	29.0	ppb	50000
TP-2	5	12/06/99	B70603	PYRENE	960000	ppb	50000
TP-3	8-9	12/06/99	B70604	PYRENE	20000	ppb	50000
TP-8	3	12/06/99	B70607	PYRENE	19000	ppb	50000
TP-10	4	12/06/99	B70610	PYRENE	720	ppb	50000
TP-1	3-5	12/06/99	B70601	PYRENE	670	ppb	50000
TP-5	3	12/06/99	B70606	PYRENE	120	ppb	50000
TP-4	5	12/06/99	B70605	PYRENE	110	ppb	50000
TP-2	5	12/06/99	B70603	TOTAL SVOC TICs	2240000	ppb	NA
TP-1	7-8	12/06/99	B70602	TOTAL SVOC TICs	814000	ppb	NA
TP-1	3-5	12/06/99	B70601	TOTAL SVOC TICs	625000	ppb	NA
TP-8	3	12/06/99	B70607	TOTAL SVOC TICs	153000	ppb	NA
TP-3	8-9	12/06/99	B70604	TOTAL SVOC TICs	63000	ppb	NA
TP-5	3	12/06/99	B70606	TOTAL SVOC TICs	56200	ppb	NA
TP-10	4	12/06/99	B70610	TOTAL SVOC TICs	18300	ppb	NA
TP-4	5	12/06/99	B70605	TOTAL SVOC TICs	1450	ppb	NA
MW-2	10-12	02/08/00	B70617	TOTAL SVOC TICs	1360	ppb	NA

NA- Not Applicable

Table 15. Summary of Subsurface Soil Sample Results
Total Petroleum Hydrocarbons
Former Vacuum Oil Company
1999-2000 Site Invesigation

Location Id.	Depth (ft)	Sample Date	Sample Number	Compound	Concentration	Units	Standard/ Guidance	Units
MW-1	8-10	02/08/00	B70618	TOTAL PETROLEUM HYDROCARBONS	1140	ppm	NA	ppm
MW-1	8-10	02/08/00	B70619	TOTAL PETROLEUM HYDROCARBONS	336	ppm	NA	ppm
MW-1	16-18	02/09/00	B70620	TOTAL PETROLEUM HYDROCARBONS	166	ppm	NA	ppm
MW-2	6-8	02/08/00	B70616	TOTAL PETROLEUM HYDROCARBONS	474	ppm	NA	ppm
MW-2	10-12	02/08/00	B70617	TOTAL PETROLEUM HYDROCARBONS	22.3	ppm	NA	ppm

NA- Not Applicable
Samples B70618 and B70619 are field duplicate samples

Table 16. Summary of Subsurface Soil Sample Results
Volatile Organic Compounds Sorted by Depth
Former Vacuum Oil Company
1999-2000 Site Invesigation

Location Id.	Depth (ft)	Sample Date	Sample Number	Compound	Concentration	Units	Standard/ Guidance	Units	Comments
MW-2	10-12	02/08/00	B70617	METHYLENE CHLORIDE	750	ppb	100	ppb	Result is biased high due to laboratory contamination.
MW-2	10-12	02/08/00	B70617	TOTAL VOC TICs	130	ppb	NA	ppb	
TP-1	3-5	12/06/99	B70601	ACETONE	410	ppb	200	ppb	Result is invalid due to laboratory contamination.
TP-1	3-5	12/06/99	B70601	METHYLENE CHLORIDE	1300	ppb	100	ppb	Result is invalid due to laboratory contamination.
TP-1	3-5	12/06/99	B70601	TOTAL VOC TICs	109000	ppb	NA	ppb	
TP-1	7-8	12/06/99	B70602	2-BUTANONE	240	ppb	300	ppb	
TP-1	7-8	12/06/99	B70602	ACETONE	290	ppb	200	ppb	Result is invalid due to laboratory contamination.
TP-1	7-8	12/06/99	B70602	METHYLENE CHLORIDE	1400	ppb	100	ppb	Result is invalid due to laboratory contamination.
TP-1	7-8	12/06/99	B70602	TOTAL VOC TICs	133000	ppb	NA	ppb	
TP-1	7-8	12/06/99	B70602	XYLENE (total)	6300	ppb	1200	ppb	
TP-10	4	12/06/99	B70610	2-BUTANONE	22.0	ppb	300	ppb	
TP-10	4	12/06/99	B70610	ACETONE	100	ppb	200	ppb	
TP-10	4	12/06/99	B70610	METHYLENE CHLORIDE	58.0	ppb	100	ppb	Result is biased high due to laboratory contamination.
TP-10	4	12/06/99	B70610	TOTAL VOC TICs	ND	ppb	NA	ppb	
TP-2	5	12/06/99	B70603	METHYLENE CHLORIDE	86.0	ppb	100	ppb	Result is biased high due to laboratory contamination.
TP-2	5	12/06/99	B70603	TOTAL VOC TICs	ND	ppb	NA	ppb	
TP-3	8-9	12/06/99	B70604	1,1-DICHLOROETHANE	8.00	ppb	200	ppb	
TP-3	8-9	12/06/99	B70604	ACETONE	98.0	ppb	200	ppb	
TP-3	8-9	12/06/99	B70604	CARBON DISULFIDE	2.00	ppb	2700	ppb	
TP-3	8-9	12/06/99	B70604	METHYLENE CHLORIDE	49.0	ppb	100	ppb	Result is biased high due to laboratory contamination.
TP-3	8-9	12/06/99	B70604	TOLUENE	3.00	ppb	1500	ppb	
TP-3	8-9	12/06/99	B70604	TOTAL 1,2-DICHLOROETHENE	6.00	ppb	NA	ppb	
TP-3	8-9	12/06/99	B70604	TOTAL VOC TICs	237	ppb	NA	ppb	
TP-3	8-9	12/06/99	B70604	TRICHLOROETHENE	28.0	ppb	700	ppb	
TP-4	5	12/06/99	B70605	METHYLENE CHLORIDE	24.0	ppb	100	ppb	Result is biased high due to laboratory contamination.
TP-4	5	12/06/99	B70605	TOTAL VOC TICs	ND	ppb	NA	ppb	
TP-5	3	12/06/99	B70606	METHYLENE CHLORIDE	36.0	ppb	100	ppb	Result is biased high due to laboratory contamination.
TP-5	3	12/06/99	B70606	TOTAL VOC TICs	ND	ppb	NA	ppb	
TP-8	3	12/06/99	B70607	ACETONE	28.0	ppb	200	ppb	
TP-8	3	12/06/99	B70607	METHYLENE CHLORIDE	62.0	ppb	100	ppb	Result is biased high due to laboratory contamination.
TP-8	3	12/06/99	B70607	TOTAL VOC TICs	ND	ppb	NA	ppb	

ND- Not Detected
NA- Not Applicable

Table 17. Summary of Subsurface Soil Sample Results
Volatile Organic Compounds Sorted by Compound
Former Vacuum Oil Company
1999-2000 Site Invesigation

Location Id.	Depth (ft)	Sample Date	Sample Number	Compound	Concentration	Units	Standard/ Guidance	Units	Comments
TP-3	8-9	12/06/99	B70604	1,1-DICHLOROETHANE	8.00	ppb	200	ppb	
TP-1	7-8	12/06/99	B70602	2-BUTANONE	240	ppb	300	ppb	
TP-10	4	12/06/99	B70610	2-BUTANONE	22.0	ppb	300	ppb	
TP-1	3-5	12/06/99	B70601	ACETONE	410	ppb	200	ppb	Result is invalid due to laboratory contamination.
TP-1	7-8	12/06/99	B70602	ACETONE	290	ppb	200	ppb	Result is invalid due to laboratory contamination.
TP-10	4	12/06/99	B70610	ACETONE	100	ppb	200	ppb	
TP-3	8-9	12/06/99	B70604	ACETONE	98.0	ppb	200	ppb	
TP-8	3	12/06/99	B70607	ACETONE	28.0	ppb	200	ppb	
TP-3	8-9	12/06/99	B70604	CARBON DISULFIDE	2.00	ppb	2700	ppb	
TP-1	7-8	12/06/99	B70602	METHYLENE CHLORIDE	1400	ppb	100	ppb	Result is invalid due to laboratory contamination.
TP-1	3-5	12/06/99	B70601	METHYLENE CHLORIDE	1300	ppb	100	ppb	Result is invalid due to laboratory contamination.
MW-2	10-12	02/08/00	B70617	METHYLENE CHLORIDE	750	ppb	100	ppb	Result is biased high due to laboratory contamination.
TP-2	5	12/06/99	B70603	METHYLENE CHLORIDE	86.0	ppb	100	ppb	Result is biased high due to laboratory contamination.
TP-8	3	12/06/99	B70607	METHYLENE CHLORIDE	62.0	ppb	100	ppb	Result is biased high due to laboratory contamination.
TP-10	4	12/06/99	B70610	METHYLENE CHLORIDE	58.0	ppb	100	ppb	Result is biased high due to laboratory contamination.
TP-3	8-9	12/06/99	B70604	METHYLENE CHLORIDE	49.0	ppb	100	ppb	Result is biased high due to laboratory contamination.
TP-5	3	12/06/99	B70606	METHYLENE CHLORIDE	36.0	ppb	100	ppb	Result is biased high due to laboratory contamination.
TP-4	5	12/06/99	B70605	METHYLENE CHLORIDE	24.0	ppb	100	ppb	Result is biased high due to laboratory contamination.
TP-3	8-9	12/06/99	B70604	TOLUENE	3.00	ppb	1500	ppb	
TP-3	8-9	12/06/99	B70604	TOTAL 1,2-DICHLOROETHENE	6.00	ppb	NA	ppb	
TP-3	8-9	12/06/99	B70604	TRICHLOROETHENE	28.0	ppb	700	ppb	
TP-1	7-8	12/06/99	B70602	XYLENE (total)	6300	ppb	1200	ppb	
TP-10	4	12/06/99	B70610	TOTAL VOC TICs	ND	ppb	NA	ppb	
TP-2	5	12/06/99	B70603	TOTAL VOC TICs	ND	ppb	NA	ppb	
TP-4	5	12/06/99	B70605	TOTAL VOC TICs	ND	ppb	NA	ppb	
TP-5	3	12/06/99	B70606	TOTAL VOC TICs	ND	ppb	NA	ppb	
TP-8	3	12/06/99	B70607	TOTAL VOC TICs	ND	ppb	NA	ppb	
TP-1	7-8	12/06/99	B70602	TOTAL VOC TICs	133000	ppb	NA	ppb	
TP-1	3-5	12/06/99	B70601	TOTAL VOC TICs	109000	ppb	NA	ppb	
TP-3	8-9	12/06/99	B70604	TOTAL VOC TICs	237	ppb	NA	ppb	
MW-2	10-12	02/08/00	B70617	TOTAL VOC TICs	130	ppb	NA	ppb	

ND- Not Detected
NA- Not Applicable

Table 18. Summary of Subsurface Soil Sample Results
Inorganic Compounds Sorted by Depth
Former Vacuum Oil Company
1999-2000 Site Invesigation

Location Id.	Depth (ft)	Sample Date	Sample Number	Compound	Concentration	Units	Standard/Guidance
MW-1	8-10	02/08/00	B70618	ALUMINUM	6140	ppm	Background
MW-1	8-10	02/08/00	B70619	ALUMINUM	3400	ppm	Background
MW-1	8-10	02/08/00	B70618	ARSENIC	7.20	ppm	7.5 or background
MW-1	8-10	02/08/00	B70619	ARSENIC	8.80	ppm	7.5 or background
MW-1	8-10	02/08/00	B70618	BARIUM	43.9	ppm	300 or background
MW-1	8-10	02/08/00	B70619	BARIUM	59.7	ppm	300 or background
MW-1	8-10	02/08/00	B70619	BERYLLIUM	0.15	ppm	0.16 or background
MW-1	8-10	02/08/00	B70618	BERYLLIUM	0.28	ppm	0.16 or background
MW-1	8-10	02/08/00	B70619	CADMIUM	0.65	ppm	10 or background
MW-1	8-10	02/08/00	B70618	CALCIUM	1870	ppm	Background
MW-1	8-10	02/08/00	B70619	CALCIUM	4300	ppm	Background
MW-1	8-10	02/08/00	B70618	CHROMIUM	11.5	ppm	50 or background
MW-1	8-10	02/08/00	B70619	CHROMIUM	19.9	ppm	50 or background
MW-1	8-10	02/08/00	B70618	COBALT	4.60	ppm	30 or background
MW-1	8-10	02/08/00	B70619	COBALT	10.9	ppm	30 or background
MW-1	8-10	02/08/00	B70619	COPPER	113	ppm	25 or background
MW-1	8-10	02/08/00	B70618	COPPER	17.2	ppm	25 or background
MW-1	8-10	02/08/00	B70619	IRON	3400	ppm	2000 or background
MW-1	8-10	02/08/00	B70618	IRON	15900	ppm	2000 or background
MW-1	8-10	02/08/00	B70618	LEAD	12.1	ppm	Background
MW-1	8-10	02/08/00	B70619	LEAD	21.8	ppm	Background
MW-1	8-10	02/08/00	B70619	MAGNESIUM	396	ppm	Background
MW-1	8-10	02/08/00	B70618	MAGNESIUM	2130	ppm	Background
MW-1	8-10	02/08/00	B70618	MANGANESE	85.4	ppm	Background
MW-1	8-10	02/08/00	B70619	MANGANESE	20.4	ppm	Background
MW-1	8-10	02/08/00	B70618	MERCURY	0.09	ppm	0.1
MW-1	8-10	02/08/00	B70619	NICKEL	23.2	ppm	13 or background
MW-1	8-10	02/08/00	B70618	NICKEL	14.5	ppm	13 or background
MW-1	8-10	02/08/00	B70618	POTASSIUM	473	ppm	Background
MW-1	8-10	02/08/00	B70619	POTASSIUM	1000	ppm	Background
MW-1	8-10	02/08/00	B70619	SELENIUM	2.00	ppm	2 or background
MW-1	8-10	02/08/00	B70618	SODIUM	52.3	ppm	Background
MW-1	8-10	02/08/00	B70619	SODIUM	83.6	ppm	Background
MW-1	8-10	02/08/00	B70619	VANADIUM	32.0	ppm	150 or background
MW-1	8-10	02/08/00	B70618	VANADIUM	14.3	ppm	150 or background
MW-1	8-10	02/08/00	B70619	ZINC	62.4	ppm	20 or background
MW-1	8-10	02/08/00	B70618	ZINC	62.9	ppm	20 or background
MW-2	6-8	02/08/00	B70616	ALUMINUM	8100	ppm	Background
MW-2	6-8	02/08/00	B70616	ARSENIC	4.70	ppm	7.5 or background
MW-2	6-8	02/08/00	B70616	BARIUM	47.0	ppm	300 or background
MW-2	6-8	02/08/00	B70616	BERYLLIUM	0.46	ppm	0.16 or background
MW-2	6-8	02/08/00	B70616	CALCIUM	1280	ppm	Background
MW-2	6-8	02/08/00	B70616	CHROMIUM	11.5	ppm	50 or background
MW-2	6-8	02/08/00	B70616	COBALT	7.60	ppm	30 or background
MW-2	6-8	02/08/00	B70616	COPPER	13.7	ppm	25 or background
MW-2	6-8	02/08/00	B70616	IRON	18100	ppm	2000 or background
MW-2	6-8	02/08/00	B70616	LEAD	9.60	ppm	Background
MW-2	6-8	02/08/00	B70616	MAGNESIUM	2640	ppm	Background
MW-2	6-8	02/08/00	B70616	MANGANESE	222	ppm	Background
MW-2	6-8	02/08/00	B70616	NICKEL	20.0	ppm	13 or background
MW-2	6-8	02/08/00	B70616	POTASSIUM	865	ppm	Background
MW-2	6-8	02/08/00	B70616	SELENIUM	1.50	ppm	2 or background
MW-2	6-8	02/08/00	B70616	SODIUM	97.7	ppm	Background
MW-2	6-8	02/08/00	B70616	VANADIUM	13.9	ppm	150 or background

Table 18. Summary of Subsurface Soil Sample Results
Inorganic Compounds Sorted by Depth
Former Vacuum Oil Company
1999-2000 Site Invesigation

Location Id.	Depth (ft)	Sample Date	Sample Number	Compound	Concentration	Units	Standard/Guidance
MW-2	6-8	02/08/00	B70616	ZINC	47.5	ppm	20 or background
TP-1	3-5	12/06/99	B70601	ALUMINUM	6340	ppm	Background
TP-1	3-5	12/06/99	B70601	ARSENIC	9.00	ppm	7.5 or background
TP-1	3-5	12/06/99	B70601	BARIUM	89.5	ppm	300 or background
TP-1	3-5	12/06/99	B70601	BERYLLIUM	0.54	ppm	0.16 or background
TP-1	3-5	12/06/99	B70601	CALCIUM	3150	ppm	Background
TP-1	3-5	12/06/99	B70601	CHROMIUM	9.40	ppm	50 or background
TP-1	3-5	12/06/99	B70601	COBALT	5.80	ppm	30 or background
TP-1	3-5	12/06/99	B70601	COPPER	28.0	ppm	25 or background
TP-1	3-5	12/06/99	B70601	IRON	19300	ppm	2000 or background
TP-1	3-5	12/06/99	B70601	LEAD	29.8	ppm	Background
TP-1	3-5	12/06/99	B70601	MAGNESIUM	2250	ppm	Background
TP-1	3-5	12/06/99	B70601	MANGANESE	108	ppm	Background
TP-1	3-5	12/06/99	B70601	MERCURY	4.00	ppm	0.1
TP-1	3-5	12/06/99	B70601	NICKEL	14.9	ppm	13 or background
TP-1	3-5	12/06/99	B70601	POTASSIUM	930	ppm	Background
TP-1	3-5	12/06/99	B70601	SELENIUM	1.30	ppm	2 or background
TP-1	3-5	12/06/99	B70601	SODIUM	75.4	ppm	Background
TP-1	3-5	12/06/99	B70601	VANADIUM	16.2	ppm	150 or background
TP-1	3-5	12/06/99	B70601	ZINC	139	ppm	20 or background
TP-1	7-8	12/06/99	B70602	ALUMINUM	9120	ppm	Background
TP-1	7-8	12/06/99	B70602	ARSENIC	10.4	ppm	7.5 or background
TP-1	7-8	12/06/99	B70602	BARIUM	29.0	ppm	300 or background
TP-1	7-8	12/06/99	B70602	BERYLLIUM	0.52	ppm	0.16 or background
TP-1	7-8	12/06/99	B70602	CADMIUM	0.56	ppm	10 or background
TP-1	7-8	12/06/99	B70602	CALCIUM	1850	ppm	Background
TP-1	7-8	12/06/99	B70602	CHROMIUM	9.80	ppm	50 or background
TP-1	7-8	12/06/99	B70602	COBALT	5.40	ppm	30 or background
TP-1	7-8	12/06/99	B70602	COPPER	143	ppm	25 or background
TP-1	7-8	12/06/99	B70602	IRON	17700	ppm	2000 or background
TP-1	7-8	12/06/99	B70602	LEAD	9.10	ppm	Background
TP-1	7-8	12/06/99	B70602	MAGNESIUM	2410	ppm	Background
TP-1	7-8	12/06/99	B70602	MANGANESE	87.3	ppm	Background
TP-1	7-8	12/06/99	B70602	NICKEL	17.3	ppm	13 or background
TP-1	7-8	12/06/99	B70602	POTASSIUM	1040	ppm	Background
TP-1	7-8	12/06/99	B70602	SELENIUM	1.60	ppm	2 or background
TP-1	7-8	12/06/99	B70602	SODIUM	67.7	ppm	Background
TP-1	7-8	12/06/99	B70602	VANADIUM	15.7	ppm	150 or background
TP-1	7-8	12/06/99	B70602	ZINC	160	ppm	20 or background
TP-10	4	12/06/99	B70610	ALUMINUM	4400	ppm	Background
TP-10	4	12/06/99	B70610	ANTIMONY	5.70	ppm	Background
TP-10	4	12/06/99	B70610	ARSENIC	12.2	ppm	7.5 or background
TP-10	4	12/06/99	B70610	BARIUM	75.0	ppm	300 or background
TP-10	4	12/06/99	B70610	BERYLLIUM	0.46	ppm	0.16 or background
TP-10	4	12/06/99	B70610	CADMIUM	0.34	ppm	10 or background
TP-10	4	12/06/99	B70610	CALCIUM	31400	ppm	Background
TP-10	4	12/06/99	B70610	CHROMIUM	9.90	ppm	50 or background
TP-10	4	12/06/99	B70610	COBALT	5.90	ppm	30 or background
TP-10	4	12/06/99	B70610	COPPER	132	ppm	25 or background
TP-10	4	12/06/99	B70610	IRON	11400	ppm	2000 or background
TP-10	4	12/06/99	B70610	LEAD	473	ppm	Background
TP-10	4	12/06/99	B70610	MAGNESIUM	17900	ppm	Background
TP-10	4	12/06/99	B70610	MANGANESE	255	ppm	Background
TP-10	4	12/06/99	B70610	MERCURY	1.50	ppm	0.1

Table 18. Summary of Subsurface Soil Sample Results
Inorganic Compounds Sorted by Depth
Former Vacuum Oil Company
1999-2000 Site Invesigation

Location Id.	Depth (ft)	Sample Date	Sample Number	Compound	Concentration	Units	Standard/Guidance
TP-10	4	12/06/99	B70610	NICKEL	14.7	ppm	13 or background
TP-10	4	12/06/99	B70610	POTASSIUM	491	ppm	Background
TP-10	4	12/06/99	B70610	SELENIUM	3.50	ppm	2 or background
TP-10	4	12/06/99	B70610	SODIUM	331	ppm	Background
TP-10	4	12/06/99	B70610	VANADIUM	20.2	ppm	150 or background
TP-10	4	12/06/99	B70610	ZINC	128	ppm	20 or background
TP-2	5	12/06/99	B70603	ALUMINUM	20100	ppm	Background
TP-2	5	12/06/99	B70603	ARSENIC	16.1	ppm	7.5 or background
TP-2	5	12/06/99	B70603	BARIUM	828	ppm	300 or background
TP-2	5	12/06/99	B70603	BERYLLIUM	2.20	ppm	0.16 or background
TP-2	5	12/06/99	B70603	CADMIUM	2.40	ppm	10 or background
TP-2	5	12/06/99	B70603	CALCIUM	85100	ppm	Background
TP-2	5	12/06/99	B70603	CHROMIUM	47.9	ppm	50 or background
TP-2	5	12/06/99	B70603	COBALT	4.10	ppm	30 or background
TP-2	5	12/06/99	B70603	COPPER	45.8	ppm	25 or background
TP-2	5	12/06/99	B70603	IRON	20200	ppm	2000 or background
TP-2	5	12/06/99	B70603	LEAD	467	ppm	Background
TP-2	5	12/06/99	B70603	MAGNESIUM	35800	ppm	Background
TP-2	5	12/06/99	B70603	MANGANESE	3480	ppm	Background
TP-2	5	12/06/99	B70603	MERCURY	1.00	ppm	0.1
TP-2	5	12/06/99	B70603	NICKEL	35.6	ppm	13 or background
TP-2	5	12/06/99	B70603	POTASSIUM	2540	ppm	Background
TP-2	5	12/06/99	B70603	SELENIUM	2.60	ppm	2 or background
TP-2	5	12/06/99	B70603	SILVER	0.24	ppm	Background
TP-2	5	12/06/99	B70603	SODIUM	714	ppm	Background
TP-2	5	12/06/99	B70603	VANADIUM	23.2	ppm	150 or background
TP-2	5	12/06/99	B70603	ZINC	663	ppm	20 or background
TP-3	8-9	12/06/99	B70604	ALUMINUM	7560	ppm	Background
TP-3	8-9	12/06/99	B70604	ARSENIC	4.70	ppm	7.5 or background
TP-3	8-9	12/06/99	B70604	BARIUM	86.1	ppm	300 or background
TP-3	8-9	12/06/99	B70604	BERYLLIUM	0.42	ppm	0.16 or background
TP-3	8-9	12/06/99	B70604	CADMIUM	0.47	ppm	10 or background
TP-3	8-9	12/06/99	B70604	CALCIUM	15400	ppm	Background
TP-3	8-9	12/06/99	B70604	CHROMIUM	11.1	ppm	50 or background
TP-3	8-9	12/06/99	B70604	COBALT	5.50	ppm	30 or background
TP-3	8-9	12/06/99	B70604	COPPER	21.8	ppm	25 or background
TP-3	8-9	12/06/99	B70604	CYANIDE	1.10	ppm	Site specific
TP-3	8-9	12/06/99	B70604	IRON	16700	ppm	2000 or background
TP-3	8-9	12/06/99	B70604	LEAD	47.2	ppm	Background
TP-3	8-9	12/06/99	B70604	MAGNESIUM	5900	ppm	Background
TP-3	8-9	12/06/99	B70604	MANGANESE	346	ppm	Background
TP-3	8-9	12/06/99	B70604	MERCURY	0.12	ppm	0.1
TP-3	8-9	12/06/99	B70604	NICKEL	14.0	ppm	13 or background
TP-3	8-9	12/06/99	B70604	POTASSIUM	1020	ppm	Background
TP-3	8-9	12/06/99	B70604	SELENIUM	1.30	ppm	2 or background
TP-3	8-9	12/06/99	B70604	SODIUM	88.5	ppm	Background
TP-3	8-9	12/06/99	B70604	VANADIUM	15.5	ppm	150 or background
TP-3	8-9	12/06/99	B70604	ZINC	196	ppm	20 or background
TP-4	5	12/06/99	B70605	ALUMINUM	12000	ppm	Background
TP-4	5	12/06/99	B70605	ARSENIC	5.30	ppm	7.5 or background
TP-4	5	12/06/99	B70605	BARIUM	98.8	ppm	300 or background
TP-4	5	12/06/99	B70605	BERYLLIUM	0.69	ppm	0.16 or background
TP-4	5	12/06/99	B70605	CADMIUM	0.31	ppm	10 or background
TP-4	5	12/06/99	B70605	CALCIUM	3880	ppm	Background

Table 18. Summary of Subsurface Soil Sample Results
Inorganic Compounds Sorted by Depth
Former Vacuum Oil Company
1999-2000 Site Invesigation

Location Id.	Depth (ft)	Sample Date	Sample Number	Compound	Concentration	Units	Standard/Guidance
TP-4	5	12/06/99	B70605	CHROMIUM	16.3	ppm	50 or background
TP-4	5	12/06/99	B70605	COBALT	11.5	ppm	30 or background
TP-4	5	12/06/99	B70605	COPPER	13.5	ppm	25 or background
TP-4	5	12/06/99	B70605	IRON	23900	ppm	2000 or background
TP-4	5	12/06/99	B70605	LEAD	14.8	ppm	Background
TP-4	5	12/06/99	B70605	MAGNESIUM	3790	ppm	Background
TP-4	5	12/06/99	B70605	MANGANESE	780	ppm	Background
TP-4	5	12/06/99	B70605	MERCURY	0.03	ppm	0.1
TP-4	5	12/06/99	B70605	NICKEL	22.8	ppm	13 or background
TP-4	5	12/06/99	B70605	POTASSIUM	1170	ppm	Background
TP-4	5	12/06/99	B70605	SELENIUM	0.99	ppm	2 or background
TP-4	5	12/06/99	B70605	SODIUM	56.5	ppm	Background
TP-4	5	12/06/99	B70605	VANADIUM	20.1	ppm	150 or background
TP-4	5	12/06/99	B70605	ZINC	79.4	ppm	20 or background
TP-5	3	12/06/99	B70606	ALUMINUM	22200	ppm	Background
TP-5	3	12/06/99	B70606	ARSENIC	37.7	ppm	7.5 or background
TP-5	3	12/06/99	B70606	BARIUM	41.6	ppm	300 or background
TP-5	3	12/06/99	B70606	BERYLLIUM	0.81	ppm	0.16 or background
TP-5	3	12/06/99	B70606	CADMIUM	1.10	ppm	10 or background
TP-5	3	12/06/99	B70606	CALCIUM	39400	ppm	Background
TP-5	3	12/06/99	B70606	CHROMIUM	49.5	ppm	50 or background
TP-5	3	12/06/99	B70606	COBALT	2.70	ppm	30 or background
TP-5	3	12/06/99	B70606	COPPER	8.10	ppm	25 or background
TP-5	3	12/06/99	B70606	IRON	14200	ppm	2000 or background
TP-5	3	12/06/99	B70606	LEAD	25.9	ppm	Background
TP-5	3	12/06/99	B70606	MAGNESIUM	29900	ppm	Background
TP-5	3	12/06/99	B70606	MANGANESE	100	ppm	Background
TP-5	3	12/06/99	B70606	NICKEL	16.0	ppm	13 or background
TP-5	3	12/06/99	B70606	POTASSIUM	3400	ppm	Background
TP-5	3	12/06/99	B70606	SODIUM	824	ppm	Background
TP-5	3	12/06/99	B70606	VANADIUM	52.6	ppm	150 or background
TP-5	3	12/06/99	B70606	ZINC	54.7	ppm	20 or background
TP-8	3	12/06/99	B70607	ALUMINUM	21400	ppm	Background
TP-8	3	12/06/99	B70607	ARSENIC	113	ppm	7.5 or background
TP-8	3	12/06/99	B70607	BARIUM	28.5	ppm	300 or background
TP-8	3	12/06/99	B70607	BERYLLIUM	1.20	ppm	0.16 or background
TP-8	3	12/06/99	B70607	CADMIUM	1.10	ppm	10 or background
TP-8	3	12/06/99	B70607	CALCIUM	14300	ppm	Background
TP-8	3	12/06/99	B70607	CHROMIUM	59.3	ppm	50 or background
TP-8	3	12/06/99	B70607	COBALT	10.0	ppm	30 or background
TP-8	3	12/06/99	B70607	COPPER	58.5	ppm	25 or background
TP-8	3	12/06/99	B70607	IRON	65500	ppm	2000 or background
TP-8	3	12/06/99	B70607	LEAD	44.0	ppm	Background
TP-8	3	12/06/99	B70607	MAGNESIUM	21200	ppm	Background
TP-8	3	12/06/99	B70607	MANGANESE	1190	ppm	Background
TP-8	3	12/06/99	B70607	MERCURY	0.05	ppm	0.1
TP-8	3	12/06/99	B70607	NICKEL	23.7	ppm	13 or background
TP-8	3	12/06/99	B70607	POTASSIUM	2670	ppm	Background
TP-8	3	12/06/99	B70607	SELENIUM	2.70	ppm	2 or background
TP-8	3	12/06/99	B70607	SODIUM	554	ppm	Background
TP-8	3	12/06/99	B70607	VANADIUM	60.3	ppm	150 or background
TP-8	3	12/06/99	B70607	ZINC	115	ppm	20 or background

Samples B70618 and B70619 are field duplicate samples

Table 19. Summary of Subsurface Soil Sample Results
Inorganic Compounds Sorted by Compound
Former Vacuum Oil Company
1999-2000 Site Invesigation

Location Id.	Depth (ft)	Sample Date	Sample Number	Compound	Concentration	Units	Standard/Guidance	Units
TP-5	3	12/06/99	B70606	ALUMINUM	22200	ppm	Background	ppm
TP-8	3	12/06/99	B70607	ALUMINUM	21400	ppm	Background	ppm
TP-2	5	12/06/99	B70603	ALUMINUM	20100	ppm	Background	ppm
TP-4	5	12/06/99	B70605	ALUMINUM	12000	ppm	Background	ppm
TP-1	7-8	12/06/99	B70602	ALUMINUM	9120	ppm	Background	ppm
MW-2	6-8	02/08/00	B70616	ALUMINUM	8100	ppm	Background	ppm
TP-3	8-9	12/06/99	B70604	ALUMINUM	7560	ppm	Background	ppm
TP-1	3-5	12/06/99	B70601	ALUMINUM	6340	ppm	Background	ppm
MW-1	8-10	02/08/00	B70618	ALUMINUM	6140	ppm	Background	ppm
TP-10	4	12/06/99	B70610	ALUMINUM	4400	ppm	Background	ppm
MW-1	8-10	02/08/00	B70619	ALUMINUM	3400	ppm	Background	ppm
TP-10	4	12/06/99	B70610	ANTIMONY	5.70	ppm	Background	ppm
TP-8	3	12/06/99	B70607	ARSENIC	113	ppm	7.5 or background	ppm
TP-5	3	12/06/99	B70606	ARSENIC	37.7	ppm	7.5 or background	ppm
TP-2	5	12/06/99	B70603	ARSENIC	16.1	ppm	7.5 or background	ppm
TP-10	4	12/06/99	B70610	ARSENIC	12.2	ppm	7.5 or background	ppm
TP-1	7-8	12/06/99	B70602	ARSENIC	10.4	ppm	7.5 or background	ppm
TP-1	3-5	12/06/99	B70601	ARSENIC	9.00	ppm	7.5 or background	ppm
MW-1	8-10	02/08/00	B70619	ARSENIC	8.80	ppm	7.5 or background	ppm
MW-1	8-10	02/08/00	B70618	ARSENIC	7.20	ppm	7.5 or background	ppm
TP-4	5	12/06/99	B70605	ARSENIC	5.30	ppm	7.5 or background	ppm
MW-2	6-8	02/08/00	B70616	ARSENIC	4.70	ppm	7.5 or background	ppm
TP-3	8-9	12/06/99	B70604	ARSENIC	4.70	ppm	7.5 or background	ppm
TP-2	5	12/06/99	B70603	BARIUM	828	ppm	300 or background	ppm
TP-4	5	12/06/99	B70605	BARIUM	98.8	ppm	300 or background	ppm
TP-1	3-5	12/06/99	B70601	BARIUM	89.5	ppm	300 or background	ppm
TP-3	8-9	12/06/99	B70604	BARIUM	86.1	ppm	300 or background	ppm
TP-10	4	12/06/99	B70610	BARIUM	75.0	ppm	300 or background	ppm
MW-1	8-10	02/08/00	B70619	BARIUM	59.7	ppm	300 or background	ppm
MW-2	6-8	02/08/00	B70616	BARIUM	47.0	ppm	300 or background	ppm
MW-1	8-10	02/08/00	B70618	BARIUM	43.9	ppm	300 or background	ppm
TP-5	3	12/06/99	B70606	BARIUM	41.6	ppm	300 or background	ppm
TP-1	7-8	12/06/99	B70602	BARIUM	29.0	ppm	300 or background	ppm
TP-8	3	12/06/99	B70607	BARIUM	28.5	ppm	300 or background	ppm
TP-2	5	12/06/99	B70603	BERYLLIUM	2.20	ppm	0.16 or background	ppm
TP-8	3	12/06/99	B70607	BERYLLIUM	1.20	ppm	0.16 or background	ppm
TP-5	3	12/06/99	B70606	BERYLLIUM	0.81	ppm	0.16 or background	ppm
TP-4	5	12/06/99	B70605	BERYLLIUM	0.69	ppm	0.16 or background	ppm
TP-1	3-5	12/06/99	B70601	BERYLLIUM	0.54	ppm	0.16 or background	ppm
TP-1	7-8	12/06/99	B70602	BERYLLIUM	0.52	ppm	0.16 or background	ppm
MW-2	6-8	02/08/00	B70616	BERYLLIUM	0.46	ppm	0.16 or background	ppm
TP-10	4	12/06/99	B70610	BERYLLIUM	0.46	ppm	0.16 or background	ppm
TP-3	8-9	12/06/99	B70604	BERYLLIUM	0.42	ppm	0.16 or background	ppm
MW-1	8-10	02/08/00	B70618	BERYLLIUM	0.28	ppm	0.16 or background	ppm
MW-1	8-10	02/08/00	B70619	BERYLLIUM	0.15	ppm	0.16 or background	ppm
TP-2	5	12/06/99	B70603	CADMIUM	2.40	ppm	10 or background	ppm
TP-5	3	12/06/99	B70606	CADMIUM	1.10	ppm	10 or background	ppm
TP-8	3	12/06/99	B70607	CADMIUM	1.10	ppm	10 or background	ppm
MW-1	8-10	02/08/00	B70619	CADMIUM	0.65	ppm	10 or background	ppm
TP-1	7-8	12/06/99	B70602	CADMIUM	0.56	ppm	10 or background	ppm
TP-3	8-9	12/06/99	B70604	CADMIUM	0.47	ppm	10 or background	ppm
TP-10	4	12/06/99	B70610	CADMIUM	0.34	ppm	10 or background	ppm
TP-4	5	12/06/99	B70605	CADMIUM	0.31	ppm	10 or background	ppm
TP-2	5	12/06/99	B70603	CALCIUM	85100	ppm	Background	ppm
TP-5	3	12/06/99	B70606	CALCIUM	39400	ppm	Background	ppm
TP-10	4	12/06/99	B70610	CALCIUM	31400	ppm	Background	ppm
TP-3	8-9	12/06/99	B70604	CALCIUM	15400	ppm	Background	ppm

Table 19. Summary of Subsurface Soil Sample Results
Inorganic Compounds Sorted by Compound
Former Vacuum Oil Company
1999-2000 Site Invesigation

Location Id.	Depth (ft)	Sample Date	Sample Number	Compound	Concentration	Units	Standard/Guidance	Units
TP-8	3	12/06/99	B70607	CALCIUM	14300	ppm	Background	ppm
MW-1	8-10	02/08/00	B70619	CALCIUM	4300	ppm	Background	ppm
TP-4	5	12/06/99	B70605	CALCIUM	3880	ppm	Background	ppm
TP-1	3-5	12/06/99	B70601	CALCIUM	3150	ppm	Background	ppm
MW-1	8-10	02/08/00	B70618	CALCIUM	1870	ppm	Background	ppm
TP-1	7-8	12/06/99	B70602	CALCIUM	1850	ppm	Background	ppm
MW-2	6-8	02/08/00	B70616	CALCIUM	1280	ppm	Background	ppm
TP-8	3	12/06/99	B70607	CHROMIUM	59.3	ppm	50 or background	ppm
TP-5	3	12/06/99	B70606	CHROMIUM	49.5	ppm	50 or background	ppm
TP-2	5	12/06/99	B70603	CHROMIUM	47.9	ppm	50 or background	ppm
MW-1	8-10	02/08/00	B70619	CHROMIUM	19.9	ppm	50 or background	ppm
TP-4	5	12/06/99	B70605	CHROMIUM	16.3	ppm	50 or background	ppm
MW-1	8-10	02/08/00	B70618	CHROMIUM	11.5	ppm	50 or background	ppm
MW-2	6-8	02/08/00	B70616	CHROMIUM	11.5	ppm	50 or background	ppm
TP-3	8-9	12/06/99	B70604	CHROMIUM	11.1	ppm	50 or background	ppm
TP-10	4	12/06/99	B70610	CHROMIUM	9.90	ppm	50 or background	ppm
TP-1	7-8	12/06/99	B70602	CHROMIUM	9.80	ppm	50 or background	ppm
TP-1	3-5	12/06/99	B70601	CHROMIUM	9.40	ppm	50 or background	ppm
TP-4	5	12/06/99	B70605	COBALT	11.5	ppm	30 or background	ppm
MW-1	8-10	02/08/00	B70619	COBALT	10.9	ppm	30 or background	ppm
TP-8	3	12/06/99	B70607	COBALT	10.0	ppm	30 or background	ppm
MW-2	6-8	02/08/00	B70616	COBALT	7.60	ppm	30 or background	ppm
TP-10	4	12/06/99	B70610	COBALT	5.90	ppm	30 or background	ppm
TP-1	3-5	12/06/99	B70601	COBALT	5.80	ppm	30 or background	ppm
TP-3	8-9	12/06/99	B70604	COBALT	5.50	ppm	30 or background	ppm
TP-1	7-8	12/06/99	B70602	COBALT	5.40	ppm	30 or background	ppm
MW-1	8-10	02/08/00	B70618	COBALT	4.60	ppm	30 or background	ppm
TP-2	5	12/06/99	B70603	COBALT	4.10	ppm	30 or background	ppm
TP-5	3	12/06/99	B70606	COBALT	2.70	ppm	30 or background	ppm
TP-1	7-8	12/06/99	B70602	COPPER	143	ppm	25 or background	ppm
TP-10	4	12/06/99	B70610	COPPER	132	ppm	25 or background	ppm
TP-8	3	12/06/99	B70607	COPPER	58.5	ppm	25 or background	ppm
MW-1	8-10	02/08/00	B70619	COPPER	113	ppm	25 or background	ppm
TP-2	5	12/06/99	B70603	COPPER	45.8	ppm	25 or background	ppm
TP-1	3-5	12/06/99	B70601	COPPER	28.0	ppm	25 or background	ppm
TP-3	8-9	12/06/99	B70604	COPPER	21.8	ppm	25 or background	ppm
MW-1	8-10	02/08/00	B70618	COPPER	17.2	ppm	25 or background	ppm
MW-2	6-8	02/08/00	B70616	COPPER	13.7	ppm	25 or background	ppm
TP-4	5	12/06/99	B70605	COPPER	13.5	ppm	25 or background	ppm
TP-5	3	12/06/99	B70606	COPPER	8.10	ppm	25 or background	ppm
TP-3	8-9	12/06/99	B70604	CYANIDE	1.10	ppm	Site specific	ppm
TP-8	3	12/06/99	B70607	IRON	65500	ppm	2000 or background	ppm
TP-4	5	12/06/99	B70605	IRON	23900	ppm	2000 or background	ppm
TP-2	5	12/06/99	B70603	IRON	20200	ppm	2000 or background	ppm
TP-1	3-5	12/06/99	B70601	IRON	19300	ppm	2000 or background	ppm
MW-2	6-8	02/08/00	B70616	IRON	18100	ppm	2000 or background	ppm
TP-1	7-8	12/06/99	B70602	IRON	17700	ppm	2000 or background	ppm
TP-3	8-9	12/06/99	B70604	IRON	16700	ppm	2000 or background	ppm
MW-1	8-10	02/08/00	B70618	IRON	15900	ppm	2000 or background	ppm
TP-5	3	12/06/99	B70606	IRON	14200	ppm	2000 or background	ppm
TP-10	4	12/06/99	B70610	IRON	11400	ppm	2000 or background	ppm
MW-1	8-10	02/08/00	B70619	IRON	3400	ppm	2000 or background	ppm
TP-10	4	12/06/99	B70610	LEAD	473	ppm	Background	ppm
TP-2	5	12/06/99	B70603	LEAD	467	ppm	Background	ppm
TP-3	8-9	12/06/99	B70604	LEAD	47.2	ppm	Background	ppm
TP-8	3	12/06/99	B70607	LEAD	44.0	ppm	Background	ppm
TP-1	3-5	12/06/99	B70601	LEAD	29.8	ppm	Background	ppm

Table 19. Summary of Subsurface Soil Sample Results
Inorganic Compounds Sorted by Compound
Former Vacuum Oil Company
1999-2000 Site Invesigation

Location Id.	Depth (ft)	Sample Date	Sample Number	Compound	Concentration	Units	Standard/Guidance	Units
TP-5	3	12/06/99	B70606	LEAD	25.9	ppm	Background	ppm
MW-1	8-10	02/08/00	B70619	LEAD	21.8	ppm	Background	ppm
TP-4	5	12/06/99	B70605	LEAD	14.8	ppm	Background	ppm
MW-1	8-10	02/08/00	B70618	LEAD	12.1	ppm	Background	ppm
MW-2	6-8	02/08/00	B70616	LEAD	9.60	ppm	Background	ppm
TP-1	7-8	12/06/99	B70602	LEAD	9.10	ppm	Background	ppm
TP-2	5	12/06/99	B70603	MAGNESIUM	35800	ppm	Background	ppm
TP-5	3	12/06/99	B70606	MAGNESIUM	29900	ppm	Background	ppm
TP-8	3	12/06/99	B70607	MAGNESIUM	21200	ppm	Background	ppm
TP-10	4	12/06/99	B70610	MAGNESIUM	17900	ppm	Background	ppm
TP-3	8-9	12/06/99	B70604	MAGNESIUM	5900	ppm	Background	ppm
TP-4	5	12/06/99	B70605	MAGNESIUM	3790	ppm	Background	ppm
MW-2	6-8	02/08/00	B70616	MAGNESIUM	2640	ppm	Background	ppm
TP-1	7-8	12/06/99	B70602	MAGNESIUM	2410	ppm	Background	ppm
TP-1	3-5	12/06/99	B70601	MAGNESIUM	2250	ppm	Background	ppm
MW-1	8-10	02/08/00	B70618	MAGNESIUM	2130	ppm	Background	ppm
MW-1	8-10	02/08/00	B70619	MAGNESIUM	396	ppm	Background	ppm
TP-2	5	12/06/99	B70603	MANGANESE	3480	ppm	Background	ppm
TP-8	3	12/06/99	B70607	MANGANESE	1190	ppm	Background	ppm
TP-4	5	12/06/99	B70605	MANGANESE	780	ppm	Background	ppm
TP-3	8-9	12/06/99	B70604	MANGANESE	346	ppm	Background	ppm
TP-10	4	12/06/99	B70610	MANGANESE	255	ppm	Background	ppm
MW-2	6-8	02/08/00	B70616	MANGANESE	222	ppm	Background	ppm
TP-1	3-5	12/06/99	B70601	MANGANESE	108	ppm	Background	ppm
TP-5	3	12/06/99	B70606	MANGANESE	100	ppm	Background	ppm
TP-1	7-8	12/06/99	B70602	MANGANESE	87.3	ppm	Background	ppm
MW-1	8-10	02/08/00	B70618	MANGANESE	85.4	ppm	Background	ppm
MW-1	8-10	02/08/00	B70619	MANGANESE	20.4	ppm	Background	ppm
TP-1	3-5	12/06/99	B70601	MERCURY	4.00	ppm	0.1	ppm
TP-10	4	12/06/99	B70610	MERCURY	1.50	ppm	0.1	ppm
TP-2	5	12/06/99	B70603	MERCURY	1.00	ppm	0.1	ppm
TP-3	8-9	12/06/99	B70604	MERCURY	0.12	ppm	0.1	ppm
MW-1	8-10	02/08/00	B70618	MERCURY	0.09	ppm	0.1	ppm
TP-8	3	12/06/99	B70607	MERCURY	0.05	ppm	0.1	ppm
TP-4	5	12/06/99	B70605	MERCURY	0.03	ppm	0.1	ppm
TP-2	5	12/06/99	B70603	NICKEL	35.6	ppm	13 or background	ppm
TP-8	3	12/06/99	B70607	NICKEL	23.7	ppm	13 or background	ppm
MW-1	8-10	02/08/00	B70619	NICKEL	23.2	ppm	13 or background	ppm
TP-4	5	12/06/99	B70605	NICKEL	22.8	ppm	13 or background	ppm
MW-2	6-8	02/08/00	B70616	NICKEL	20.0	ppm	13 or background	ppm
TP-1	7-8	12/06/99	B70602	NICKEL	17.3	ppm	13 or background	ppm
TP-5	3	12/06/99	B70606	NICKEL	16.0	ppm	13 or background	ppm
TP-1	3-5	12/06/99	B70601	NICKEL	14.9	ppm	13 or background	ppm
TP-10	4	12/06/99	B70610	NICKEL	14.7	ppm	13 or background	ppm
MW-1	8-10	02/08/00	B70618	NICKEL	14.5	ppm	13 or background	ppm
TP-3	8-9	12/06/99	B70604	NICKEL	14.0	ppm	13 or background	ppm
TP-5	3	12/06/99	B70606	POTASSIUM	3400	ppm	Background	ppm
TP-8	3	12/06/99	B70607	POTASSIUM	2670	ppm	Background	ppm
TP-2	5	12/06/99	B70603	POTASSIUM	2540	ppm	Background	ppm
TP-4	5	12/06/99	B70605	POTASSIUM	1170	ppm	Background	ppm
TP-1	7-8	12/06/99	B70602	POTASSIUM	1040	ppm	Background	ppm
TP-3	8-9	12/06/99	B70604	POTASSIUM	1020	ppm	Background	ppm
MW-1	8-10	02/08/00	B70619	POTASSIUM	1000	ppm	Background	ppm
TP-1	3-5	12/06/99	B70601	POTASSIUM	930	ppm	Background	ppm
MW-2	6-8	02/08/00	B70616	POTASSIUM	865	ppm	Background	ppm
TP-10	4	12/06/99	B70610	POTASSIUM	491	ppm	Background	ppm
MW-1	8-10	02/08/00	B70618	POTASSIUM	473	ppm	Background	ppm

Table 19. Summary of Subsurface Soil Sample Results
Inorganic Compounds Sorted by Compound
Former Vacuum Oil Company
1999-2000 Site Invesigation

Location Id.	Depth (ft)	Sample Date	Sample Number	Compound	Concentration	Units	Standard/Guidance	Units
TP-10	4	12/06/99	B70610	SELENIUM	3.50	ppm	2 or background	ppm
TP-8	3	12/06/99	B70607	SELENIUM	2.70	ppm	2 or background	ppm
TP-2	5	12/06/99	B70603	SELENIUM	2.60	ppm	2 or background	ppm
MW-1	8-10	02/08/00	B70619	SELENIUM	2.00	ppm	2 or background	ppm
TP-1	7-8	12/06/99	B70602	SELENIUM	1.60	ppm	2 or background	ppm
MW-2	6-8	02/08/00	B70616	SELENIUM	1.50	ppm	2 or background	ppm
TP-1	3-5	12/06/99	B70601	SELENIUM	1.30	ppm	2 or background	ppm
TP-3	8-9	12/06/99	B70604	SELENIUM	1.30	ppm	2 or background	ppm
TP-4	5	12/06/99	B70605	SELENIUM	0.99	ppm	2 or background	ppm
TP-2	5	12/06/99	B70603	SILVER	0.24	ppm	Background	ppm
TP-5	3	12/06/99	B70606	SODIUM	824	ppm	Background	ppm
TP-2	5	12/06/99	B70603	SODIUM	714	ppm	Background	ppm
TP-8	3	12/06/99	B70607	SODIUM	554	ppm	Background	ppm
TP-10	4	12/06/99	B70610	SODIUM	331	ppm	Background	ppm
MW-2	6-8	02/08/00	B70616	SODIUM	97.7	ppm	Background	ppm
TP-3	8-9	12/06/99	B70604	SODIUM	88.5	ppm	Background	ppm
MW-1	8-10	02/08/00	B70619	SODIUM	83.6	ppm	Background	ppm
TP-1	3-5	12/06/99	B70601	SODIUM	75.4	ppm	Background	ppm
TP-1	7-8	12/06/99	B70602	SODIUM	67.7	ppm	Background	ppm
TP-4	5	12/06/99	B70605	SODIUM	56.5	ppm	Background	ppm
MW-1	8-10	02/08/00	B70618	SODIUM	52.3	ppm	Background	ppm
MW-2	6-8	02/08/00	B70616	VANADIUM	13.9	ppm	150 or background	ppm
TP-8	3	12/06/99	B70607	VANADIUM	60.3	ppm	150 or background	ppm
TP-5	3	12/06/99	B70606	VANADIUM	52.6	ppm	150 or background	ppm
MW-1	8-10	02/08/00	B70619	VANADIUM	32.0	ppm	150 or background	ppm
TP-2	5	12/06/99	B70603	VANADIUM	23.2	ppm	150 or background	ppm
TP-10	4	12/06/99	B70610	VANADIUM	20.2	ppm	150 or background	ppm
TP-4	5	12/06/99	B70605	VANADIUM	20.1	ppm	150 or background	ppm
TP-1	3-5	12/06/99	B70601	VANADIUM	16.2	ppm	150 or background	ppm
TP-1	7-8	12/06/99	B70602	VANADIUM	15.7	ppm	150 or background	ppm
TP-3	8-9	12/06/99	B70604	VANADIUM	15.5	ppm	150 or background	ppm
MW-1	8-10	02/08/00	B70618	VANADIUM	14.3	ppm	150 or background	ppm
TP-2	5	12/06/99	B70603	ZINC	663	ppm	20 or background	ppm
TP-3	8-9	12/06/99	B70604	ZINC	196	ppm	20 or background	ppm
TP-1	7-8	12/06/99	B70602	ZINC	160	ppm	20 or background	ppm
TP-1	3-5	12/06/99	B70601	ZINC	139	ppm	20 or background	ppm
TP-10	4	12/06/99	B70610	ZINC	128	ppm	20 or background	ppm
TP-8	3	12/06/99	B70607	ZINC	115	ppm	20 or background	ppm
TP-4	5	12/06/99	B70605	ZINC	79.4	ppm	20 or background	ppm
MW-1	8-10	02/08/00	B70618	ZINC	62.9	ppm	20 or background	ppm
MW-1	8-10	02/08/00	B70619	ZINC	62.4	ppm	20 or background	ppm
TP-5	3	12/06/99	B70606	ZINC	54.7	ppm	20 or background	ppm
MW-2	6-8	02/08/00	B70616	ZINC	47.5	ppm	20 or background	ppm

Samples B70618 and B70619 are field duplicate samples

Table 20. Summary of Subsurface Soil Sample Results
Pesticides and PCBs
Former Vacuum Oil Company
1999-2000 Site Invesigation

Location Id.	Depth (ft)	Sample Date	Sample Number	Compound	Concentration	Units	Standard/ Guidance	Units
TP-1	3-5	12/06/99	B70601	ALL PESTICIDES/PCBs	ND	ppb	NA	ppb
TP-1	7-8	12/06/99	B70602	ALDRIN	2.60	ppb	41	ppb
TP-2	5	12/06/99	B70603	ALL PESTICIDES/PCBs	ND	ppb	NA	ppb
TP-3	8-9	12/06/99	B70604	ALL PESTICIDES/PCBs	ND	ppb	NA	ppb
TP-4	5	12/06/99	B70605	ALL PESTICIDES/PCBs	ND	ppb	NA	ppb
TP-5	3	12/06/99	B70606	ALL PESTICIDES/PCBs	ND	ppb	NA	ppb
TP-8	3	12/06/99	B70607	ALL PESTICIDES/PCBs	ND	ppb	NA	ppb
TP-10	4	12/06/99	B70610	ALL PESTICIDES/PCBs	ND	ppb	NA	ppb

ND- Not Detected
NA- Not Applicable

Table 21. Summary of Subsurface Soil Sample Results
Toxicity Characteristic Leachate Procedure
Former Vacuum Oil Company
1999-2000 Site Invesigation

Location Id.	Depth (ft)	Sample Date	Sample Number	Compound	Concentration	Units	Standard/ Guidance	Units
TP-1	3-5	12/06/99	B70601	BARIUM	910	ppb	100000	ppb
TP-1	3-5	12/06/99	B70601	LEAD	57.2	ppb	5000	ppb
TP-1	3-5	12/06/99	B70601	All TCLP HERBICIDES	ND	ppb	NA	ppb
TP-1	3-5	12/06/99	B70601	All TCLP SVOCs	ND	ppb	NA	ppb
TP-1	3-5	12/06/99	B70601	All TCLP VOCs	ND	ppb	NA	ppb
TP-1	3-5	12/06/99	B70601	ALL TCLP PESTICIDES/PCBs	ND	ppb	NA	ppb
TP-1	7-8	12/06/99	B70602	BARIUM	381	ppb	100000	ppb
TP-1	7-8	12/06/99	B70602	LEAD	62.0	ppb	5000	ppb
TP-1	7-8	12/06/99	B70602	MERCURY	0.18	ppb	200.0	ppb
TP-1	7-8	12/06/99	B70602	2-BUTANONE	11.0	ppb	200000	ppb
TP-1	7-8	12/06/99	B70602	BENZENE	97.0	ppb	500	ppb
TP-1	7-8	12/06/99	B70602	All TCLP HERBICIDES	ND	ppb	NA	ppb
TP-1	7-8	12/06/99	B70602	All TCLP SVOCs	ND	ppb	NA	ppb
TP-1	7-8	12/06/99	B70602	ALL TCLP PESTICIDES/PCBs	ND	ppb	NA	ppb

ND- Not Detected
NA- Not Applicable

Table 22. Summary of Groundwater Sample Results
Semi-Volatile Organic Compounds Sorted by Compound
Former Vacuum Oil Company
1999-2000 Site Invesigation

Location Id.	Sample Date	Sample Number	Compound	Concentration	Units	Standard/ Guidance	Units
MW-2	02/23/00	B70624	4-METHYLPHENOL	0.80	ppb	1S	ppb
MW-2	02/23/00	B70624	ACENAPHTHENE	0.60	ppb	20G	ppb
MW-2	02/23/00	B70624	CARBAZOLE	0.90	ppb	NA	ppb
MW-2	02/23/00	B70624	DIBENZOFURAN	0.60	ppb	NA	ppb
MW-2	02/23/00	B70624	DI-N-OCTYLPHTHALATE	0.80	ppb	50S	ppb
MW-2	02/23/00	B70624	FLUORENE	0.80	ppb	50G	ppb
MW-2	02/23/00	B70624	NAPHTHALENE	1.00	ppb	10G	ppb
MW-1	02/23/00	B70623	PHENOL	7.00	ppb	1S	ppb
MW-1	02/23/00	B70623	TOTAL SVOC TICs	1250	ppb	NA	ppb
MW-2	02/23/00	B70624	TOTAL SVOC TICs	125	ppb	NA	ppb
MW-3	02/23/00	B70622	TOTAL SVOC TICs	67	ppb	NA	ppb
MW-3	02/23/00	B70622	ALL TCL SVOCs	ND	ppb	NA	ppb

ND- Not Detected
NA- Not Applicable
S- 6 NYCRR Part 703 groundwater standard.
G- TOGS 1.1.1 groundwater guidance value.
TCL- Target Compound List

Table 23. Summary of Groundwater Sample Results
Total Petroleum Hydrocarbons
Former Vacuum Oil Company
1999-2000 Site Invesigation

Location Id.	Sample Date	Sample Number	Compound	Concentration	Units	Standard/ Guidance	Units
MW-1	02/23/00	B70623	TOTAL PETROLEUM HYDROCARBONS	3.70	ppm	NA	ppb
MW-2	02/23/00	B70624	TOTAL PETROLEUM HYDROCARBONS	ND	ppm	NA	ppb
MW-3	02/23/00	B70622	TOTAL PETROLEUM HYDROCARBONS	ND	ppm	NA	ppb

ND- Not Detected
NA- Not Applicable

Table 24. Summary of Groundwater Sample Results
Volatile Organic Compounds Sorted by Compound
Former Vacuum Oil Company
1999-2000 Site Invesigation

Location Id.	Sample Date	Sample Number	Compound	Concentration	Units	Standard/ Guidance	Units	Comments
MW-1	02/23/00	B70623	1,1,2-TRICHLOROETHANE	2.00	ppb	1S	ppb	
MW-2	02/23/00	B70624	1,1-DICHLOROETHANE	13.0	ppb	5S	ppb	
MW-1	02/23/00	B70623	1,1-DICHLOROETHANE	7.00	ppb	5S	ppb	
MW-1	02/23/00	B70623	ACETONE	28.0	ppb	50G	ppb	
MW-2	02/23/00	B70624	ACETONE	14.0	ppb	50G	ppb	
MW-1	02/23/00	B70623	BENZENE	95.0	ppb	1S	ppb	
MW-1	02/23/00	B70623	ETHYL BENZENE	49.0	ppb	5S	ppb	
QA/QC	02/23/00	Trip Blank	METHYLENE CHLORIDE	9.00	ppb	NA	ppb	
MW-1	02/23/00	B70623	METHYLENE CHLORIDE	8.00	ppb	5S	ppb	Result is invalid due to laboratory contamination.
MW-2	02/23/00	B70624	METHYLENE CHLORIDE	8.00	ppb	5S	ppb	Result is invalid due to laboratory contamination.
MW-3	02/23/00	B70622	METHYLENE CHLORIDE	8.00	ppb	5S	ppb	Result is invalid due to laboratory contamination.
MW-1	02/23/00	B70623	TOLUENE	4.00	ppb	5S	ppb	
MW-1	02/23/00	B70623	XYLENE (total)	190	ppb	5S	ppb	
MW-1	02/23/00	B70623	TOTAL VOC TICs	650	ppb	NA	ppb	
MW-2	02/23/00	B70624	TOTAL VOC TICs	ND	ppb	NA	ppb	
MW-3	02/23/00	B70622	TOTAL VOC TICs	ND	ppb	NA	ppb	

ND- Not Detected
NA- Not Applicable
S- 6 NYCRR Part 703 groundwater standard.
G- TOGS 1.1.1 groundwater guidance value.

Table 25. Summary of Groundwater Sample Results
Inorganic Compounds Sorted by Location
Former Vacuum Oil Company
1999-2000 Site Invesigation

Location Id.	Sample Date	Sample Number	Compound	Concentration	Units	Standard/ Guidance	Units
MW-1	02/23/00	B70623	ALUMINUM	7380	ppb	NA	ppb
MW-1	02/23/00	B70623	ARSENIC	7.60	ppb	25S	ppb
MW-1	02/23/00	B70623	BARIUM	202	ppb	1000S	ppb
MW-1	02/23/00	B70623	BERYLLIUM	0.68	ppb	3G	ppb
MW-1	02/23/00	B70623	CALCIUM	212000	ppb	NA	ppb
MW-1	02/23/00	B70623	CHROMIUM	10.0	ppb	50S	ppb
MW-1	02/23/00	B70623	COBALT	6.30	ppb	NA	ppb
MW-1	02/23/00	B70623	COPPER	15.2	ppb	200S	ppb
MW-1	02/23/00	B70623	IRON	21700	ppb	300S	ppb
MW-1	02/23/00	B70623	LEAD	11.1	ppb	25S	ppb
MW-1	02/23/00	B70623	MAGNESIUM	76200	ppb	35000G	ppb
MW-1	02/23/00	B70623	MANGANESE	1130	ppb	300S	ppb
MW-1	02/23/00	B70623	NICKEL	19.4	ppb	100S	ppb
MW-1	02/23/00	B70623	POTASSIUM	5090	ppb	NA	ppb
MW-1	02/23/00	B70623	SODIUM	23600	ppb	20000S	ppb
MW-1	02/23/00	B70623	VANADIUM	12.0	ppb	NA	ppb
MW-1	02/23/00	B70623	ZINC	149	ppb	2000G	ppb
MW-2	02/23/00	B70624	ALUMINUM	4210	ppb	NA	ppb
MW-2	02/23/00	B70624	ARSENIC	17.0	ppb	25S	ppb
MW-2	02/23/00	B70624	BARIUM	246	ppb	1000S	ppb
MW-2	02/23/00	B70624	BERYLLIUM	0.44	ppb	3G	ppb
MW-2	02/23/00	B70624	CADMIUM	0.87	ppb	5S	ppb
MW-2	02/23/00	B70624	CALCIUM	158000	ppb	NA	ppb
MW-2	02/23/00	B70624	CHROMIUM	7.60	ppb	50S	ppb
MW-2	02/23/00	B70624	COBALT	4.40	ppb	NA	ppb
MW-2	02/23/00	B70624	COPPER	18.4	ppb	200S	ppb
MW-2	02/23/00	B70624	IRON	18700	ppb	300S	ppb
MW-2	02/23/00	B70624	LEAD	15.9	ppb	25S	ppb
MW-2	02/23/00	B70624	MAGNESIUM	50500	ppb	35000G	ppb
MW-2	02/23/00	B70624	MANGANESE	1730	ppb	300S	ppb
MW-2	02/23/00	B70624	NICKEL	13.1	ppb	100S	ppb
MW-2	02/23/00	B70624	POTASSIUM	6480	ppb	NA	ppb
MW-2	02/23/00	B70624	SODIUM	10800	ppb	20000S	ppb
MW-2	02/23/00	B70624	VANADIUM	8.50	ppb	NA	ppb
MW-2	02/23/00	B70624	ZINC	263	ppb	2000G	ppb
MW-3	02/23/00	B70622	ALUMINUM	4010	ppb	NA	ppb
MW-3	02/23/00	B70622	ARSENIC	6.90	ppb	25S	ppb
MW-3	02/23/00	B70622	BARIUM	99.3	ppb	1000S	ppb
MW-3	02/23/00	B70622	BERYLLIUM	0.40	ppb	3G	ppb
MW-3	02/23/00	B70622	CADMIUM	0.46	ppb	5S	ppb
MW-3	02/23/00	B70622	CALCIUM	137000	ppb	NA	ppb
MW-3	02/23/00	B70622	CHROMIUM	6.20	ppb	50S	ppb
MW-3	02/23/00	B70622	COBALT	3.50	ppb	NA	ppb
MW-3	02/23/00	B70622	COPPER	30.4	ppb	200S	ppb
MW-3	02/23/00	B70622	IRON	9360	ppb	300S	ppb
MW-3	02/23/00	B70622	LEAD	62.4	ppb	25S	ppb
MW-3	02/23/00	B70622	MAGNESIUM	49600	ppb	35000G	ppb
MW-3	02/23/00	B70622	MANGANESE	181	ppb	300S	ppb
MW-3	02/23/00	B70622	MERCURY	0.23	ppb	0.7S	ppb
MW-3	02/23/00	B70622	NICKEL	10.7	ppb	100S	ppb
MW-3	02/23/00	B70622	POTASSIUM	10700	ppb	NA	ppb
MW-3	02/23/00	B70622	SODIUM	152000	ppb	20000S	ppb

Table 25. Summary of Groundwater Sample Results
Inorganic Compounds Sorted by Location
Former Vacuum Oil Company
1999-2000 Site Invesigation

Location Id.	Sample Date	Sample Number	Compound	Concentration	Units	Standard/ Guidance	Units
MW-3	02/23/00	B70622	VANADIUM	7.20	ppb	NA	ppb
MW-3	02/23/00	B70622	ZINC	274	ppb	2000G	ppb

NA- Not Applicable
S- 6 NYCRR Part 703 groundwater standard.
G- TOGS 1.1.1 groundwater guidance value.

Table 26. Summary of Groundwater Sample Results
Inorganic Compounds Sorted by Compound
Former Vacuum Oil Company
1999-2000 Site Invesigation

Location Id.	Sample Date	Sample Number	Compound	Concentration	Units	Standard/ Guidance	Units
MW-1	02/23/00	B70623	ALUMINUM	7380	ppb	NA	ppb
MW-2	02/23/00	B70624	ALUMINUM	4210	ppb	NA	ppb
MW-3	02/23/00	B70622	ALUMINUM	4010	ppb	NA	ppb
MW-2	02/23/00	B70624	ARSENIC	17.0	ppb	25S	ppb
MW-1	02/23/00	B70623	ARSENIC	7.60	ppb	25S	ppb
MW-3	02/23/00	B70622	ARSENIC	6.90	ppb	25S	ppb
MW-2	02/23/00	B70624	BARIUM	246	ppb	1000S	ppb
MW-1	02/23/00	B70623	BARIUM	202	ppb	1000S	ppb
MW-3	02/23/00	B70622	BARIUM	99.3	ppb	1000S	ppb
MW-1	02/23/00	B70623	BERYLLIUM	0.68	ppb	3G	ppb
MW-2	02/23/00	B70624	BERYLLIUM	0.44	ppb	3G	ppb
MW-3	02/23/00	B70622	BERYLLIUM	0.40	ppb	3G	ppb
MW-2	02/23/00	B70624	CADMIUM	0.87	ppb	5S	ppb
MW-3	02/23/00	B70622	CADMIUM	0.46	ppb	5S	ppb
MW-1	02/23/00	B70623	CALCIUM	212000	ppb	NA	ppb
MW-2	02/23/00	B70624	CALCIUM	158000	ppb	NA	ppb
MW-3	02/23/00	B70622	CALCIUM	137000	ppb	NA	ppb
MW-1	02/23/00	B70623	CHROMIUM	10.0	ppb	50S	ppb
MW-2	02/23/00	B70624	CHROMIUM	7.60	ppb	50S	ppb
MW-3	02/23/00	B70622	CHROMIUM	6.20	ppb	50S	ppb
MW-1	02/23/00	B70623	COBALT	6.30	ppb	NA	ppb
MW-2	02/23/00	B70624	COBALT	4.40	ppb	NA	ppb
MW-3	02/23/00	B70622	COBALT	3.50	ppb	NA	ppb
MW-3	02/23/00	B70622	COPPER	30.4	ppb	200S	ppb
MW-2	02/23/00	B70624	COPPER	18.4	ppb	200S	ppb
MW-1	02/23/00	B70623	COPPER	15.2	ppb	200S	ppb
MW-1	02/23/00	B70623	IRON	21700	ppb	300S	ppb
MW-2	02/23/00	B70624	IRON	18700	ppb	300S	ppb
MW-3	02/23/00	B70622	IRON	9360	ppb	300S	ppb
MW-3	02/23/00	B70622	LEAD	62.4	ppb	25S	ppb
MW-2	02/23/00	B70624	LEAD	15.9	ppb	25S	ppb
MW-1	02/23/00	B70623	LEAD	11.1	ppb	25S	ppb
MW-1	02/23/00	B70623	MAGNESIUM	76200	ppb	35000G	ppb
MW-2	02/23/00	B70624	MAGNESIUM	50500	ppb	35000G	ppb
MW-3	02/23/00	B70622	MAGNESIUM	49600	ppb	35000G	ppb
MW-2	02/23/00	B70624	MANGANESE	1730	ppb	300S	ppb
MW-1	02/23/00	B70623	MANGANESE	1130	ppb	300S	ppb
MW-3	02/23/00	B70622	MANGANESE	181	ppb	300S	ppb
MW-3	02/23/00	B70622	MERCURY	0.23	ppb	0.7S	ppb
MW-1	02/23/00	B70623	NICKEL	19.4	ppb	100S	ppb
MW-2	02/23/00	B70624	NICKEL	13.1	ppb	100S	ppb
MW-3	02/23/00	B70622	NICKEL	10.7	ppb	100S	ppb
MW-3	02/23/00	B70622	POTASSIUM	10700	ppb	NA	ppb
MW-2	02/23/00	B70624	POTASSIUM	6480	ppb	NA	ppb
MW-1	02/23/00	B70623	POTASSIUM	5090	ppb	NA	ppb
MW-3	02/23/00	B70622	SODIUM	152000	ppb	20000S	ppb
MW-1	02/23/00	B70623	SODIUM	23600	ppb	20000S	ppb
MW-2	02/23/00	B70624	SODIUM	10800	ppb	20000S	ppb
MW-1	02/23/00	B70623	VANADIUM	12.0	ppb	NA	ppb
MW-2	02/23/00	B70624	VANADIUM	8.50	ppb	NA	ppb
MW-3	02/23/00	B70622	VANADIUM	7.20	ppb	NA	ppb
MW-3	02/23/00	B70622	ZINC	274	ppb	2000G	ppb

Table 26. Summary of Groundwater Sample Results
Inorganic Compounds Sorted by Compound
Former Vacuum Oil Company
1999-2000 Site Invesigation

Location Id.	Sample Date	Sample Number	Compound	Concentration	Units	Standard/ Guidance	Units
MW-2	02/23/00	B70624	ZINC	263	ppb	2000G	ppb
MW-1	02/23/00	B70623	ZINC	149	ppb	2000G	ppb

NA- Not Applicable
S- 6 NYCRR Part 703 groundwater standard.
G- TOGS 1.1.1 groundwater guidance value.

APPENDIX A

APPENDIX A

1999-2000 SITE INVESTIGATION

TEST PIT LOGS

SOIL BORING LOGS

WELL INSTALLATION LOGS

WELL DEVELOPMENT LOGS

GROUNDWATER SAMPLING FIELD PARAMETER MEASUREMENTS

Test Pit Log

Site No:	828089P			Test Pit No: TP-1
Project Name:	Former Vacuum Oil Company			Sheet 1 of 1
Contractor:	SLC	Geologist:	Jennifer League	By: JL Date:12/06/99
Operator:	Ken Kuhn	Date Started:	6-Dec-1999	
Equipment:	Komatsu 35R	Date Completed:	6-Dec-1999	

DEPTH (FT.)	PID (PPM)	SAMPLE DESCRIPTION
-0-	0	0'-1': 3" Topsoil;9" Brn sand, little gravel, l.clay, l.silt, moist (fill)
	0	1': Brn. silty sand, moist (fill)
-2-	0	2.5'-3.5': slag & brick fill w/sand, moist
-4-	14	3.5'-4.7': Blk. silt and f/c sand, l.gravel, l.clay, moist, petroleum odor (ML/fill)
		4.7'-5': Lt. grey 3" layer
-6-	50 (5'-7.7')	5'-8.5': Blk. silt, s.f.sand, s.clay, tr.gravel, wet (ML/fill)
	200 at 7.7'	
-8-	6	8.5': Lt. grey silt and clay
	0	9': l.f/c sand, wet (ML) not much staining present; bottom of pit
-10-		
-12-		

Comments:	**Samples Collected:**
Excavation Dimensions	B70601 (3-5')
9.7'Lx2'Wx9'D	B70602 (7-8')

Test Pit TP-1

Test Pit Log

Site No:	828089P			Test Pit No: TP-2
Project Name:	Former Vacuum Oil Company			Sheet 1 of 1
Contractor:	SLC	Geologist:	Jennifer League	By: JL Date:12/06/99
Operator:	Ken Kuhn	Date Started:	6-Dec-1999	
Equipment:	Komatsu 35R	Date Completed:	6-Dec-1999	

DEPTH (FT.)	PID (PPM)	SAMPLE DESCRIPTION
-0-	0	0'-2.8': 3" topsoil, Dk. brn sand, brick, tr.slag, tr. tile, moist
-2-	0	2.8'-4.5': Roofing shingles
-4-	0	4.5'-5': Brn. flc sand, s.slag, moist (fill) At 5', encountered concrete slab that excavator could not penetrate.
-6-		
-8-		
-10-		
-12-		

Comments:	**Samples Collected:**
Excavation Dimensions 8'Lx4'Wx5'D	B70603 (5')

Test Pit TP-2

Test Pit Log

Site No:	828089P			Test Pit No: TP-3
Project Name:	Former Vacuum Oil Company			Sheet 1 of 1
Contractor:	SLC	Geologist:	Jennifer League	By: JL Date:12/06/99
Operator:	Ken Kuhn	Date Started:	6-Dec-1999	
Equipment:	Komatsu 35R	Date Completed:	6-Dec-1999	

DEPTH (FT.)	PID (PPM)	SAMPLE DESCRIPTION
-0-	0	Dk. drn f/m sand, l.gravel, l.silt, tr. roots, moist (fill)
-2-	0	Brn. f.sand and silt, some clay, tr. brick, moist (fill)
-4-	0	4'-8.5': Brn silt, some clay, l.f. sand, tr. gravel, moist (ML)
-6-		
-8-	0	8.5': Grey silt and clay, l.f.sand, moist (ML); bottom of excavation
-10-		
-12-		

Comments:	**Samples Collected:**
Excavation Dimensions 11'Lx3'Wx8.5'D	B70604 (8-9')

Test Pit TP-3

Test Pit Log

Site No:	828089P			Test Pit No: TP-4
Project Name:	Former Vacuum Oil Company			Sheet 1 of 1
Contractor:	SLC	Geologist:	Jennifer League	By: JL Date:12/06/99
Operator:	Ken Kuhn	Date Started:	6-Dec-1999	
Equipment:	Komatsu 35R	Date Completed:	6-Dec-1999	

DEPTH (FT.)	PID (PPM)	SAMPLE DESCRIPTION
-0-	0	0'-1.5': 6" topsoil & roots; Dk. brn f/c sand, tr.gravel, tr.silt, tr.roots,moist (Topsoil/SM)
-2-	0	1.5'-4.2': Brn. silt, sand, s. clay, tr. gravel, moist (ML) 4.2' Bottom of excavation
-4-		
-6-		
-8-		
-10-		
-12-		

Comments:	**Samples Collected:**
Excavation Dimensions 7.4'Lx4'Wx4.2'D	B70605 (5')

Test Pit TP-4

Test Pit Log

Site No:	828089P			Test Pit No: TP-5
Project Name:	Former Vacuum Oil Company			Sheet 1 of 1
Contractor:	SLC	Geologist:	Jennifer League	By: JL Date:12/06/99
Operator:	Ken Kuhn	Date Started:	6-Dec-1999	
Equipment:	Komatsu 35R	Date Completed:	6-Dec-1999	

DEPTH (FT.)	PID (PPM)	SAMPLE DESCRIPTION
-0-	0	0'-1': 3" topsoil; Dk. brn f/c sand, s.silt, l.gravel, tr.slag, tr.brick, tr.roots, moist (fill)
-2-	0	1'-5': Blk f/m sand, tr.silt, tr.gravel, moist (fill- material has appearance of ground coal)
-4-		
-6-	0	5'-6.2': Brn. silt and clay, l.f. sand, tr.gravel, moist (ML) 6.2': Bottom of excavation
-8-		
-10-		
-12-		

Comments:	**Samples Collected:**
Excavation Dimensions 10'Lx3'Wx6.2'D	B70606 (3')

Test Pit TP-5

Test Pit Log

Site No:	828089P			Test Pit No: TP-6
Project Name:	Former Vacuum Oil Company			Sheet 1 of 1
Contractor:	SLC	Geologist:	Jennifer League	By: JL Date:12/06/99
Operator:	Ken Kuhn	Date Started:	6-Dec-1999	
Equipment:	Komatsu 35R	Date Completed:	6-Dec-1999	

DEPTH (FT.)	PID (PPM)	SAMPLE DESCRIPTION
-0-	0	0'-1.3': Grey/dk. grey gravel, l.f/c sand, moist (fill)
	0	1.3'-1.7': Dk. brn f/c sand, l.gravel, moist (fill)
-2-	0	1.7'-2.5': Brn. f/c sand and silt, l. clay, tr,gravel, tr.brick (fill)
	0	2.5'-3.2': Dk. brn f/c sand and silt, l.gravel, tr.glass (SM/fill)
-4-	0	3.2'-4.2': Dk. brn to Lt. grey f/c sand (ash-like), l.gravel, tr.silt, tr.glass, saturated (fill)
		4.2': Bottom of excavation; groundwater encountered
-6-		
-8-		
-10-		
-12-		

Comments:	Samples Collected:
Excavation Dimensions 7'Lx2'Wx4.2'D	No samples collected

Test Pit TP-6

Test Pit Log

Site No:	828089P			Test Pit No: TP-7
Project Name:	Former Vacuum Oil Company			Sheet 1 of 1
Contractor:	SLC	Geologist:	Jennifer League	By: JL Date:12/06/99
Operator:	Ken Kuhn	Date Started:	6-Dec-1999	
Equipment:	Komatsu 35R	Date Completed:	6-Dec-1999	

DEPTH (FT.)	PID (PPM)	SAMPLE DESCRIPTION
-0-		5" Topsoil
	0	*Dk. brn f/m sand, l.silt, l.gravel, tr.roots, moist (SM)*
-2-		
	0	Brn. grey (mottled) clay and silt, f/c sand, tr.gravel, moist (CL)
-4-		4.3': Bottom of Excavation
-6-		
-8-		
-10-		
-12-		

Comments:	**Samples Collected:**
Excavation Dimensions 7'Lx2'Wx4.3'D	No samples collected

Test Pit TP-7

Test Pit Log

Site No:	828089P			Test Pit No: TP-8
Project Name:	Former Vacuum Oil Company			Sheet 1 of 1
Contractor:	SLC	Geologist:	Jennifer League	By: JL Date:12/06/99
Operator:	Ken Kuhn	Date Started:	6-Dec-1999	
Equipment:	Komatsu 35R	Date Completed:	6-Dec-1999	

DEPTH (FT.)	PID (PPM)	SAMPLE DESCRIPTION
-0-		5" Topsoil
	0	0.5'-3': Dk. brn/blk. fine to coarse sand, l.gravel, moist grading to saturated (fill)
-2-		this is a coal-like material similar to what was in TP-5
	0	3' Grey silt and clay, l.f/c sand, saturated
-4-		3.1': Bottom of Excavation, groundwater encountered
-6-		
-8-		
-10-		
-12-		

Comments:	Samples Collected:
Excavation Dimensions 8'Lx2'Wx3.1'D	B70607 (3')

Test Pit Log

Site No:	828089P			Test Pit No:	TP-9
Project Name:	Former Vacuum Oil Company			Sheet 1 of	1
Contractor:	SLC	Geologist:	Jennifer League	By: JL	Date: 12/06/99
Operator:	Ken Kuhn	Date Started:	6-Dec-1999		
Equipment:	Komatsu 35R	Date Completed:	6-Dec-1999		

DEPTH (FT.)	PID (PPM)	SAMPLE DESCRIPTION
-0-		3" Topsoil
-2-	0	0.25'-5': Lt. brn silt and f.sand, l.clay, tr.gravel, tr.roots, moist (ML)
-4-		
-6-	0	5'-5.8': Brn. grey clay and silt, tr.gravel, moist (CL) 5.8': Bottom of excavation; groundwater trickling into excavation
-8-		
-10-		
-12-		

Comments:	Samples Collected:
Excavation Dimensions 6.5'Lx2'Wx5.8'D	No samples collected

Test Pit TP-9

Test Pit Log

Site No:	828089P			Test Pit No:	TP-10
Project Name:	Former Vacuum Oil Company			Sheet 1 of	1
Contractor:	SLC	Geologist:	Jennifer League	By: JL	Date:12/06/99
Operator:	Ken Kuhn	Date Started:	6-Dec-1999		
Equipment:	Komatsu 35R	Date Completed:	6-Dec-1999		

DEPTH (FT.)	PID (PPM)	SAMPLE DESCRIPTION
-0-	0	0'-1': Dk. brn f/c sand, s.silt, l.gravel, moist (fill)
	0	1'-2': Grey silt, s.f.sand, l.clay, l.gravel, moist (fill-ML)
-2-	0	2'-3.7': Blk. gravel, s.f/c sand, l.silt, tr.brick, l.clay, wet grades to saturated with increasing depth (fill)
-4-		3.7': Bottom of Excavation, groundwater encountered, slight sheen
-6-		
-8-		
-10-		
-12-		

Comments:	Samples Collected:
Excavation Dimensions 8'Lx2'Wx3.7'D	No samples collected

Test Pit TP-10

Boring Log

Site No: 828089P Project Name:Former Vacuum Oil Company	Well/Boring No: MW-1 Sheet 1 of 1 By: JL Date: 2/08/00

Drilling Contractor:	MAXIM Technologies Inc.			
Driller:	Ron Brown	Geologist:	Jennifer League	Borehole Completion Depth: 16.5'
Drill Rig:	CME 850	Drilling Method:	HSA	Borehole Diameter: 4.25"
Sample Spoon I.D.:	2" SS	Drive Hammer Wt.:	140	Ground Surface El.:
Date Started:	02/08/00	Date Completed:	02/09/00	

DEPTH (FT.)	SAMPLE NO.	SAMPLING INTERVAL	PID SCREEN (PPM)	RECOVERY (in)	BLOWS	SAMPLE DESCRIPTION
-0-	1	0-2	3	13	3 5 7 4	Brn stiff silt and f/c sand, l.gravel, tr.brick, tr.cinders, tr.clay, moist (fill)
-2-	2	2-4	3	13	20 38 50/5	7" Brn. hard silt s.f/c sand, tr.gravel, tr.clay, tr.brick, moist (fill) 6" Brn/grey v.dense gravel and concrete, l.brick, dry (fill)
-4-	3	4-6	88	22	9 5 3 4	11" Dk. brn. loose f/c sand, gravel, l.silt, tr.clay, wet (fill) petroleum odor 11" Blk/grey stiff silt, s.f/m sand, l.clay, wet (ML) petroleum odor
-6-	4	6-8	189	21	3 3 4 3	Blk. stiff silt, f.sand, tr.clay, wet (ML) Strong petroleum odor and black petroleum product throughout sample
-8-	5	8-10	340	21	3 4 9 9	19" Blk./grey stiff silt and clay, s.f.sand, tr.wood, wet (ML/CL) strong petroleum odor 2" Grey stiff silt and clay, hr.f. sand, wet (CL)
-10-	6	10-12	25 (top) 95 (bot.)	22	4 6 6 10	Grey/blk. stiff silt and clay, tr. f/c sand, tr.roots, wet (ML) Petroleum odor w/black stains
-12-	7	12-14	470	22	20 19 10 10	Grey v.stiff silt, s.clay, tr. f.sand, wet (ML) Petroleum odor
-14-	8	14-16	12	18	WH 1 1 1	Grey v.soft silt, s.f/m sand, s.clay, wet (ML) Petroleum odor w/black stains
-16-	9	16-16.5	350	22	1 50/1	Top 16" assumed collapse; Brn. v.dense sand, s.gravel, wet (SM); Refusal at 16.5'
-18-						

Remarks

Boring Log

Site No: 828089P Project Name:Former Vacuum Oil Company	Well/Boring No: MW-2 Sheet 1 of 1 By: JL Date: 2/08/00

Drilling Contractor:	MAXIM Technologies Inc.			
Driller:	Ron Brown	Geologist:	Jennifer League	Borehole Completion Depth: 15.5'
Drill Rig:	CME 850	Drilling Method:	HSA	Borehole Diameter: 4.25"
Sample Spoon I.D.:	2" SS	Drive Hammer Wt.:	140	Ground Surface El.:
Date Started:	02/08/00	Date Completed:	02/08/00	

DEPTH (FT.)	SAMPLE NO.	SAMPLING INTERVAL	PID SCREEN (PPM)	RECOVERY (in)	BLOWS	SAMPLE DESCRIPTION
-0- -2- -4-						Augered directly to concrete slab Concrete slab encountered at 4.5' Augers were able to penetrate slab Slab was about 1' thick, began split spoon sampling at 6'
-6-	1	6-8	98	18	6 12 9 7	Grey v.stiff silt and clay, l.f.sand, moist (ML) petroleum odor
-8-	2	8-10	200	14	2 4 4 7	Grey stiff silt and clay, l.f.sand, wet (ML) petroleum odor
-10-	3	10-12	38 (top) 2 (bot.)	22	2 4 5 7	Grey stiff silt and clay, l.f.sand, wet (ML) petroleum odor at top of sample
-12-	4	12-14	5	24	2 3 3 3	Grey m.stiff silt and clay, l.f.sand, wet (ML) grades to sat at 20" into sample
-14-	5	14-15.5	NA	6	32 34 5/5	3" Grey/brn hard silt & clay, l.f/c sand, wet (ML) 3"Brn v.densegravel and f/c sand, sat (GM); Refusal at 15.5'
-16-						

Remarks
NA - Not Available

Boring Log

Site No: 828089P Project Name:Former Vacuum Oil Company	Well/Boring No: MW-3 Sheet 1 of 1 By: JL Date: 2/07/00

Drilling Contractor:	MAXIM Technologies Inc.			
Driller:	Ron Brown	Geologist:	Jennifer League	Borehole Completion Depth: 6'
Drill Rig:	CME 850	Drilling Method:	HSA	Borehole Diameter: 4.25"
Sample Spoon I.D.:	2" SS	Drive Hammer Wt.:	140	Ground Surface El.:
Date Started:	02/07/00	Date Completed:	02/07/00	

DEPTH (FT.)	SAMPLE NO.	SAMPLING INTERVAL	PID SCREEN (PPM)	RECOVERY (in)	BLOWS	SAMPLE DESCRIPTION
-0-	1	0-2	0	6	2 5 12 8	Dk. brn v.stiff silt and f/c sand, l.gravel, tr.brick, moist (fill)
-2-	2	2-4	0	3	4 3 3 3	Dk. brn med.stiff silt and f/c sand, l.gravel, wet (fill)
-4-	3	4-6	0	0	WH WH 2 2	Refusal at 6'. Only water recovered
-6-	4	6-8				
-8-	5	8-10				
-10-	6	10-12				
-12-						

Remarks

MONITOR WELL CONSTRUCTION REPORT

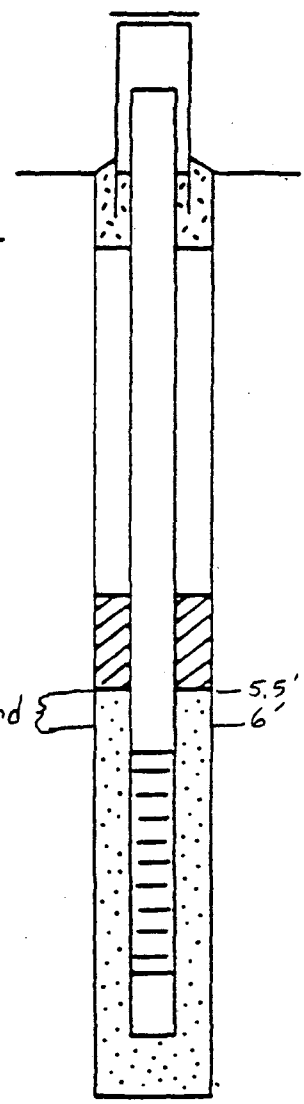
Site Vacuum Oil Company 828089P Well No. MW-1

Total Depth 16.5' Surface Elev. _____ Top Riser Elev. 517.81

Water Levels (Depth, Date, Time) _____ Date Installed 2/09/2000

Riser:	Dia.	2"	Material	PVC	Length	8'	
Screen:	Dia.	2"	Material	PVC	Length	10'	Slot Size 0.01
Prot. Csg:	Dia.		Material		Length		

SCHEMATIC



2.3' Prot. Csg stickup

2.1' Riser stickup

Ground Surface

Surface Seal Type Concrete

_____ Bottom Surface Seal

Grout Type Portland Cement and Bentonite

Seal Type Bentonite

3.5' Top Seal

5.5' Top Sand Pack

0.5' Choke Sand

6.5' Top Screen

Sand Pack Type/Size - No. 1 Choke Sand - 00

16.5' Bottom Screen

_____ Bottom Sump/Wellpoint

16.5' Total Depth of Boring

Comments _____

Driller Ron Brown

Geologist Jennifer League

Engineer Frank Sowers

Technical Person _____

DEC Inspector Bob Long

MONITOR WELL CONSTRUCTION REPORT

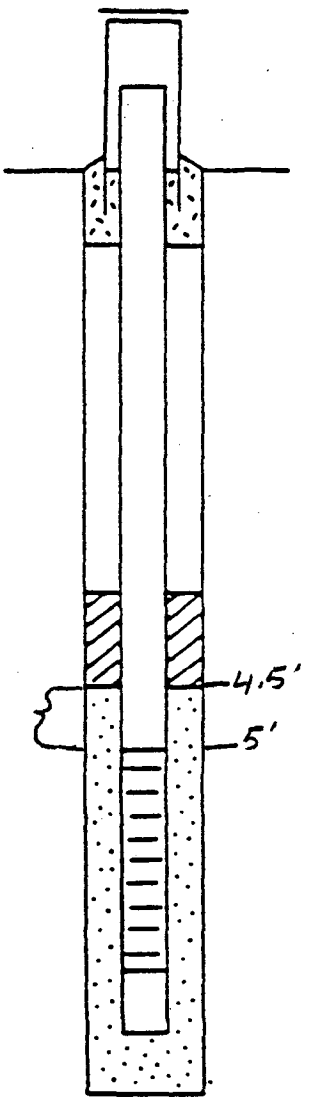
Site Vacuum Oil Company Well No. MW-2

Total Depth 15.5' Surface Elev. _____ Top Riser Elev. 514.88

Water Levels (Depth, Date, Time) _____ Date Installed 2/08/2000

Riser:	Dia.	2"	Material	PVC	Length	~5.5'	
Screen:	Dia.	2"	Material	PVC	Length	10'	Slot Size 0.01
Prot. Csg:	Dia.		Material		Length		

SCHEMATIC



2.3' Prot. Csg stickup

2.1' Riser stickup

Ground Surface

Surface Seal Type Concrete

_____ Bottom Surface Seal

Grout Type Portland Cement and Bentonite

Seal Type Bentonite

3' Top Seal

4.5' Top Sand Pack

0.5' Choke Sand

5' Top Screen

Sand Pack Type/Size No. 1 Choke Sand - 00

15 Bottom Screen

_____ Bottom Sump/Wellpoint

15.5 Total Depth of Boring

Comments _____

Driller Ron Brown

Geologist Jennifer League

Engineer Frank Sowers

Technical Person _____

DEC Inspector Bob Long

ONITOR WELL CONSTRUCTION REPORT

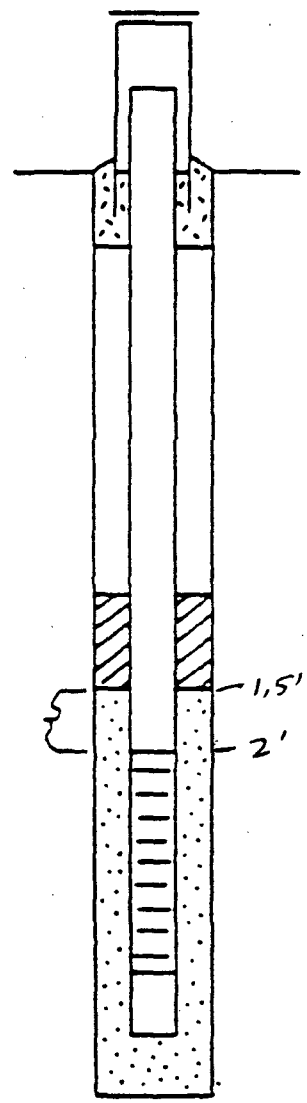
Site Vacuum Oil Company Well No. MW-3

Total Depth 6' Surface Elev. _____ Top Riser Elev. 511.95

Water Levels (Depth, Date, Time) _____ Date Installed 2/07/2000

Riser: Dia. 2" Material PVC Length 3.8'
Screen: Dia. 2" Material PVC Length 4' Slot Size 0.01
Prot. Csg: Dia. _____ Material _____ Length _____

SCHEMATIC



2.3' Prot. Csg stickup

1.8' Riser stickup

Ground Surface

Surface Seal Type Concrete

_____ Bottom Surface Seal

Grout Type Portland Cement and Bentonite

Seal Type Bentonite

1' Top Seal

1.5' Top Sand Pack

0.5' Choke Sand

2' Top Screen

Sand Pack Type/Size No 1 Choke Sand - 001

6' Bottom Screen

_____ Bottom Sump/Wellpoint

6' Total Depth of Boring

Comments _____

Driller Ron Brown
Geologist Jennifer League
Engineer Frank Sowers
Technical Person _____

DEC Inspector Bob Long

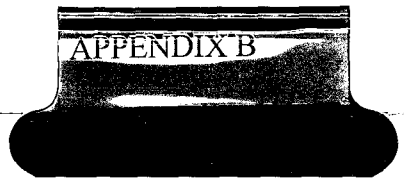
WELL DEVELOPMENT LOG

Former Vacuum Oil Company
Site #828089P

Well Id.	Method	Depth to Water (ft.)	Depth of Well (ft.)	Well Diameter (inches I.D.)	Gallons per Foot of Depth	Volume of One Column of Water (gal.)	Volume of 10 Columns of Water (gal.)	Volume of Water Actually Removed (gal.)	Field Parameters				
									Cumulative Volume (gal)	Temperature (F)	Conductivity (ms/cm)	pH	Turbidity (NTU)
MW-1	Bailer	9.7	18	2	0.163	1.35	13.53	9 gal. on 2/10/00 + 5 gal. on 2/11/00 = 14 gal.	5 8 11 14	46 45.9 43 39.8	1 1.04 0.69 0.88	7.41 7.25 7.53 7.51	>100 >100 >100 >100
MW-2	Bailer	4.25	15	2	0.163	1.75	17.52	15 gal. on 2/09/00 + 6 gallons on 2/10/00 + = 21 gal.	13 15 16 17 18 19 20 21	50 48.5 45.1 44.2 44.1 44.6 42.4 44.6	0.70 0.71 0.62 0.61 0.68 0.67 0.65 0.70	7.76 7.50 7.81 7.73 7.63 7.45 7.41 7.34	NA NA >100 >100 >100 >100 >100 >100
MW-3	Bailer	5	6	2	0.163	0.16	1.63	1 gal. on 2/09/00 + 0.5 gal. on 2/10/00 + 0.25 gal. on 2/11/00 = 1.75 gal.	1 1.5	52.5 NA	1.46 NA	6.7 NA	NA 22.8

Water Sampling Field Parameters
Former Vacuum Oil Company
1999-2000 Site Investigation

Location Id.	Date	Temperature (F)	Conductivity (ms/cm)	pH	Turbidity (NTU)	Well Headspace PID Reading (ppm)
MW-1	02/23/00	53	1.56	7.07	700	400
MW-2	02/23/00	52.3	1.1	7.27	365	1.5
MW-3	02/23/00	49	0.98	7.49	Water was black. Turbidity was not measured	0.5


APPENDIX B

APPENDIX B

HISTORICAL SITE MAPS

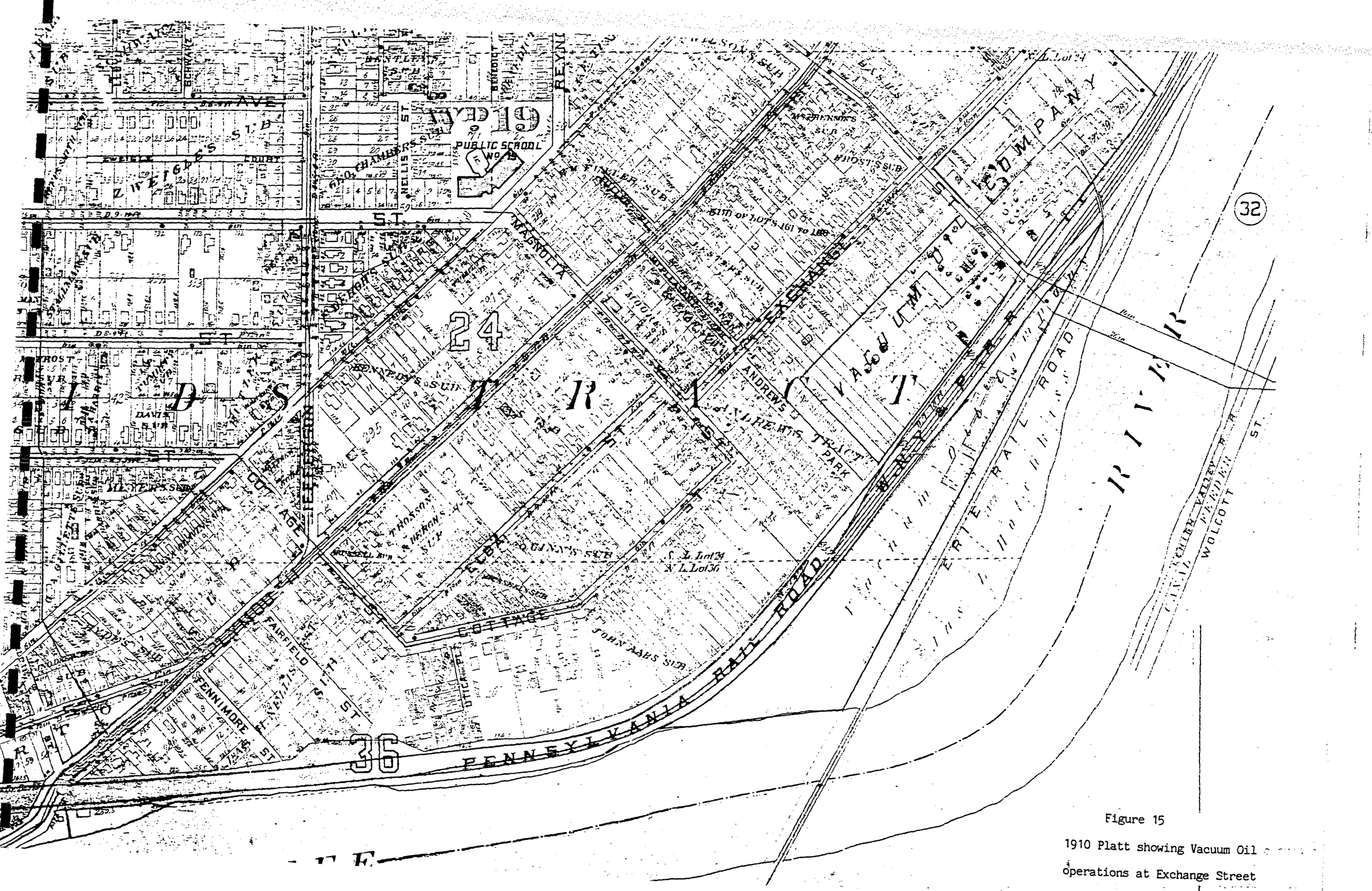


Figure 15

1910 Platt showing Vacuum Oil operations at Exchange Street

Figure 13

1888 Platt showing Vacuum Oil expansion at Exchange Street.

(A) Jefferson Ave. Lot Ass'n re-sub. of lots 49 to 98 of J. T. Brigg's sub. of Strong tract.

(B) Wm. Cox's sub. of part of lot 12 of four thousand acre tract and lot 170 of twenty-thousand acre tract.

(C) Rosenblatt and Stein's sub. of lots 1, 2, 4, 5, 6, and 7 of Butts's sub. of Strong tract.

(D) Rosenblatt and Lowenthal's sub. of lots 16 and 17 of Butts's sub.

(E) J. D. Ringle's re-sub. of lots 1 to 5 inclusive of Frost's sub. of part of Section B, Strong tract.

(F) Chas. E. White's sub. of part of the Strong tract and Rapids tract, being a re-sub. of lots 22, 23, 24, 25, 32, 33, 34, and 35, Section B, Strong tract, and also a re-sub. of lots 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, and 19 of H. E. White's sub. of said lots, and also of H. E. White's re-sub. of lots 11, 12, 13, 16, 17, and 18, being lots 1, 2, 3, 4, 5, 6, and 7 of the said H. E. White's re-sub.

(G) Sub. of lots 19 and 20, Rapids tract, for M. J. Costello.

(H) Worcester's sub. of lots 121 to 130 inclusive, and 181 to 189 inclusive, Rapids tract.

(I) Sub. of lots 23 and 34 of the Rapids tract, by L. C. Benedict.

(J) Bush's sub. of lots 147, 148, 149, and 150, Rapids tract.

(K) Sub. of lots 48 and 49 of the Rapids tract, by L. C. Benedict.

(L) Sub. of lots 44, 45, and 46 of the Rapids tract, by J. H. Nellis.

(M) M. Hochbruckner's sub. of lot 11, Rapids tract.

(N) Mrs. Stallman's sub. of lots 59 and 60, Rapids tract.

(O) Sub. of part of lot 341 of the Rapids tract, by John Davies.

(P) Fred. Berg's sub. part of lots 336 and 337 of Great lot 24 in the Rapids tract.

(Q) Margaret Kennedy's sub. of lots 293 and 294, Rapids tract.

(R) S. D. Porter's sub. of lot 275, Rapids tract.

(S) W. H. Moore's sub. of lots 177, 178, 179, and 180, Rapids tract.

(T) Sub. of lots 161 to 168 inclusive, part of Rapids tract.

(U) Sub. of lot 270 of Rapids tract.

(V) Foley and Truesdale's sub. of lots 1, 2, 3, 4, 5, and part 6, Section B, Strong tract.

(W) Sub. of lots 26, 27, 28, 29, 30, 31, and part of lots 7 and 18 in Section B of the Strong tract, for J. H. and J. C. Campbell.

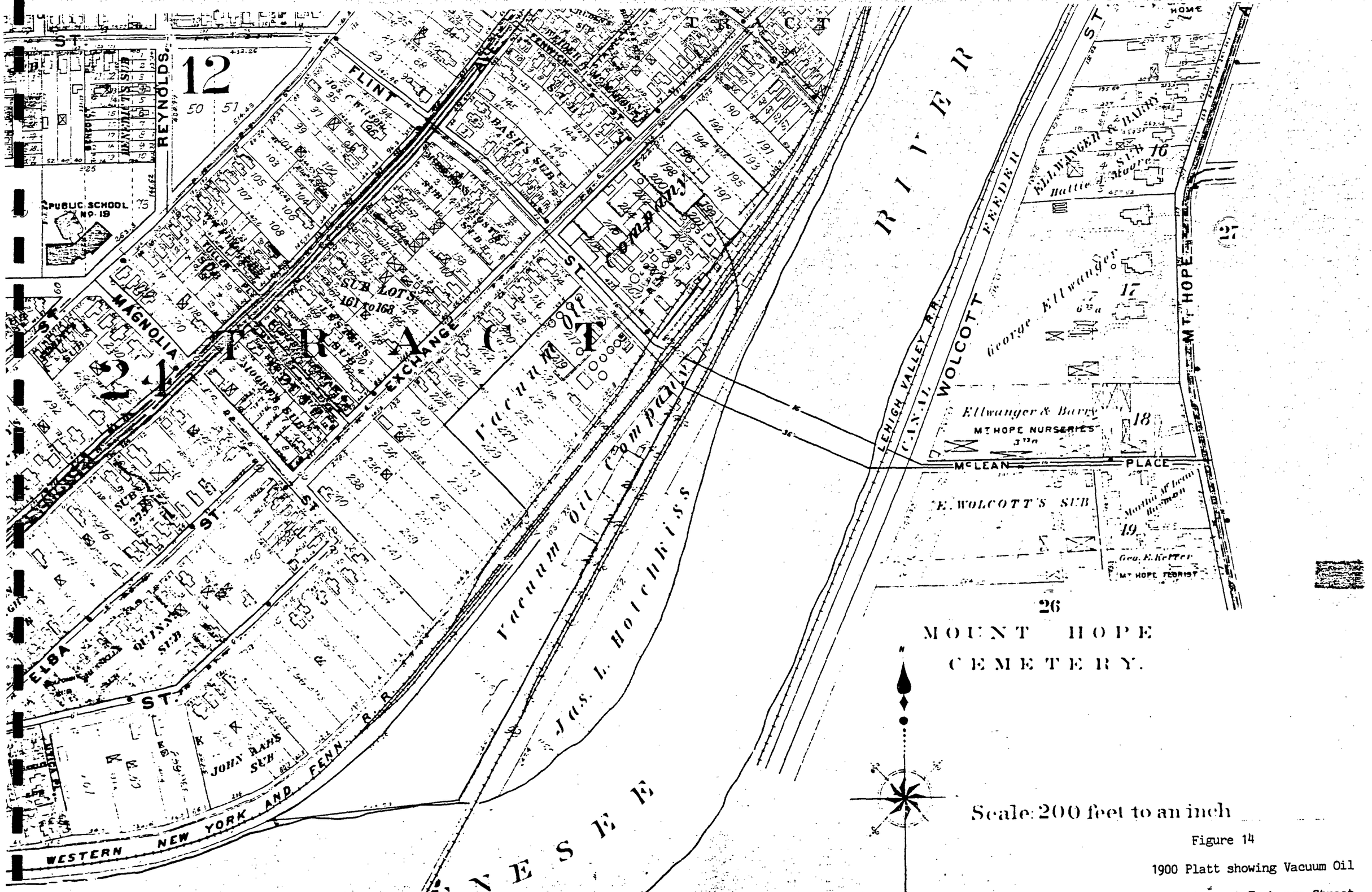


Figure 14

1900 Platt showing Vacuum Oil operations at Exchange Street

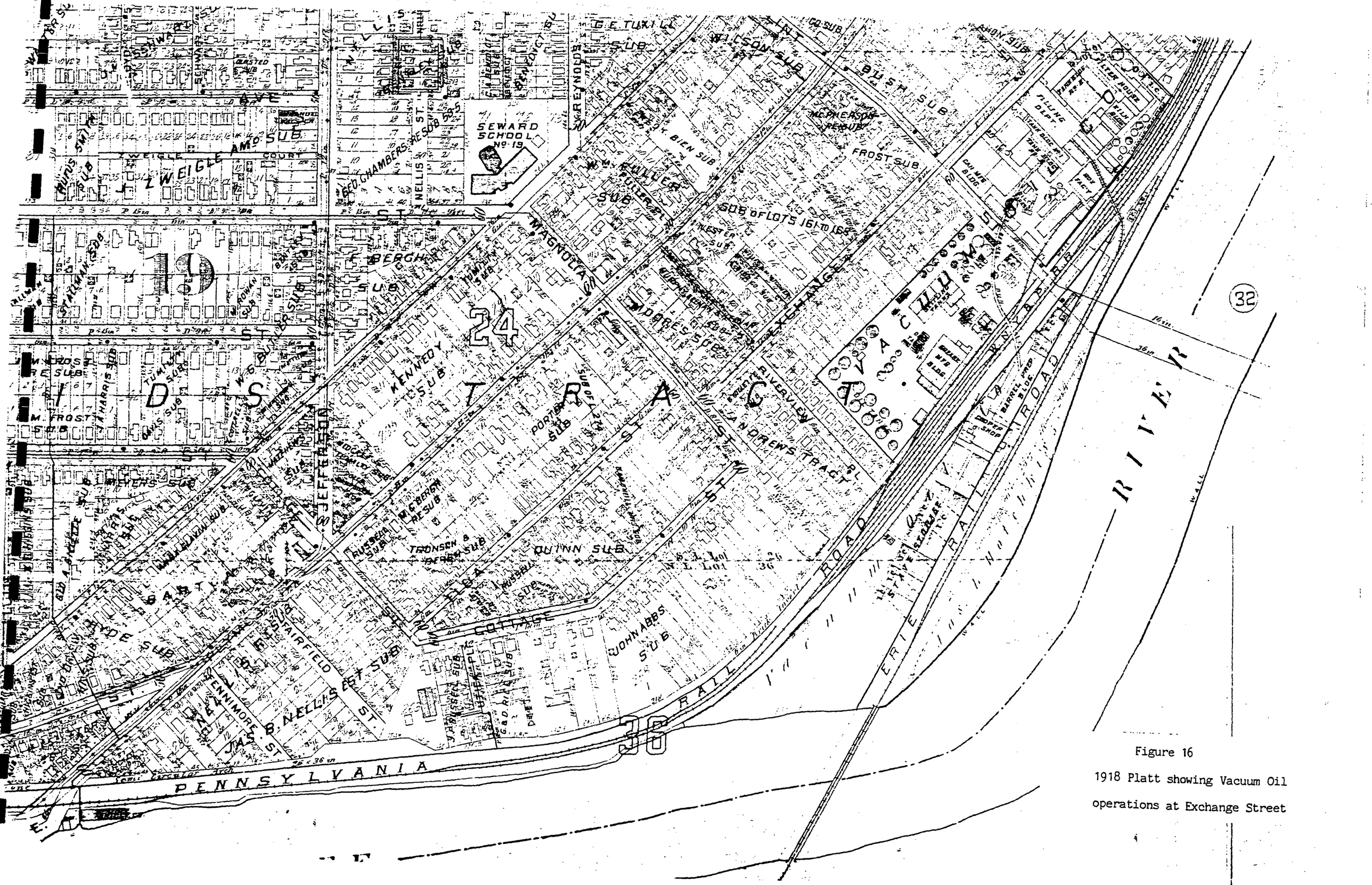


Figure 16

1918 Platt showing Vacuum Oil operations at Exchange Street

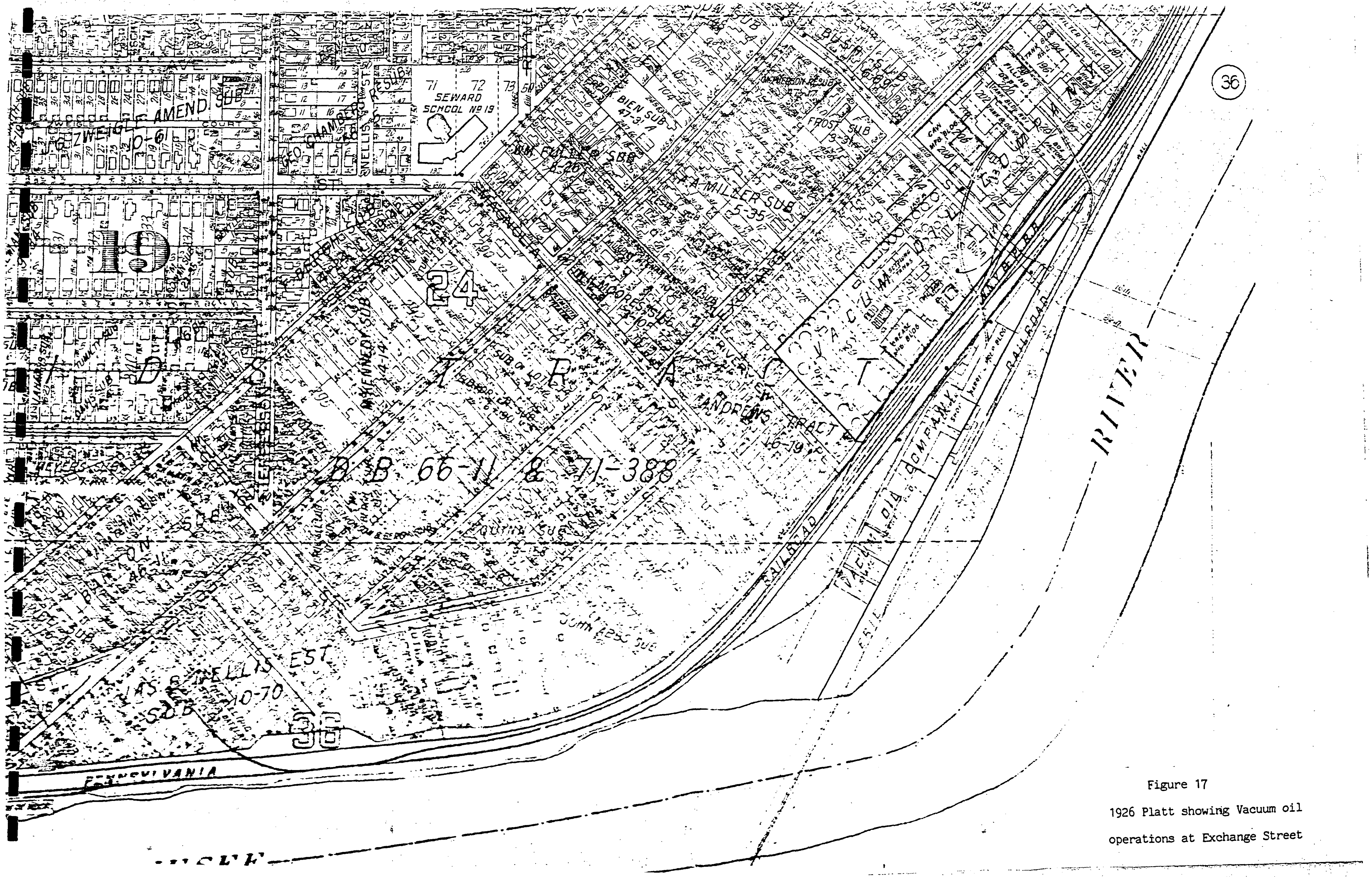


Figure 17

1926 Platt showing Vacuum oil operations at Exchange Street

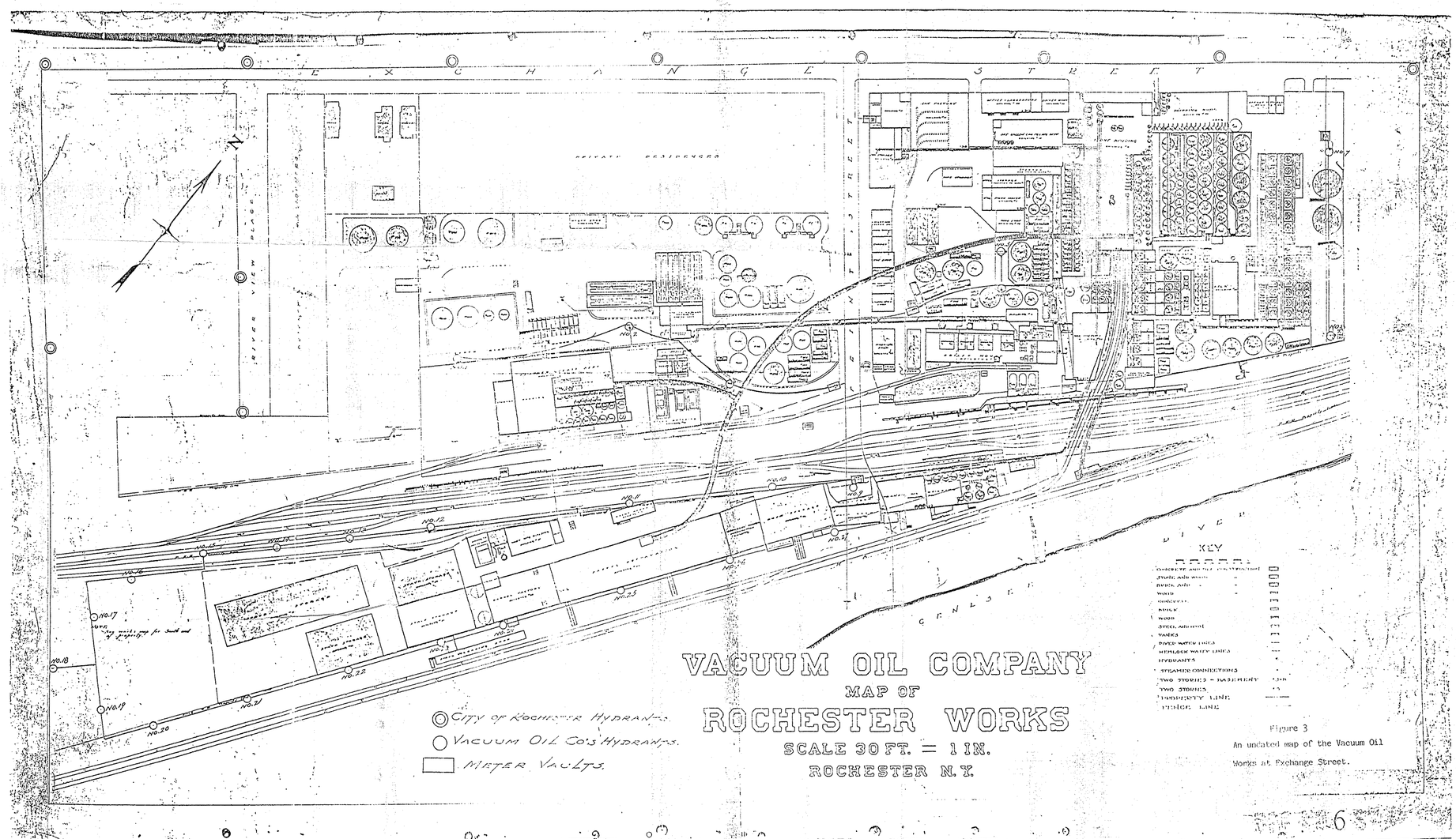


Figure 3
An undated map of the Vacuum Oil Works at Exchange Street.

APPENDIX C

APPENDIX C

1999-2000 SITE INVESTIGATION ANALYTICAL DATA

RECRA
ENVIRONMENTAL
INC.

Chemical and Environmental Measurement Information

31 March 2000

Mr. Jack Ryan
NYSDEC
Room 392
50 Wolf Road
Albany, NY 12233-3502

Ref: Contract C003783
Sample Data Package: RFW Batch 0002L553
NYSDEC ID: SH800-02323-B70622 to B70624

Dear Mr. Ryan:

Enclosed please find the data report for 3 water samples received 25 February 2000. These were analyzed for CLP VOAs, BNAs, metals and TPH. The EDD is enclosed to the sampler.

We had requested a week's extension.

Please do not hesitate to contact me at (610) 280-3000 with any questions you may have.

Very truly yours,

Recra LabNet Philadelphia

Judith L. Stone
Senior Project Manager

Enclosure

cc: Frank Sowers (NYSDEC)

208 Welsh Pool Road • Lionville, PA 19341-1333 • (610) 280-3000 • Fax (610) 280-3041

RECRA LabNet Use Only

00026553

Custody Transfer Record/Lab Work Request

Page 1 of 1

ALL

FIELD PERSONNEL: COMPLETE ONLY SHADED AREAS

RECRA LabNet

Client NYSDEC

Est. Final Proj. Sampling Date 2/23/00

Project # B706 011607-6000-001999-00

Project Contact/Phone # FRANK SOWERS 716 226 5357

RECRA Project Manager JS

QC CLP Del CLP TAT 30day

Date Rec'd 2-25-00 Date Due 3-24-00

Account #

Refrigerator #		1	4			4			4									
#/Type Container	Liquid	2CC	1AG	1AG	1AG	1AG	1AG		1PL		1PL							1PL
	Solid																	
Volume	Liquid	40	950	950	950	950	950		1LT		1LT							1LT
	Solid																	
Preservatives		HCL	—	—	—	H2SO4	—		HNO3									

ANALYSES REQUESTED → ORGANIC: VOA, BNA, Pest/PCB, Herb, TPH, TCLP BNA; INORG: Metal, CN, Cyanide, Metals, Phos

RECRA LabNet Use Only

MATRIX CODES: S - Soil, SE - Sediment, SO - Solid, SL - Sludge, W - Water, O - Oil, A - Air, DS - Drum Solids, DL - Drum Liquids, L - EP/TCLP Leachate, WI - Wipe, X - Other, F - Fish	Lab ID	Client ID/Description SH800-02323-	Matrix QC Chosen (✓) MS	MSD	Matrix	Date Collected	Time Collected	OLM24C	OLM25C			TPHC			MHSLTO			
	001	B70622			W	2/23/00	1150	2	1			1			1			
	002	B70623	~~✓~~	~~✓~~	W	"	1230	2	1			1			1			
	003	B70624	✓	✓	W	"	1215	6	3			3			3			
	~~004~~	~~B70625~~			~~W~~	"	1100	~~4~~	~~2~~			~~2~~			~~2~~			
	~~005~~	~~B70626~~			~~W~~	"	1110	~~4~~	~~2~~			~~2~~			~~2~~			
	006	VOA-T.B			Q	—	—	2										
	007	VOA-R.B			⊥	2/25/00	0945	2										

Special Instructions:

* SEE NYSDEC CONTRACT LAB SHEETS (ATTACHED)

DATE/REVISIONS:

1. 006 Rec'd 2EA Added to COC.
2. 007 ⊥ ⊥ ⊥ VOA R.B.
3.
4.
5.
6.

RECRA LabNet Use Only

Samples were: 1) Shipped ✓ or Hand Delivered ___ Airbill # See Below; 2) Ambient or (Chilled); 3) Received in Good Condition (Y) or N; 4) Labels Indicate Properly Preserved (Y) or N; 5) Received Within Holding Times (Y) or N

COC Tape was: 1) Present on Outer Package (Y) or N; 2) Unbroken on Outer Package (Y) or N; 3) Present on Sample Y or (N); 4) Unbroken on Sample Y or N

COC Record Present Upon Sample Rec't (Y) or N

Cooler Temp. 7.0 °C

Relinquished by	Received by	Date	Time
[signature]		2/24/00	1400
UPS	[signature]		0920

Relinquished by	Received by	Date	Time

Discrepancies Between Samples Labels and COC Record? Y or (N)

NOTES:

RECRA
ENVIRONMENTAL
INC.

Chemical and Environmental Measurement Information

Recra LabNet Philadelphia
Analytical Report

Client: NYSDEC
RFW #: 0002L553
ELAP #: 10752

W.O.#: 01667-600-001-9999-00
Date Received: 02-25-2000

SEMIVOLATILE

Three (3) water samples were collected on 02-23-2000.

The samples and their associated QC samples were extracted on 03-01-2000 and analyzed according to criteria set forth in NYSDEC ASP (Rev. 10-95) for TCL Semivolatile target compounds on 03-25,27,29-2000.

The following is a summary of the QC results accompanying the sample results and a description of any problems encountered during their analyses:

1. The cooler temperature upon receipt has been recorded on the chain-of-custody.
2. The samples were extracted and analyzed within required holding times.
3. Non-target compounds were detected in the samples.
4. Sample SH800-02323-B70623 required a 5-fold dilution due to high levels of non-target compounds.
5. All surrogate recoveries were within EPA QC limits.
6. Five (5) of twenty-two (22) matrix spike recoveries were outside EPA QC limits.
7. Two (2) of eleven (11) blank spike recoveries were outside EPA QC limits.
8. Internal standard area and retention time criteria were met.
9. Manual integrations are performed according to OP L-QA-125 to produce quality data with the utmost integrity. All manual integrations are required to be technically valid and properly documented. Appropriate technical flags are defined in Section III ("Technical Flags For Manual Integration"); hard copies of the integrations have been included with the quantitation data.
10. 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 hard copy 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.

for J. Michael Taylor
Vice President
Philadelphia Analytical Laboratory

03-30-00
Date

somigroup\data\bna\nysdec-02-553.doc

208 Welsh Pool Road • Lionville, PA 19341-1333 • (610) 280-3000 • Fax (610) 280-3041

GLOSSARY OF BNA 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 under the following circumstances: 1) when estimating a concentration for tentatively identified compounds (TICs) where a 1:1 response is assumed; or 2) 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.

D = Identifies all compounds identified in an analysis at a secondary dilution factor.

I = Interference.

NQ = Result qualitatively confirmed but not able to quantify.

A = Indicates that a TIC is a suspected aldol-condensation product.

N = Indicates presumptive evidence of a compound. This flag is only used for tentatively identified compounds (TICs), where the identification is based on a mass spectral library search. It is applied to all TIC results. For generic characterization of a TIC, such as chlorinated hydrocarbon, the N code is not used.

X = This flag is used for a TIC compound which is quantified relative to a response factor generated from a daily calibration standard (rather than quantified relative to the closest internal standard).

Y = Additional qualifiers used as required are explained in the case narrative.

GLOSSARY OF BNA DATA

ABBREVIATIONS

BS	=	Indicates blank spike in which reagent grade water is spiked with the CLP matrix spike 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	=	Suffix added to sample number to indicate that results are from a diluted analysis.
NA	=	Not Applicable.
DF	=	Dilution Factor.
NR	=	Not Required.
SP, Z	=	Indicates Spiked Compound.

TECHNICAL FLAGS FOR MANUAL INTEGRATION

Manual quan modifications or integrations are performed routinely to improve the data quality for a variety of technical reasons. Documentation of these modifications should be clear and concise. The following "flags" are used to indicate the technical reasons for quan modifications:

MP - Missed Peak: manually added peak not found by automatic quan program.

PA - Peak Assignment: quan report was changed to reflect correct peak assignment.

RI - Routine Integration: routine integrations are performed for some analytes that are consistently integrated improperly by the automatic integration programs. Examples are the dichlorobenzene isomers on the VOA packed column and benzo(b)fluoranthene/benzo(k)fluoranthene which are poorly resolved on the BNA column.

SP - Split Peak: the automatic integration improperly split the peak; a manual integration was performed to get the correct area.

CB - Coelution/Background: peak was manually integrated to eliminate contribution from coeluting compounds, background signal, or other interference.

PI - Proper Integration: a peak with poor or inconsistent integration (e.g., excessive tail) was properly integrated manually.

J092 870 673 4

RECRA LabNet Use Only

00026553

Custody Transfer Record/Lab Work Request

Page 1 of 1

RECRA LabNet

FIELD PERSONNEL: COMPLETE ONLY SHADED AREAS

Client NYSDEC

Est. Final Proj. Sampling Date 2/23/00

Project # B706 Q116057-6000-0019999-00

Project Contact/Phone # Frank Swarts 716 226 5357

RECRA Project Manager JS

QC CLP Del CLP TAT 30day

Date Rec'd 2-25-00 Date Due 3-26-00

Account #

Refrigerator #		1	2			4			4						
#/Type Container	Liquid	2CC	1AG	1AG	1AG	1AG	1AG		1PL		1L			1L	
	Solid														
Volume	Liquid	40	950	950	950	950	950		1LT		1LT			1LT	
	Solid														
Preservatives		HCL	—	—	—	H2SO4	—		HNO3		—			—	

ANALYSES REQUESTED → ORGANIC: VOA; 625 BNA; Pest/PCB; Herb; TPH; 8270 BNA. INORG: Metal; CN; Cyanides; Phenols; Sulfides; Pest/PCB

RECRA LabNet Use Only

MATRIX CODES: S - Soil; SE - Sediment; SO - Solid; SL - Sludge; W - Water; O - Oil; A - Air; DS - Drum Solids; DL - Drum Liquids; L - EP/TCLP Leachate; WI - Wipe; X - Other; F - Fish

Lab ID	Client ID/Description	Matrix QC Chosen (✓) MS	MSD	Matrix	Date Collected	Time Collected	624C	625C	TPHC	MWSLTO
	SH800-02323-									
001	B70622			W	2/23/00	1150	✓2	✓1	✓1	✓1
002	B70623	X	X	W	"	1230	✓2	✓1	✓1	✓1
003	B70624	✓	✓	W	"	1215	✓6	✓3	✓3	✓3
~~004~~	~~B70625~~			W/DI	"	1100	✓1	✓1	✓1	✓1
~~005~~	~~B70626~~			W/DI	"	1110	✓1	✓1	✓1	✓1
006	VOA-T.B			W	—	—	2			
007	VOA-R.B			W	2/25/00	0945	2			

Special Instructions:

* SEE NYSDEC CONTRACT LAB SHEETS (ATTACHED)

DATE/REVISIONS:

006 1. Rec'd 2EA Added to COC.

007 2. 1 1 1 VOA R.B.

3.

4.

5.

6.

RECRA LabNet Use Only

Samples were: 1) Shipped ✓ or Hand Delivered ___ Airbill # See Below; 2) Ambient or (Chilled); 3) Received in Good Condition (Y) or N; 4) Labels Indicate Properly Preserved (Y) or N; 5) Received Within Holding Times (Y) or N

COC Tape was: 1) Present on Outer Package (Y) or N; 2) Unbroken on Outer Package (Y) or N; 3) Present on Sample Y or (N); 4) Unbroken on Sample Y or N

COC Record Present Upon Sample Rec't (Y) or N

Cooler Temp. 7.0 °C

Discrepancies Between Samples Labels and COC Record? Y or (N)

NOTES:

Relinquished by	Received by	Date	Time
R Log		2/24/00	1400
UPS			0920

Relinquished by	Received by	Date	Time

3C

WATER SEMIVOLATILE MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

Lab Name: Recra.LabNet Contract: 1667-00-01

Case No.: NYSDEC RFW Lot No.: 0002L553-003

MATRIX Spike - Sample No.: SH800-02323-B70624

COMPOUND	SPIKE ADDED UG/L	SAMPLE CONCENTRATION UG/L	MS CONCENTRATION UG/L	MS % REC #	QC LIMITS REC.
Phenol	78.0	0	62.4	80	12 -110
2-Chlorophenol	78.0	0	64.0	82	27 -123
1,4-Dichlorobenzene	52.0	0	39.5	76	36 - 97
N-Nitroso-di-n-prop.(1)	52.0	0	50.7	98	41 -116
1,2,4-Trichlorobenzene	52.0	0	43.0	83	39 - 98
4-Chloro-3-methylphenol	78.0	0	76.3	98 *	23 - 97
Acenaphthene	52.0	0.592	47.5	90	46 -118
4-Nitrophenol	78.0	0	92.1	118 *	10 - 80
2,4-Dinitrotoluene	52.0	0	49.1	94	24 - 96
Pentachlorophenol	78.0	0	107	137 *	9 -103
Pyrene	52.0	0	51.3	99	26 -127

COMPOUND	SPIKE ADDED UG/L	MSD CONCENTRATION UG/L	MSD % REC #	% RPD #	QC LIMITS RPD	QC LIMITS REC
Phenol	78.0	60.4	77	3	42	12 -110
2-Chlorophenol	78.0	61.4	79	3	40	27 -123
1,4-Dichlorobenzene	52.0	37.1	71	6	28	36 - 97
N-Nitroso-di-n-prop.(1)	52.0	45.5	88	10	38	41 -116
1,2,4-Trichlorobenzene	52.0	41.3	79	4	28	39 - 98
4-Chloro-3-methylphenol	78.0	72.9	93	5	42	23 - 97
Acenaphthene	52.0	46.3	88	2	31	46 -118
4-Nitrophenol	78.0	92.2	118 *	0	50	10 - 80
2,4-Dinitrotoluene	52.0	49.2	95	1	38	24 - 96
Pentachlorophenol	78.0	99.7	128 *	6	50	9 -103
Pyrene	52.0	49.2	95	4	31	26 -127

(1) N-Nitroso-di-n-propylamine

Column to be used to flag recovery and RPD values with an asterisk
* Values outside of QC limits

RPD: 0 out of 11 outside limits
Spike Recovery: 5 out of 22 outside limits

COMMENTS: _____

3C

WATER SEMIVOLATILE BLANK SPIKE RECOVERY

Lab Name: Recra.LabNet Contract: ONE

Case No.: NYSDEC RFW Lot No.: 0002L553

BLANK Spike - Sample No.: SBLKMALE0204-MB1

COMPOUND	SPIKE ADDED UG/L	SAMPLE CONCENTRATION UG/L	BS CONCENTRATION UG/L	BS % REC #	QC LIMITS REC.
Phenol	75.0	0	62.1	83	12 -110
2-Chlorophenol	75.0	0	61.4	82	27 -123
1,4-Dichlorobenzene	50.0	0	32.3	65	36 - 97
N-Nitroso-di-n-prop.(1)	50.0	0	40.1	80	41 -116
1,2,4-Trichlorobenzene	50.0	0	31.9	64	39 - 98
4-Chloro-3-methylphenol	75.0	0	67.1	89	23 - 97
Acenaphthene	50.0	0	41.5	83	46 -118
4-Nitrophenol	75.0	0	94.9	126 *	10 - 80
2,4-Dinitrotoluene	50.0	0	45.6	91	24 - 96
Pentachlorophenol	75.0	0	82.9	111 *	9 -103
Pyrene	50.0	0	39.1	78	26 -127

(1) N-Nitroso-di-n-propylamine

Column to be used to flag recovery value with an asterisk
* Values outside of QC limits

Spike Recovery: 2 out of 11 outside limits

COMMENTS: _____

Sample Data

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

SH800-02323-B70622

Lab Name: Recra.LabNet Work Order: 01667600001

Client: NYSDEC

Matrix: (soil/water) WATER Lab Sample ID: 0002L553-001

Sample wt/vol: 990 (g/mL) ML Lab File ID: A032507

Level: (low/med) LOW Date Received: 02/25/00

% Moisture: _____ decanted: (Y/N)__ Date Extracted: 03/01/00

Concentrated Extract Volume: 1000(uL) Date Analyzed: 03/25/00

Injection Volume: 2.0(uL) Dilution Factor: 1.00

GPC Cleanup: (Y/N) N pH: 7.0

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
95-50-1	1,2-Dichlorobenzene	10	U
95-48-7	2-Methylphenol	10	U
108-60-1	2,2'-oxybis(1-Chloropropane)	10	U
106-44-5	4-Methylphenol	10	U
621-64-7	N-Nitroso-di-n-propylamine	10	U
67-72-1	Hexachloroethane	10	U
98-95-3	Nitrobenzene	10	U
78-59-1	Isophorone	10	U
88-75-5	2-Nitrophenol	10	U
105-67-9	2,4-Dimethylphenol	10	U
111-91-1	bis(2-Chloroethoxy)methane	10	U
120-83-2	2,4-Dichlorophenol	10	U
120-82-1	1,2,4-Trichlorobenzene	10	U
91-20-3	Naphthalene	10	U
106-47-8	4-Chloroaniline	10	U
87-68-3	Hexachlorobutadiene	10	U
59-50-7	4-Chloro-3-methylphenol	10	U
91-57-6	2-Methylnaphthalene	10	U
77-47-4	Hexachlorocyclopentadiene	10	U
88-06-2	2,4,6-Trichlorophenol	10	U
95-95-4	2,4,5-Trichlorophenol	26	U
91-58-7	2-Chloronaphthalene	10	U
88-74-4	2-Nitroaniline	26	U
131-11-3	Dimethylphthalate	10	U
208-96-8	Acenaphthylene	10	U
606-20-2	2,6-Dinitrotoluene	10	U
99-09-2	3-Nitroaniline	26	U
83-32-9	Acenaphthene	10	U

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

SH800-02323-B70622

Lab Name: Recra.LabNet Work Order: 01667600001

Client: NYSDEC

Matrix: (soil/water) WATER Lab Sample ID: 0002L553-001

Sample wt/vol: 990 (g/mL) ML Lab File ID: A032507

Level: (low/med) LOW Date Received: 02/25/00

% Moisture: _____ decanted: (Y/N)__ Date Extracted: 03/01/00

Concentrated Extract Volume: 1000(uL) Date Analyzed: 03/25/00

Injection Volume: 2.0(uL) Dilution Factor: 1.00

GPC Cleanup: (Y/N) N pH: 7.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
51-28-5	2,4-Dinitrophenol	26	U
100-02-7	4-Nitrophenol	26	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	26	U
534-52-1	4,6-Dinitro-2-methylphenol	26	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	26	U
85-01-8	Phenanthrene	10	U
120-12-7	Anthracene	10	U
86-74-8	Carbazole	10	U
84-74-2	Di-n-butylphthalate	10	U
206-44-0	Fluoranthene	10	U
129-00-0	Pyrene	10	U
85-68-7	Butylbenzylphthalate	10	U
91-94-1	3,3'-Dichlorobenzidine	10	U
56-55-3	Benzo(a)anthracene	10	U
218-01-9	Chrysene	10	U
117-81-7	bis(2-Ethylhexyl)phthalate	10	U
117-84-0	Di-n-octyl phthalate	10	U
205-99-2	Benzo(b)fluoranthene	10	U
207-08-9	Benzo(k)fluoranthene	10	U
50-32-8	Benzo(a)pyrene	10	U
193-39-5	Indeno(1,2,3-cd)pyrene	10	U
53-70-3	Dibenz(a,h)anthracene	10	U
191-24-2	Benzo(g,h,i)perylene	10	U

(1) - Cannot be separated from Diphenylamine

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

CLIENT SAMPLE NO.

SH800-02323-B70622

Lab Name: Recra.LabNet Work Order: 01667600001

Client: NYSDEC

Matrix: (soil/water) WATER Lab Sample ID: 0002L553-001

Sample wt/vol: 990 (g/mL) ML Lab File ID: A032507

Level: (low/med) LOW Date Received: 02/25/00

% Moisture: _____ decanted: (Y/N)__ Date Extracted: 03/01/00

Concentrated Extract Volume: 1000(uL) Date Analyzed: 03/25/00

Injection Volume: 2.0(uL) Dilution Factor: 1.00

GPC Cleanup: (Y/N) N pH: 7.0

Number TICs found: 2 CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.		UNKNOWN	19.77	7	J
2.		UNKNOWN	24.73	60	JB

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

SH800-02323-B70623

Lab Name: Recra.LabNet Work Order: 01667600001

Client: NYSDEC

Matrix: (soil/water) WATER Lab Sample ID: 0002L553-002

Sample wt/vol: 970 (g/mL) ML Lab File ID: A032914

Level: (low/med) LOW Date Received: 02/25/00

% Moisture: _____ decanted: (Y/N)__ Date Extracted: 03/01/00

Concentrated Extract Volume: 1000(uL) Date Analyzed: 03/29/00

Injection Volume: 2.0(uL) Dilution Factor: 5.00

GPC Cleanup: (Y/N) N pH: 7.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
108-95-2	Phenol	7	J
111-44-4	bis(2-Chloroethyl)ether	52	U
95-57-8	2-Chlorophenol	52	U
541-73-1	1,3-Dichlorobenzene	52	U
106-46-7	1,4-Dichlorobenzene	52	U
95-50-1	1,2-Dichlorobenzene	52	U
95-48-7	2-Methylphenol	52	U
108-60-1	2,2'-oxybis(1-Chloropropane)	52	U
106-44-5	4-Methylphenol	52	U
621-64-7	N-Nitroso-di-n-propylamine	52	U
67-72-1	Hexachloroethane	52	U
98-95-3	Nitrobenzene	52	U
78-59-1	Isophorone	52	U
88-75-5	2-Nitrophenol	52	U
105-67-9	2,4-Dimethylphenol	52	U
111-91-1	bis(2-Chloroethoxy)methane	52	U
120-83-2	2,4-Dichlorophenol	52	U
120-82-1	1,2,4-Trichlorobenzene	52	U
91-20-3	Naphthalene	52	U
106-47-8	4-Chloroaniline	52	U
87-68-3	Hexachlorobutadiene	52	U
59-50-7	4-Chloro-3-methylphenol	52	U
91-57-6	2-Methylnaphthalene	52	U
77-47-4	Hexachlorocyclopentadiene	52	U
88-06-2	2,4,6-Trichlorophenol	52	U
95-95-4	2,4,5-Trichlorophenol	130	U
91-58-7	2-Chloronaphthalene	52	U
88-74-4	2-Nitroaniline	130	U
131-11-3	Dimethylphthalate	52	U
208-96-8	Acenaphthylene	52	U
606-20-2	2,6-Dinitrotoluene	52	U
99-09-2	3-Nitroaniline	130	U
83-32-9	Acenaphthene	52	U

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

SH800-02323-B70623

Lab Name: Recra.LabNet Work Order: 01667600001

Client: NYSDEC

Matrix: (soil/water) WATER Lab Sample ID: 0002L553-002

Sample wt/vol: 970 (g/mL) ML Lab File ID: A032914

Level: (low/med) LOW Date Received: 02/25/00

% Moisture: _____ decanted: (Y/N)__ Date Extracted: 03/01/00

Concentrated Extract Volume: 1000(uL) Date Analyzed: 03/29/00

Injection Volume: 2.0(uL) Dilution Factor: 5.00

GPC Cleanup: (Y/N) N pH: 7.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
51-28-5	2,4-Dinitrophenol	130	U
100-02-7	4-Nitrophenol	130	U
132-64-9	Dibenzofuran	52	U
121-14-2	2,4-Dinitrotoluene	52	U
84-66-2	Diethylphthalate	52	U
7005-72-3	4-Chlorophenyl-phenylether	52	U
86-73-7	Fluorene	52	U
100-01-6	4-Nitroaniline	130	U
534-52-1	4,6-Dinitro-2-methylphenol	130	U
86-30-6	N-Nitrosodiphenylamine (1)	52	U
101-55-3	4-Bromophenyl-phenylether	52	U
118-74-1	Hexachlorobenzene	52	U
87-86-5	Pentachlorophenol	130	U
85-01-8	Phenanthrene	52	U
120-12-7	Anthracene	52	U
86-74-8	Carbazole	52	U
84-74-2	Di-n-butylphthalate	52	U
206-44-0	Fluoranthene	52	U
129-00-0	Pyrene	52	U
85-68-7	Butylbenzylphthalate	52	U
91-94-1	3,3'-Dichlorobenzidine	52	U
56-55-3	Benzo(a)anthracene	52	U
218-01-9	Chrysene	52	U
117-81-7	bis(2-Ethylhexyl)phthalate	52	U
117-84-0	Di-n-octyl phthalate	52	U
205-99-2	Benzo(b)fluoranthene	52	U
207-08-9	Benzo(k)fluoranthene	52	U
50-32-8	Benzo(a)pyrene	52	U
193-39-5	Indeno(1,2,3-cd)pyrene	52	U
53-70-3	Dibenz(a,h)anthracene	52	U
191-24-2	Benzo(g,h,i)perylene	52	U

(1) - Cannot be separated from Diphenylamine

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

CLIENT SAMPLE NO.

SH800-02323-B70623

Lab Name: Recra.LabNet Work Order: 01667600001

Client: NYSDEC

Matrix: (soil/water) WATER Lab Sample ID: 0002L553-002

Sample wt/vol: 970 (g/mL) ML Lab File ID: A032914

Level: (low/med) LOW Date Received: 02/25/00

% Moisture: _____ decanted: (Y/N)__ Date Extracted: 03/01/00

Concentrated Extract Volume: 1000(uL) Date Analyzed: 03/29/00

Injection Volume: 2.0(uL) Dilution Factor: 5.00

GPC Cleanup: (Y/N) N pH: 7.0

Number TICs found: 28 CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.		UNKNOWN	7.34	30	J
2.		C2-ALKYLBENZENE	7.55	60	J
3.		UNKNOWN	8.07	20	J
4.		UNKNOWN	8.29	20	J
5.		DIMETHYLCYCLOHEXANOL	8.43	20	J
6.		UNKNOWN	8.58	20	J
7.		C3-ALKYLBENZENE	8.98	100	J
8.		UNKNOWN	9.22	70	J
9.		UNKNOWN	9.37	50	J
10.		UNKNOWN	9.68	20	J
11.		UNKNOWN	9.90	60	J
12.		UNKNOWN	10.07	70	J
13.		UNKNOWN	10.43	50	J
14.		C4-ALKYLBENZENE	10.58	30	J
15.		C4-ALKYLBENZENE	11.09	50	J
16.		UNKNOWN	11.34	20	J
17.		UNKNOWN	11.59	20	J
18.		C4-ALKYLBENZENE	11.64	30	J
19.		C4-ALKYLBENZENE	11.72	40	J
20.		UNKNOWN	12.56	40	J
21.		TERPINEOL	12.85	40	J
22.		UNKNOWN	12.99	30	J
23.		UNKNOWN	13.46	30	J
24.		TOLYLACETIC ACID	14.88	40	J
25.		UNKNOWN	14.93	40	J
26.		DIMETHYLBENZOIC ACID	15.18	20	J
27.		AROMATIC	19.88	30	J
28.		UNKNOWN	24.74	200	JB

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

SH800-02323-B70624

Lab Name: Recra.LabNet Work Order: 01667600001

Client: NYSDEC

Matrix: (soil/water) WATER Lab Sample ID: 0002L553-003

Sample wt/vol: 990 (g/mL) ML Lab File ID: A032508

Level: (low/med) LOW Date Received: 02/25/00

% Moisture: _____ decanted: (Y/N)__ Date Extracted: 03/01/00

Concentrated Extract Volume: 1000(uL) Date Analyzed: 03/25/00

Injection Volume: 2.0(uL) Dilution Factor: 1.00

GPC Cleanup: (Y/N) N pH: 7.0

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
95-50-1	1,2-Dichlorobenzene	10	U
95-48-7	2-Methylphenol	10	U
108-60-1	2,2'-oxybis(1-Chloropropane)	10	U
106-44-5	4-Methylphenol	0.8	J
621-64-7	N-Nitroso-di-n-propylamine	10	U
67-72-1	Hexachloroethane	10	U
98-95-3	Nitrobenzene	10	U
78-59-1	Isophorone	10	U
88-75-5	2-Nitrophenol	10	U
105-67-9	2,4-Dimethylphenol	10	U
111-91-1	bis(2-Chloroethoxy)methane	10	U
120-83-2	2,4-Dichlorophenol	10	U
120-82-1	1,2,4-Trichlorobenzene	10	U
91-20-3	Naphthalene	1	J
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	26	U
91-58-7	2-Chloronaphthalene	10	U
88-74-4	2-Nitroaniline	26	U
131-11-3	Dimethylphthalate	10	U
208-96-8	Acenaphthylene	10	U
606-20-2	2,6-Dinitrotoluene	10	U
99-09-2	3-Nitroaniline	26	U
83-32-9	Acenaphthene	0.6	J

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

SH800-02323-B70624

Lab Name: Recra.LabNet Work Order: 01667600001

Client: NYSDEC

Matrix: (soil/water) WATER Lab Sample ID: 0002L553-003

Sample wt/vol: 990 (g/mL) ML Lab File ID: A032508

Level: (low/med) LOW Date Received: 02/25/00

% Moisture: _____ decanted: (Y/N)__ Date Extracted: 03/01/00

Concentrated Extract Volume: 1000(uL) Date Analyzed: 03/25/00

Injection Volume: 2.0(uL) Dilution Factor: 1.00

GPC Cleanup: (Y/N) N pH: 7.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
51-28-5	2,4-Dinitrophenol	26	U
100-02-7	4-Nitrophenol	26	U
132-64-9	Dibenzofuran	0.6	J
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	0.8	J
100-01-6	4-Nitroaniline	26	U
534-52-1	4,6-Dinitro-2-methylphenol	26	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	26	U
85-01-8	Phenanthrene	10	U
120-12-7	Anthracene	10	U
86-74-8	Carbazole	0.9	J
84-74-2	Di-n-butylphthalate	10	U
206-44-0	Fluoranthene	10	U
129-00-0	Pyrene	10	U
85-68-7	Butylbenzylphthalate	10	U
91-94-1	3,3'-Dichlorobenzidine	10	U
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	0.8	J
205-99-2	Benzo(b)fluoranthene	10	U
207-08-9	Benzo(k)fluoranthene	10	U
50-32-8	Benzo(a)pyrene	10	U
193-39-5	Indeno(1,2,3-cd)pyrene	10	U
53-70-3	Dibenz(a,h)anthracene	10	U
191-24-2	Benzo(g,h,i)perylene	10	U

(1) - Cannot be separated from Diphenylamine

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

CLIENT SAMPLE NO.

SH800-02323-B70624

Lab Name: Recra.LabNet Work Order: 01667600001

Client: NYSDEC

Matrix: (soil/water) WATER Lab Sample ID: 0002L553-003

Sample wt/vol: 990 (g/mL) ML Lab File ID: A032508

Level: (low/med) LOW Date Received: 02/25/00

% Moisture: _____ decanted: (Y/N)__ Date Extracted: 03/01/00

Concentrated Extract Volume: 1000(uL) Date Analyzed: 03/25/00

Injection Volume: 2.0(uL) Dilution Factor: 1.00

GPC Cleanup: (Y/N) N pH: 7.0

Number TICs found: 14 CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.		ORANIC ACID	8.76	3	J
2.		C4-ALKYLBENZENE	11.08	2	J
3.		UNKNOWN	11.27	3	J
4.		UNKNOWN	11.66	2	J
5.	65-85-0	BENZOIC ACID	12.09	6.0	XJ
6.		C4-ALKYLBENZENE	12.29	3	J
7.		TERPINEOL	12.85	10	J
8.		CYCLOHEXANOL	14.58	5	J
9.		BENZYLMALONIC ACID	14.74	7	J
10.		PHENYLPROPENOIC ACID	16.05	3	J
11.		UNKNOWN	19.77	6	J
12.		UNKNOWN	19.86	2	J
13.		TRI(CHLOROETHYL)PHOSPHATE	19.94	3	J
14.		UNKNOWN	24.73	70	JB

X: Response Factor from daily standard.

Raw QC Data: Tune, Blank and Spike Data

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

SBLKMA

Lab Name: Recra.LabNet Work Order: 01667600001

Client: NYSDEC

Matrix: (soil/water) WATER Lab Sample ID: 00LE0204-MB1

Sample wt/vol: 1000 (g/mL) ML Lab File ID: A032503

Level: (low/med) LOW Date Received: 03/01/00

% Moisture: _____ decanted: (Y/N)__ Date Extracted: 03/01/00

Concentrated Extract Volume: 1000(uL) Date Analyzed: 03/25/00

Injection Volume: 2.0(uL) Dilution Factor: 1.00

GPC Cleanup: (Y/N) N pH: 7.0

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
95-50-1	1,2-Dichlorobenzene	10	U
95-48-7	2-Methylphenol	10	U
108-60-1	2,2'-oxybis(1-Chloropropane)	10	U
106-44-5	4-Methylphenol	10	U
621-64-7	N-Nitroso-di-n-propylamine	10	U
67-72-1	Hexachloroethane	10	U
98-95-3	Nitrobenzene	10	U
78-59-1	Isophorone	10	U
88-75-5	2-Nitrophenol	10	U
105-67-9	2,4-Dimethylphenol	10	U
111-91-1	bis(2-Chloroethoxy)methane	10	U
120-83-2	2,4-Dichlorophenol	10	U
120-82-1	1,2,4-Trichlorobenzene	10	U
91-20-3	Naphthalene	10	U
106-47-8	4-Chloroaniline	10	U
87-68-3	Hexachlorobutadiene	10	U
59-50-7	4-Chloro-3-methylphenol	10	U
91-57-6	2-Methylnaphthalene	10	U
77-47-4	Hexachlorocyclopentadiene	10	U
88-06-2	2,4,6-Trichlorophenol	10	U
95-95-4	2,4,5-Trichlorophenol	25	U
91-58-7	2-Chloronaphthalene	10	U
88-74-4	2-Nitroaniline	25	U
131-11-3	Dimethylphthalate	10	U
208-96-8	Acenaphthylene	10	U
606-20-2	2,6-Dinitrotoluene	10	U
99-09-2	3-Nitroaniline	25	U
83-32-9	Acenaphthene	10	U

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

SBLKMA

Lab Name: Recra.LabNet Work Order: 01667600001

Client: NYSDEC

Matrix: (soil/water) WATER Lab Sample ID: 00LE0204-MB1

Sample wt/vol: 1000 (g/mL) ML Lab File ID: A032503

Level: (low/med) LOW Date Received: 03/01/00

% Moisture: _____ decanted: (Y/N)__ Date Extracted: 03/01/00

Concentrated Extract Volume: 1000(uL) Date Analyzed: 03/25/00

Injection Volume: 2.0(uL) Dilution Factor: 1.00

GPC Cleanup: (Y/N) N pH: 7.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
51-28-5	2,4-Dinitrophenol	25	U
100-02-7	4-Nitrophenol	25	U
132-64-9	Dibenzofuran	10	U
121-14-2	2,4-Dinitrotoluene	10	U
84-66-2	Diethylphthalate	10	U
7005-72-3	4-Chlorophenyl-phenylether	10	U
86-73-7	Fluorene	10	U
100-01-6	4-Nitroaniline	25	U
534-52-1	4,6-Dinitro-2-methylphenol	25	U
86-30-6	N-Nitrosodiphenylamine (1)	10	U
101-55-3	4-Bromophenyl-phenylether	10	U
118-74-1	Hexachlorobenzene	10	U
87-86-5	Pentachlorophenol	25	U
85-01-8	Phenanthrene	10	U
120-12-7	Anthracene	10	U
86-74-8	Carbazole	10	U
84-74-2	Di-n-butylphthalate	10	U
206-44-0	Fluoranthene	10	U
129-00-0	Pyrene	10	U
85-68-7	Butylbenzylphthalate	10	U
91-94-1	3,3'-Dichlorobenzidine	10	U
56-55-3	Benzo(a)anthracene	10	U
218-01-9	Chrysene	10	U
117-81-7	bis(2-Ethylhexyl)phthalate	10	U
117-84-0	Di-n-octyl phthalate	10	U
205-99-2	Benzo(b)fluoranthene	10	U
207-08-9	Benzo(k)fluoranthene	10	U
50-32-8	Benzo(a)pyrene	10	U
193-39-5	Indeno(1,2,3-cd)pyrene	10	U
53-70-3	Dibenz(a,h)anthracene	10	U
191-24-2	Benzo(g,h,i)perylene	10	U

(1) - Cannot be separated from Diphenylamine

1F

CLIENT SAMPLE NO.

SBLKMA

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

Lab Name: Recra.LabNet Work Order: 01667600001

Client: NYSDEC

Matrix: (soil/water) WATER Lab Sample ID: 00LE0204-MB1

Sample wt/vol: 1000 (g/mL) ML Lab File ID: A032503

Level: (low/med) LOW Date Received: 03/01/00

% Moisture: _____ decanted: (Y/N)__ Date Extracted: 03/01/00

Concentrated Extract Volume: 1000(uL) Date Analyzed: 03/25/00

Injection Volume: 2.0(uL) Dilution Factor: 1.00

GPC Cleanup: (Y/N) N pH: 7.0

Number TICs found: 1 CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	UNKNOWN	24.74	10	J

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

SBLKMAMS

Lab Name: Recra.LabNet Work Order: 01667600001

Client: NYSDEC

Matrix: (soil/water) WATER Lab Sample ID: 00LE0204-MB1 BS

Sample wt/vol: 1000 (g/mL) ML Lab File ID: A032703

Level: (low/med) LOW Date Received: 03/01/00

% Moisture: _____ decanted: (Y/N)__ Date Extracted: 03/01/00

Concentrated Extract Volume: 1000(uL) Date Analyzed: 03/27/00

Injection Volume: 2.0(uL) Dilution Factor: 1.00

GPC Cleanup: (Y/N) N pH: 7.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
108-95-2	Phenol	62	Z
111-44-4	bis(2-Chloroethyl)ether	10	U
95-57-8	2-Chlorophenol	61	Z
541-73-1	1,3-Dichlorobenzene	10	U
106-46-7	1,4-Dichlorobenzene	32	Z
95-50-1	1,2-Dichlorobenzene	10	U
95-48-7	2-Methylphenol	10	U
108-60-1	2,2'-oxybis(1-Chloropropane)	10	U
106-44-5	4-Methylphenol	10	U
621-64-7	N-Nitroso-di-n-propylamine	40	Z
67-72-1	Hexachloroethane	10	U
98-95-3	Nitrobenzene	10	U
78-59-1	Isophorone	10	U
88-75-5	2-Nitrophenol	10	U
105-67-9	2,4-Dimethylphenol	10	U
111-91-1	bis(2-Chloroethoxy)methane	10	U
120-83-2	2,4-Dichlorophenol	10	U
120-82-1	1,2,4-Trichlorobenzene	32	Z
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	67	Z
91-57-6	2-Methylnaphthalene	10	U
77-47-4	Hexachlorocyclopentadiene	10	U
88-06-2	2,4,6-Trichlorophenol	10	U
95-95-4	2,4,5-Trichlorophenol	25	U
91-58-7	2-Chloronaphthalene	10	U
88-74-4	2-Nitroaniline	25	U
131-11-3	Dimethylphthalate	10	U
208-96-8	Acenaphthylene	10	U
606-20-2	2,6-Dinitrotoluene	10	U
99-09-2	3-Nitroaniline	25	U
83-32-9	Acenaphthene	41	Z

Z: SPIKE COMPOUND

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

SBLKMAMS

Lab Name: Recra.LabNet Work Order: 01667600001

Client: NYSDEC

Matrix: (soil/water) WATER Lab Sample ID: 00LE0204-MB1_BS

Sample wt/vol: 1000 (g/mL) ML Lab File ID: A032703

Level: (low/med) LOW Date Received: 03/01/00

% Moisture: _____ decanted: (Y/N)__ Date Extracted: 03/01/00

Concentrated Extract Volume: 1000(uL) Date Analyzed: 03/27/00

Injection Volume: 2.0(uL) Dilution Factor: 1.00

GPC Cleanup: (Y/N) N pH: 7.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
51-28-5	2,4-Dinitrophenol	25	U
100-02-7	4-Nitrophenol	95	Z
132-64-9	Dibenzofuran	10	U
121-14-2	2,4-Dinitrotoluene	46	Z
84-66-2	Diethylphthalate	10	U
7005-72-3	4-Chlorophenyl-phenylether	10	U
86-73-7	Fluorene	10	U
100-01-6	4-Nitroaniline	25	U
534-52-1	4,6-Dinitro-2-methylphenol	25	U
86-30-6	N-Nitrosodiphenylamine (1)	10	U
101-55-3	4-Bromophenyl-phenylether	10	U
118-74-1	Hexachlorobenzene	10	U
87-86-5	Pentachlorophenol	83	Z
85-01-8	Phenanthrene	10	U
120-12-7	Anthracene	10	U
86-74-8	Carbazole	10	U
84-74-2	Di-n-butylphthalate	10	U
206-44-0	Fluoranthene	10	U
129-00-0	Pyrene	39	Z
85-68-7	Butylbenzylphthalate	10	U
91-94-1	3,3'-Dichlorobenzidine	10	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	Dibenz(a,h)anthracene	10	U
191-24-2	Benzo(g,h,i)perylene	10	U

(1) - Cannot be separated from Diphenylamine

Z: SPIKE COMPOUND FORM 1 SV-2 RFW (v3.3)

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

SH800-02323-B70624MS

Lab Name: Recra.LabNet Work Order: 01667600001

Client: NYSDEC

Matrix: (soil/water) WATER Lab Sample ID: 0002L553-003 MS

Sample wt/vol: 960 (g/mL) ML Lab File ID: A032509

Level: (low/med) LOW Date Received: 02/25/00

% Moisture: _____ decanted: (Y/N)__ Date Extracted: 03/01/00

Concentrated Extract Volume: 1000(uL) Date Analyzed: 03/25/00

Injection Volume: 2.0(uL) Dilution Factor: 1.00

GPC Cleanup: (Y/N) N pH: 7.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
108-95-2	Phenol	62	Z
111-44-4	bis(2-Chloroethyl)ether	10	U
95-57-8	2-Chlorophenol	64	Z
541-73-1	1,3-Dichlorobenzene	10	U
106-46-7	1,4-Dichlorobenzene	40	Z
95-50-1	1,2-Dichlorobenzene	10	U
95-48-7	2-Methylphenol	10	U
108-60-1	2,2'-oxybis(1-Chloropropane)	10	U
106-44-5	4-Methylphenol	3	J
621-64-7	N-Nitroso-di-n-propylamine	51	Z
67-72-1	Hexachloroethane	10	U
98-95-3	Nitrobenzene	10	U
78-59-1	Isophorone	10	U
88-75-5	2-Nitrophenol	10	U
105-67-9	2,4-Dimethylphenol	10	U
111-91-1	bis(2-Chloroethoxy)methane	10	U
120-83-2	2,4-Dichlorophenol	10	U
120-82-1	1,2,4-Trichlorobenzene	43	Z
91-20-3	Naphthalene	2	J
106-47-8	4-Chloroaniline	10	U
87-68-3	Hexachlorobutadiene	10	U
59-50-7	4-Chloro-3-methylphenol	76	Z
91-57-6	2-Methylnaphthalene	0.6	J
77-47-4	Hexachlorocyclopentadiene	10	U
88-06-2	2,4,6-Trichlorophenol	10	U
95-95-4	2,4,5-Trichlorophenol	26	U
91-58-7	2-Chloronaphthalene	10	U
88-74-4	2-Nitroaniline	26	U
131-11-3	Dimethylphthalate	10	U
208-96-8	Acenaphthylene	10	U
606-20-2	2,6-Dinitrotoluene	10	U
99-09-2	3-Nitroaniline	26	U
83-32-9	Acenaphthene	48	Z

Z: SPIKE COMPOUND FORM 1 SV-1 RFW (v3.3)

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

SH800-02323-B70624MS

Lab Name: Recra.LabNet Work Order: 01667600001

Client: NYSDEC

Matrix: (soil/water) WATER Lab Sample ID: 0002L553-003 MS

Sample wt/vol: 960 (g/mL) ML Lab File ID: A032509

Level: (low/med) LOW Date Received: 02/25/00

% Moisture: _____ decanted: (Y/N)__ Date Extracted: 03/01/00

Concentrated Extract Volume: 1000(uL) Date Analyzed: 03/25/00

Injection Volume: 2.0(uL) Dilution Factor: 1.00

GPC Cleanup: (Y/N) N pH: 7.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
51-28-5	2,4-Dinitrophenol	26	U
100-02-7	4-Nitrophenol	92	Z
132-64-9	Dibenzofuran	0.8	J
121-14-2	2,4-Dinitrotoluene	49	Z
84-66-2	Diethylphthalate	10	U
7005-72-3	4-Chlorophenyl-phenylether	10	U
86-73-7	Fluorene	1	J
100-01-6	4-Nitroaniline	26	U
534-52-1	4,6-Dinitro-2-methylphenol	26	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	110	Z
85-01-8	Phenanthrene	0.7	J
120-12-7	Anthracene	10	U
86-74-8	Carbazole	1	J
84-74-2	Di-n-butylphthalate	10	U
206-44-0	Fluoranthene	0.6	J
129-00-0	Pyrene	51	Z
85-68-7	Butylbenzylphthalate	10	U
91-94-1	3,3'-Dichlorobenzidine	10	U
56-55-3	Benzo(a)anthracene	10	U
218-01-9	Chrysene	10	U
117-81-7	bis(2-Ethylhexyl)phthalate	1	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	Dibenz(a,h)anthracene	10	U
191-24-2	Benzo(g,h,i)perylene	10	U

(1) - Cannot be separated from Diphenylamine

Z: SPIKE COMPOUND

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

SH800-02323-B70624MSD

Lab Name: Recra.LabNet Work Order: 01667600001

Client: NYSDEC

Matrix: (soil/water) WATER Lab Sample ID: 0002L553-003 MSD

Sample wt/vol: 960 (g/mL) ML Lab File ID: A032510

Level: (low/med) LOW Date Received: 02/25/00

% Moisture: _____ decanted: (Y/N)__ Date Extracted: 03/01/00

Concentrated Extract Volume: 1000(uL) Date Analyzed: 03/25/00

Injection Volume: 2.0(uL) Dilution Factor: 1.00

GPC Cleanup: (Y/N) N pH: 7.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
108-95-2	Phenol	60	Z
111-44-4	bis(2-Chloroethyl)ether	10	U
95-57-8	2-Chlorophenol	61	Z
541-73-1	1,3-Dichlorobenzene	10	U
106-46-7	1,4-Dichlorobenzene	37	Z
95-50-1	1,2-Dichlorobenzene	10	U
95-48-7	2-Methylphenol	10	U
108-60-1	2,2'-oxybis(1-Chloropropane)	10	U
106-44-5	4-Methylphenol	1	J
621-64-7	N-Nitroso-di-n-propylamine	46	Z
67-72-1	Hexachloroethane	10	U
98-95-3	Nitrobenzene	10	U
78-59-1	Isophorone	10	U
88-75-5	2-Nitrophenol	10	U
105-67-9	2,4-Dimethylphenol	10	U
111-91-1	bis(2-Chloroethoxy)methane	10	U
120-83-2	2,4-Dichlorophenol	10	U
120-82-1	1,2,4-Trichlorobenzene	41	Z
91-20-3	Naphthalene	1	J
106-47-8	4-Chloroaniline	10	U
87-68-3	Hexachlorobutadiene	10	U
59-50-7	4-Chloro-3-methylphenol	73	Z
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	26	U
91-58-7	2-Chloronaphthalene	10	U
88-74-4	2-Nitroaniline	26	U
131-11-3	Dimethylphthalate	10	U
208-96-8	Acenaphthylene	10	U
606-20-2	2,6-Dinitrotoluene	10	U
99-09-2	3-Nitroaniline	26	U
83-32-9	Acenaphthene	46	Z

Z: SPIKE COMPOUND

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

SH800-02323-B70624MSD

Lab Name: Recra.LabNet Work Order: 01667600001

Client: NYSDEC

Matrix: (soil/water) WATER Lab Sample ID: 0002L553-003 MSD

Sample wt/vol: 960 (g/mL) ML Lab File ID: A032510

Level: (low/med) LOW Date Received: 02/25/00

% Moisture: _____ decanted: (Y/N)__ Date Extracted: 03/01/00

Concentrated Extract Volume: 1000(uL) Date Analyzed: 03/25/00

Injection Volume: 2.0(uL) Dilution Factor: 1.00

GPC Cleanup: (Y/N) N pH: 7.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
51-28-5	2,4-Dinitrophenol	26	U
100-02-7	4-Nitrophenol	92	Z
132-64-9	Dibenzofuran	0.7	J
121-14-2	2,4-Dinitrotoluene	49	Z
84-66-2	Diethylphthalate	10	U
7005-72-3	4-Chlorophenyl-phenylether	10	U
86-73-7	Fluorene	1	J
100-01-6	4-Nitroaniline	26	U
534-52-1	4,6-Dinitro-2-methylphenol	26	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	100	Z
85-01-8	Phenanthrene	10	U
120-12-7	Anthracene	10	U
86-74-8	Carbazole	1	J
84-74-2	Di-n-butylphthalate	10	U
206-44-0	Fluoranthene	0.5	J
129-00-0	Pyrene	49	Z
85-68-7	Butylbenzylphthalate	10	U
91-94-1	3,3'-Dichlorobenzidine	10	U
56-55-3	Benzo(a)anthracene	10	U
218-01-9	Chrysene	10	U
117-81-7	bis(2-Ethylhexyl)phthalate	0.7	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	Dibenz(a,h)anthracene	10	U
191-24-2	Benzo(g,h,i)perylene	10	U

(1) - Cannot be separated from Diphenylamine

Z: SPIKE COMPOUND FORM 1 SV-2 RFW (v3.3)

Case Narrative

RECRA
ENVIRONMENTAL
INC.

Chemical and Environmental Measurement Information

Recra LabNet Philadelphia
Analytical Report

Client: NYSDEC
RFW #: 0002L553
ELAP #: 10752

W.O.#: 01667-600-001-9999-00
Date Received: 02-25-2000

GC/MS VOLATILE

Five (5) water samples were collected on 02-23,25-2000.

The samples and their associated QC samples were analyzed according to criteria set forth in NYSDEC ASP (Rev. 10-95) for TCL Volatile target compounds on 02-29-2000.

The following is a summary of the QC results accompanying these sample results and a description of any problems encountered during their analyses:

1. The cooler temperature upon receipt has been recorded on the chain-of-custody.

2. The required holding time for analysis was met.

3. Non-target compounds were detected in sample SH800-02323-B70623.

4. All surrogate recoveries were within EPA QC limits.

5. All matrix spike recoveries were within EPA QC limits.

6. All blank spike recoveries were within EPA QC limits.

7. The method blank contained the common laboratory contaminants Methylene Chloride and Acetone at levels less than the CRQL.

8. All internal standard area and retention time criteria were met.

9. The water analyses were performed with the method enhancement of a 40°C heated purge to standardize the purge temperature and improve overall purging efficiency.

10. Manual integrations are performed according to OP L-QA-125 to produce quality data with the utmost integrity. All manual integrations are required to be technically valid and properly documented. Appropriate technical flags are defined in Section III ("Technical Flags For Manual Integration"); hard copies of the integrations have been included with the quantitation data.

11. 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 hard copy 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.

By _____ 03-27-00

J. Michael Taylor
Vice President
Philadelphia Analytical Laboratory

Date

som\group\data\woa\nysdec-02-553.doc

208 Welsh Pool Road • Lionville, PA 19341-1333 • (610) 280-3000 • Fax (610) 280-3041

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 under the following circumstances: 1) when estimating a concentration for tentatively identified compounds (TICs) where a 1:1 response is assumed; or 2) 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.

D = Identifies all compounds identified in an analysis at a secondary dilution factor.

I = Interference.

NQ = Result qualitatively confirmed but not able to quantify.

N = Indicates presumptive evidence of a compound. This flag is only used for tentatively identified compounds (TICs), where the identification is based on a mass spectral library search. It is applied to all TIC results. For generic characterization of a TIC, such as chlorinated hydrocarbon, the N code is not used.

X = This flag is used for a TIC compound which is quantified relative to a response factor generated from a daily calibration standard (rather than quantified relative to the closest internal standard).

Y = Additional qualifiers used as required are explained in the case narrative.

GLOSSARY OF VOA DATA

ABBREVIATIONS

BS	=	Indicates blank spike in which reagent grade water is spiked with the CLP matrix spike 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	=	Suffix added to sample number to indicate that results are from a diluted analysis.
NA	=	Not Applicable.
DF	=	Dilution Factor.
NR	=	Not Required.
SP, Z	=	Indicates Spiked Compound.

TECHNICAL FLAGS FOR MANUAL INTEGRATION

Manual quan modifications or integrations are performed routinely to improve the data quality for a variety of technical reasons. Documentation of these modifications should be clear and concise. The following "flags" are used to indicate the technical reasons for quan modifications:

MP - Missed Peak: manually added peak not found by automatic quan program.

PA - Peak Assignment: quan report was changed to reflect correct peak assignment.

RI - Routine Integration: routine integrations are performed for some analytes that are consistently integrated improperly by the automatic integration programs. Examples are the dichlorobenzene isomers on the VOA packed column and benzo(b)fluoranthene/benzo(k)fluoranthene which are poorly resolved on the BNA column.

SP - Split Peak: the automatic integration improperly split the peak; a manual integration was performed to get the correct area.

CB - Coelution/Background: peak was manually integrated to eliminate contribution from coeluting compounds, background signal, or other interference.

PI - Proper Integration: a peak with poor or inconsistent integration (e.g., excessive tail) was properly integrated manually.

RECRA LabNet Use Only

00021553

ALL

J092 870 673 4

8.2

Custody Transfer Record/Lab Work Request

Page 1 of 1

RECRA LabNet

FIELD PERSONNEL: COMPLETE ONLY SHADED AREAS

Client NYSDEC

Est. Final Proj. Sampling Date 2/23/00

Project # B706 011607-6000-001-9999-00

Project Contact/Phone # FRANK SWARTS 716 226 5357

RECRA Project Manager JS

QC CP Del CP TAT 30day

Date Rec'd 2-25-00 Date Due 3-26-00

Account #

Refrigerator #		1	4			4			4					
#/Type Container	Liquid	2CC	1AG	1AG	1AG	1AG	1AG		1PL		1L		1L	
	Solid													
Volume	Liquid	40	950	950	950	950	950		1LT.		1LT		1L	
	Solid													
Preservatives		HCL	—	—	—	H2SO4	—		HNO3		—		—	

ANALYSES REQUESTED → ORGANIC: VOA, 625 BNA, Pest/PCB, Herb, TPH, TCLP BNA; INORG: Metal, CN

RECRA LabNet Use Only

MATRIX CODES: S - Soil, SE - Sediment, SO - Solid, SL - Sludge, W - Water, O - Oil, A - Air, DS - Drum Solids, DL - Drum Liquids, L - EP/TCLP Leachate, WI - Wipe, X - Other, F - Fish	Lab ID	Client ID/Description SH800-02323-	Matrix QC Chosen (✓) MS	MSD	Matrix	Date Collected	Time Collected												
	001	B70622			W	2/23/00	1150	✓2	✓1			✓1			✓1				
	002	B70623	X	X	W	"	1230	✓2	✓1			✓1			✓1				
	003	B70624	✓	✓	W	"	1215	✓6	✓3			✓3			✓3				
	~~004~~	~~B70625~~			~~W/DE~~		~~1100~~	~~4~~	~~2~~			~~2~~			~~1~~				
	~~005~~	~~B70626~~			~~W/DE~~	"	~~1110~~	~~4~~	~~2~~			~~2~~			~~1~~				
	006	VOA-T.B			a	—	—	2											
	007	VOA-R.B			1	2-25-00	0945	2											

Special Instructions:

* SEE NYSDEC CONTRACT LAB SHEETS (ATTACHED)

DATE/REVISIONS:

005 1. Rec'd 2EA Added to COC.

007 2. 1 1 1 VOA R.B.

3.

4.

5.

6.

RECRA LabNet Use Only

Samples were: 1) Shipped ✓ or Hand Delivered ___ Airbill # See Below

2) Ambient or (Chilled)

3) Received in Good Condition (Y) or N

4) Labels Indicate Properly Preserved (Y) or N

5) Received Within Holding Times (Y) or N

COC Tape was: 1) Present on Outer Package (Y) or N; 2) Unbroken on Outer Package (Y) or N; 3) Present on Sample Y or (N); 4) Unbroken on Sample Y or N

COC Record Present Upon Sample Rec't (Y) or N

Cooler Temp. 7.0 °C

Relinquished by	Received by	Date	Time
N Long		2/24/00	1400
UPS	V Hennessy		0920

Relinquished by	Received by	Date	Time

Discrepancies Between Samples Labels and COC Record? Y or (N)

NOTES:

3A

WATER VOLATILE MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

Lab Name: Recra.LabNet Contract: 1667-00-01

Lab Code: Recra Case No.: _____ SAS No.: _____ SDG No.: _____

MATRIX Spike - EPA Sample No.: SH800-02323-B

COMPOUND	SPIKE ADDED ug/L	SAMPLE CONCENTRATION ug/L	MS CONCENTRATION ug/L	MS % REC #	QC LIMITS REC.
1,1-Dichloroethene	50.0	0	49.7	99	61 -145
Trichloroethene	50.0	0	49.1	98	71 -120
Benzene	50.0	0	50.9	102	76 -127
Toluene	50.0	0	50.6	101	76 -125
Chlorobenzene	50.0	0	49.5	99	75 -130

COMPOUND	SPIKE ADDED ug/L	MSD CONCENTRATION ug/L	MSD % REC #	% RPD #	QC LIMITS RPD	QC LIMITS REC
1,1-Dichloroethene	50.0	50.0	100	1	14	61 -145
Trichloroethene	50.0	49.4	99	1	14	71 -120
Benzene	50.0	51.0	102	0	11	76 -127
Toluene	50.0	51.3	103	1	13	76 -125
Chlorobenzene	50.0	49.6	99	0	13	75 -130

Column to be used to flag recovery and RPD values with an asterisk

* Values outside of QC limits

RPD: 0 out of 5 outside limits
Spike Recovery: 0 out of 10 outside limits

COMMENTS: _____

3A

WATER VOLATILE MATRIX SPIKE RECOVERY

Lab Name: Recra.LabNet Contract: 1667-00-01

Lab Code: Recra Case No.: _____ SAS No.: _____ SDG No.: _____

MATRIX Spike - EPA Sample No.: VBLKPX_____

COMPOUND	SPIKE ADDED ug/L	SAMPLE CONCENTRATION ug/L	MS CONCENTRATION ug/L	MS % REC #	QC LIMITS REC.
1,1-Dichloroethene_____	50.0	0	47.8	96	61 -145
Trichloroethene_____	50.0	0	48.4	97	71 -120
Benzene_____	50.0	0	49.1	98	76 -127
Toluene_____	50.0	0	49.7	99	76 -125
Chlorobenzene_____	50.0	0	49.2	98	75 -130

Column to be used to flag recovery value with an asterisk

* Values outside of QC limits

Spike Recovery: 0 out of 5 outside limits

COMMENTS: _____

_____

Sample Data, for each Sample

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

SH800-02323-B70622

Lab Name: Recra.LabNet Contract: 01667600001

Lab Code: Recra Case No.: _____ SAS No.: _____ SDG No.: _____

Matrix: (soil/water) WATER Lab Sample ID: 0002L553-001

Sample wt/vol: 5.00 (g/mL) ML Lab File ID: h022908

Level: (low/med) LOW Date Received: 02/25/00

% Moisture: not dec. _____ Date Analyzed: 02/29/00

GC Column: ID: _____(mm) Dilution Factor: 1.00

Soil Extract Volume: _____(uL) Soil Aliquot Volume: _____(uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
74-87-3	Chloromethane	10	U
74-83-9	Bromomethane	10	U
75-01-4	Vinyl Chloride	10	U
75-00-3	Chloroethane	10	U
75-09-2	Methylene Chloride	8	JB
67-64-1	Acetone	10	U
75-15-0	Carbon Disulfide	10	U
75-35-4	1,1-Dichloroethene	10	U
75-34-3	1,1-Dichloroethane	10	U
540-59-0	1,2-Dichloroethene (total)	10	U
67-66-3	Chloroform	10	U
107-06-2	1,2-Dichloroethane	10	U
78-93-3	2-Butanone	10	U
71-55-6	1,1,1-Trichloroethane	10	U
56-23-5	Carbon Tetrachloride	10	U
75-27-4	Bromodichloromethane	10	U
78-87-5	1,2-Dichloropropane	10	U
10061-01-5	cis-1,3-Dichloropropene	10	U
79-01-6	Trichloroethene	10	U
124-48-1	Dibromochloromethane	10	U
79-00-5	1,1,2-Trichloroethane	10	U
71-43-2	Benzene	10	U
10061-02-6	Trans-1,3-Dichloropropene	10	U
75-25-2	Bromoform	10	U
108-10-1	4-Methyl-2-pentanone	10	U
591-78-6	2-Hexanone	10	U
127-18-4	Tetrachloroethene	10	U
79-34-5	1,1,2,2-Tetrachloroethane	10	U
108-88-3	Toluene	10	U
108-90-7	Chlorobenzene	10	U
100-41-4	Ethylbenzene	10	U
100-42-5	Styrene	10	U
1330-20-7	Xylene (total)	10	U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

SH800-02323-B70622

Lab Name: Recra.LabNet Contract: 01667600001

Lab Code: Recra Case No.: _____ SAS No.: _____ SDG No.: _____

Matrix: (soil/water) WATER Lab Sample ID: 0002L553-001

Sample wt/vol: 5.00 (g/mL) ML Lab File ID: h022908

Level: (low/med) LOW Date Received: 02/25/00

% Moisture: not dec. _____ Date Analyzed: 02/29/00

GC Column: ID: ____(mm) Dilution Factor: 1.00

Soil Extract Volume: _____(uL) Soil Aliquot Volume: _____(uL)

Number TICs found: 0

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.				

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

SH800-02323-B70623

Lab Name: Recra.LabNet Contract: 01667600001

Lab Code: Recra Case No.: _____ SAS No.: _____ SDG No.: _____

Matrix: (soil/water) WATER Lab Sample ID: 0002L553-002

Sample wt/vol: 5.00 (g/mL) ML Lab File ID: h022909

Level: (low/med) LOW Date Received: 02/25/00

% Moisture: not dec. _____ Date Analyzed: 02/29/00

GC Column: ID: ____(mm) Dilution Factor: 1.00

Soil Extract Volume: _____(uL) Soil Aliquot Volume: _____(uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
74-87-3	Chloromethane	10	U
74-83-9	Bromomethane	10	U
75-01-4	Vinyl Chloride	10	U
75-00-3	Chloroethane	10	U
75-09-2	Methylene Chloride	8	JB
67-64-1	Acetone	28	B
75-15-0	Carbon Disulfide	10	U
75-35-4	1,1-Dichloroethene	10	U
75-34-3	1,1-Dichloroethane	7	J
540-59-0	1,2-Dichloroethene (total)	10	U
67-66-3	Chloroform	10	U
107-06-2	1,2-Dichloroethane	10	U
78-93-3	2-Butanone	10	U
71-55-6	1,1,1-Trichloroethane	10	U
56-23-5	Carbon Tetrachloride	10	U
75-27-4	Bromodichloromethane	10	U
78-87-5	1,2-Dichloropropane	10	U
10061-01-5	cis-1,3-Dichloropropene	10	U
79-01-6	Trichloroethene	10	U
124-48-1	Dibromochloromethane	10	U
79-00-5	1,1,2-Trichloroethane	2	J
71-43-2	Benzene	95	
10061-02-6	Trans-1,3-Dichloropropene	10	U
75-25-2	Bromoform	10	U
108-10-1	4-Methyl-2-pentanone	10	U
591-78-6	2-Hexanone	10	U
127-18-4	Tetrachloroethene	10	U
79-34-5	1,1,2,2-Tetrachloroethane	10	U
108-88-3	Toluene	4	J
108-90-7	Chlorobenzene	10	U
100-41-4	Ethylbenzene	49	
100-42-5	Styrene	10	U
1330-20-7	Xylene (total)	190	

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

SH800-02323-B70623

Lab Name: Recra.LabNet Contract: 01667600001

Lab Code: Recra Case No.: _____ SAS No.: _____ SDG No.: _____

Matrix: (soil/water) WATER Lab Sample ID: 0002L553-002

Sample wt/vol: 5.00 (g/mL) ML Lab File ID: h022909

Level: (low/med) LOW Date Received: 02/25/00

% Moisture: not dec. _____ Date Analyzed: 02/29/00

GC Column: ID: ____(mm) Dilution Factor: 1.00

Soil Extract Volume: _____(uL) Soil Aliquot Volume: _____(uL)

Number TICs found: 11

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.		ALKANE	7.196	80	J
2.		ALKANE	8.282	70	J
3.		UNKNOWN	11.017	70	J
4.		CYCLOALKANE	14.462	100	J
5.		CYCLOALKANE	16.368	100	J
6.		UNKNOWN	21.452	20	J
7.		C3-ALKYLBENZENE	23.101	30	J
8.		C3-ALKYLBENZENE	23.249	80	J
9.		UNKNOWN	23.683	30	J
10.		C3-ALKYLBENZENE	23.920	50	J
11.		C4-ALKYLBENZENE	26.319	20	J

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

SH800-02323-B70624

Lab Name: Recra.LabNet Contract: 01667600001

Lab Code: Recra Case No.: _____ SAS No.: _____ SDG No.: _____

Matrix: (soil/water) WATER Lab Sample ID: 0002L553-003

Sample wt/vol: 5.00 (g/mL) ML Lab File ID: h022910

Level: (low/med) LOW Date Received: 02/25/00

% Moisture: not dec. _____ Date Analyzed: 02/29/00

GC Column: ID: ____(mm) Dilution Factor: 1.00

Soil Extract Volume: _____(uL) Soil Aliquot Volume: _____(uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
74-87-3	Chloromethane	10	U
74-83-9	Bromomethane	10	U
75-01-4	Vinyl Chloride	10	U
75-00-3	Chloroethane	10	U
75-09-2	Methylene Chloride	8	JB
67-64-1	Acetone	14	B
75-15-0	Carbon Disulfide	10	U
75-35-4	1,1-Dichloroethene	10	U
75-34-3	1,1-Dichloroethane	13	
540-59-0	1,2-Dichloroethene (total)	10	U
67-66-3	Chloroform	10	U
107-06-2	1,2-Dichloroethane	10	U
78-93-3	2-Butanone	10	U
71-55-6	1,1,1-Trichloroethane	10	U
56-23-5	Carbon Tetrachloride	10	U
75-27-4	Bromodichloromethane	10	U
78-87-5	1,2-Dichloropropane	10	U
10061-01-5	cis-1,3-Dichloropropene	10	U
79-01-6	Trichloroethene	10	U
124-48-1	Dibromochloromethane	10	U
79-00-5	1,1,2-Trichloroethane	10	U
71-43-2	Benzene	10	U
10061-02-6	Trans-1,3-Dichloropropene	10	U
75-25-2	Bromoform	10	U
108-10-1	4-Methyl-2-pentanone	10	U
591-78-6	2-Hexanone	10	U
127-18-4	Tetrachloroethene	10	U
79-34-5	1,1,2,2-Tetrachloroethane	10	U
108-88-3	Toluene	10	U
108-90-7	Chlorobenzene	10	U
100-41-4	Ethylbenzene	10	U
100-42-5	Styrene	10	U
1330-20-7	Xylene (total)	10	U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

SH800-02323-B70624

Lab Name: Recra.LabNet Contract: 01667600001

Lab Code: Recra Case No.: _____ SAS No.: _____ SDG No.: _____

Matrix: (soil/water) WATER Lab Sample ID: 0002L553-003

Sample wt/vol: 5.00 (g/mL) ML Lab File ID: h022910

Level: (low/med) LOW Date Received: 02/25/00

% Moisture: not dec. _____ Date Analyzed: 02/29/00

GC Column: ID: ____(mm) Dilution Factor: 1.00

Soil Extract Volume: _____(uL) Soil Aliquot Volume: _____(uL)

Number TICs found: 0

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.				

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

TRIP BLANK

Lab Name: Recra.LabNet Contract: 01667600001

Lab Code: Recra Case No.: _____ SAS No.: _____ SDG No.: _____

Matrix: (soil/water) WATER Lab Sample ID: 0002L553-006

Sample wt/vol: 5.00 (g/mL) ML Lab File ID: h022911

Level: (low/med) LOW Date Received: 02/25/00

% Moisture: not dec. _____ Date Analyzed: 02/29/00

GC Column: ID: _____(mm) Dilution Factor: 1.00

Soil Extract Volume: _____(uL) Soil Aliquot Volume: _____(uL)

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

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

TRIP BLANK

Lab Name: Recra.LabNet Contract: 01667600001

Lab Code: Recra Case No.: _____ SAS No.: _____ SDG No.: _____

Matrix: (soil/water) WATER Lab Sample ID: 0002L553-006

Sample wt/vol: 5.00 (g/mL) ML Lab File ID: h022911

Level: (low/med) LOW Date Received: 02/25/00

% Moisture: not dec. _____ Date Analyzed: 02/29/00

GC Column: ID: _____(mm) Dilution Factor: 1.00

Soil Extract Volume: _____(uL) Soil Aliquot Volume: _____(uL)

Number TICs found: 0 CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.				

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

REFRIG BLANK

Lab Name: Recra.LabNet Contract: 01667600001

Lab Code: Recra Case No.: _____ SAS No.: _____ SDG No.: _____

Matrix: (soil/water) WATER Lab Sample ID: 0002L553-007

Sample wt/vol: 5.00 (g/mL) ML Lab File ID: h022912

Level: (low/med) LOW Date Received: 02/25/00

% Moisture: not dec. _____ Date Analyzed: 02/29/00

GC Column: ID: ____(mm) Dilution Factor: 1.00

Soil Extract Volume: _____(uL) Soil Aliquot Volume: _____(uL)

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

1E

EPA SAMPLE NO.

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

REFRIG BLANK

Lab Name: Recra.LabNet Contract: 01667600001

Lab Code: Recra Case No.: _____ SAS No.: _____ SDG No.: _____

Matrix: (soil/water) WATER Lab Sample ID: 0002L553-007

Sample wt/vol: 5.00 (g/mL) ML Lab File ID: h022912

Level: (low/med) LOW Date Received: 02/25/00

% Moisture: not dec. _____ Date Analyzed: 02/29/00

GC Column: ID: _____(mm) Dilution Factor: 1.00

Soil Extract Volume: _____(uL) Soil Aliquot Volume: _____(uL)

Number TICs found: 0

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.				

Raw QC Data: Tune, Blank and Spike Data

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

VBLKPX

Lab Name: Recra.LabNet Contract: 01667600001

Lab Code: Recra Case No.: _____ SAS No.: _____ SDG No.: _____

Matrix: (soil/water) WATER Lab Sample ID: 00LVH095-MB1

Sample wt/vol: 5.00 (g/mL) ML Lab File ID: h022905

Level: (low/med) LOW Date Received: 02/29/00

% Moisture: not dec. _____ Date Analyzed: 02/29/00

GC Column: ID: _____(mm) Dilution Factor: 1.00

Soil Extract Volume: _____(uL) Soil Aliquot Volume: _____(uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
74-87-3	Chloromethane	10	U
74-83-9	Bromomethane	10	U
75-01-4	Vinyl Chloride	10	U
75-00-3	Chloroethane	10	U
75-09-2	Methylene Chloride	8	J
67-64-1	Acetone	8	J
75-15-0	Carbon Disulfide	10	U
75-35-4	1,1-Dichloroethene	10	U
75-34-3	1,1-Dichloroethane	10	U
540-59-0	1,2-Dichloroethene (total)	10	U
67-66-3	Chloroform	10	U
107-06-2	1,2-Dichloroethane	10	U
78-93-3	2-Butanone	10	U
71-55-6	1,1,1-Trichloroethane	10	U
56-23-5	Carbon Tetrachloride	10	U
75-27-4	Bromodichloromethane	10	U
78-87-5	1,2-Dichloropropane	10	U
10061-01-5	cis-1,3-Dichloropropene	10	U
79-01-6	Trichloroethene	10	U
124-48-1	Dibromochloromethane	10	U
79-00-5	1,1,2-Trichloroethane	10	U
71-43-2	Benzene	10	U
10061-02-6	Trans-1,3-Dichloropropene	10	U
75-25-2	Bromoform	10	U
108-10-1	4-Methyl-2-pentanone	10	U
591-78-6	2-Hexanone	10	U
127-18-4	Tetrachloroethene	10	U
79-34-5	1,1,2,2-Tetrachloroethane	10	U
108-88-3	Toluene	10	U
108-90-7	Chlorobenzene	10	U
100-41-4	Ethylbenzene	10	U
100-42-5	Styrene	10	U
1330-20-7	Xylene (total)	10	U

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

VBLKPXMS

Lab Name: Recra.LabNet Contract: 01667600001

Lab Code: Recra Case No.: _____ SAS No.: _____ SDG No.: _____

Matrix: (soil/water) WATER Lab Sample ID: 00LVH095-MB1 BS

Sample wt/vol: 5.00 (g/mL) ML Lab File ID: h022907

Level: (low/med) LOW Date Received: 02/29/00

% Moisture: not dec. _____ Date Analyzed: 02/29/00

GC Column: ID: ____(mm) Dilution Factor: 1.00

Soil Extract Volume: _____(uL) Soil Aliquot Volume: _____(uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
74-87-3	Chloromethane	10	U
74-83-9	Bromomethane	10	U
75-01-4	Vinyl Chloride	10	U
75-00-3	Chloroethane	10	U
75-09-2	Methylene Chloride	8	JB
67-64-1	Acetone	10	U
75-15-0	Carbon Disulfide	10	U
75-35-4	1,1-Dichloroethene	48	Z
75-34-3	1,1-Dichloroethane	10	U
540-59-0	1,2-Dichloroethene (total)	10	U
67-66-3	Chloroform	10	U
107-06-2	1,2-Dichloroethane	10	U
78-93-3	2-Butanone	10	U
71-55-6	1,1,1-Trichloroethane	10	U
56-23-5	Carbon Tetrachloride	10	U
75-27-4	Bromodichloromethane	10	U
78-87-5	1,2-Dichloropropane	10	U
10061-01-5	cis-1,3-Dichloropropene	10	U
79-01-6	Trichloroethene	48	Z
124-48-1	Dibromochloromethane	10	U
79-00-5	1,1,2-Trichloroethane	10	U
71-43-2	Benzene	49	Z
10061-02-6	Trans-1,3-Dichloropropene	10	U
75-25-2	Bromoform	10	U
108-10-1	4-Methyl-2-pentanone	10	U
591-78-6	2-Hexanone	10	U
127-18-4	Tetrachloroethene	10	U
79-34-5	1,1,2,2-Tetrachloroethane	10	U
108-88-3	Toluene	50	Z
108-90-7	Chlorobenzene	49	Z
100-41-4	Ethylbenzene	10	U
100-42-5	Styrene	10	U
1330-20-7	Xylene (total)	10	U

Z: SPIKE COMPOUND FORM 1 VOA 3/90

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

SH800-02323-B70624MS

Lab Name: Recra.LabNet Contract: 01667600001

Lab Code: Recra Case No.: _____ SAS No.: _____ SDG No.: _____

Matrix: (soil/water) WATER Lab Sample ID: 0002L553-003 MS

Sample wt/vol: 5.00 (g/mL) ML Lab File ID: h022913

Level: (low/med) LOW Date Received: 02/25/00

% Moisture: not dec. _____ Date Analyzed: 02/29/00

GC Column: ID: _____(mm) Dilution Factor: 1.00

Soil Extract Volume: _____(uL) Soil Aliquot Volume: _____(uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
74-87-3	Chloromethane	10	U
74-83-9	Bromomethane	10	U
75-01-4	Vinyl Chloride	10	U
75-00-3	Chloroethane	10	U
75-09-2	Methylene Chloride	8	JB
67-64-1	Acetone	10	U
75-15-0	Carbon Disulfide	10	U
75-35-4	1,1-Dichloroethene	50	Z
75-34-3	1,1-Dichloroethane	13	
540-59-0	1,2-Dichloroethene (total)	10	U
67-66-3	Chloroform	10	U
107-06-2	1,2-Dichloroethane	10	U
78-93-3	2-Butanone	10	U
71-55-6	1,1,1-Trichloroethane	10	U
56-23-5	Carbon Tetrachloride	10	U
75-27-4	Bromodichloromethane	10	U
78-87-5	1,2-Dichloropropane	10	U
10061-01-5	cis-1,3-Dichloropropene	10	U
79-01-6	Trichloroethene	49	Z
124-48-1	Dibromochloromethane	10	U
79-00-5	1,1,2-Trichloroethane	10	U
71-43-2	Benzene	51	Z
10061-02-6	Trans-1,3-Dichloropropene	10	U
75-25-2	Bromoform	10	U
108-10-1	4-Methyl-2-pentanone	10	U
591-78-6	2-Hexanone	10	U
127-18-4	Tetrachloroethene	10	U
79-34-5	1,1,2,2-Tetrachloroethane	10	U
108-88-3	Toluene	51	Z
108-90-7	Chlorobenzene	50	Z
100-41-4	Ethylbenzene	10	U
100-42-5	Styrene	10	U
1330-20-7	Xylene (total)	10	U

Z: SPIKE COMPOUND

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

SH800-02323-B70624MSD

Lab Name: Recra.LabNet Contract: 01667600001

Lab Code: Recra Case No.: _____ SAS No.: _____ SDG No.: _____

Matrix: (soil/water) WATER Lab Sample ID: 0002L553-003 MSD

Sample wt/vol: 5.00 (g/mL) ML Lab File ID: h022914

Level: (low/med) LOW Date Received: 02/25/00

% Moisture: not dec. _____ Date Analyzed: 02/29/00

GC Column: ID: ____(mm) Dilution Factor: 1.00

Soil Extract Volume: _____(uL) Soil Aliquot Volume: _____(uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
74-87-3	Chloromethane	10	U
74-83-9	Bromomethane	10	U
75-01-4	Vinyl Chloride	10	U
75-00-3	Chloroethane	10	U
75-09-2	Methylene Chloride	8	JB
67-64-1	Acetone	10	U
75-15-0	Carbon Disulfide	10	U
75-35-4	1,1-Dichloroethene	50	Z
75-34-3	1,1-Dichloroethane	12	
540-59-0	1,2-Dichloroethene (total)	10	U
67-66-3	Chloroform	10	U
107-06-2	1,2-Dichloroethane	10	U
78-93-3	2-Butanone	10	U
71-55-6	1,1,1-Trichloroethane	10	U
56-23-5	Carbon Tetrachloride	10	U
75-27-4	Bromodichloromethane	10	U
78-87-5	1,2-Dichloropropane	10	U
10061-01-5	cis-1,3-Dichloropropene	10	U
79-01-6	Trichloroethene	49	Z
124-48-1	Dibromochloromethane	10	U
79-00-5	1,1,2-Trichloroethane	10	U
71-43-2	Benzene	51	Z
10061-02-6	Trans-1,3-Dichloropropene	10	U
75-25-2	Bromoform	10	U
108-10-1	4-Methyl-2-pentanone	10	U
591-78-6	2-Hexanone	10	U
127-18-4	Tetrachloroethene	10	U
79-34-5	1,1,2,2-Tetrachloroethane	10	U
108-88-3	Toluene	51	Z
108-90-7	Chlorobenzene	50	Z
100-41-4	Ethylbenzene	10	U
100-42-5	Styrene	10	U
1330-20-7	Xylene (total)	10	U

Z: SPIKE COMPOUND

Recra LabNet Philadelphia

WET CHEMISTRY

METHODS GLOSSARY FOR WATER SAMPLE ANALYSIS

	EPA /600	SW846	OTHER
Acidity	___ 305.1		
___Alkalinity ___Bicarbonate ___Carbonate	___ 310.1		
BOD	___ 405.1		___ 5210B (b)
Ion Chormatography:			
___Bromide ___Chloride ___Fluoride	___ 300.0	___ 9056	
___Nitrate ___Nitrite ___Phosphate	___ 300.0	___ 9056	
___Sulfate ___Formate ___Acetate ___Oxalate	___ 300.0	___ 9056	
Chloride	___ 325.2	___ 9251	
Chorine, Residual	___ 330.5 (mod)		
Cyanide, Amenable to Chorination	___ 335.2	___ 9010B	
Cyanide, Total	___ 335.2	___ 9010B ____ 9014	___ ILMO4.0 (e)
Cyanide, Weak Acid Dissociable		___	___ 412 (a) ___ 4500CN-I (b)
COD	___ 410.4(mod)		___ 5220C (b)
Color	___ 110.2		
Corrosivity by Coupon		___ 1110(mod)	
Chromium VI		___ 7196A	___ 3500Cr-D (b)
Fluoride	___ 340.2		___ 4500-FC
Hardness, Calcium	___ 215.2		
Hardness, Total	___ 130.2		
Iodide			___ ASTM D19P202 (1)
Surfactant	___ 425.1		
___Nitrate-Nitrite ___Nitrate ___Nitrite	___ 353.2		
Ammonia	___ 350.3		
Total___ Kjeldahl ___ Organic Nitrogen	___ 351.4		
Total___ Organic ___ Inorganic Carbon	___ 415.1	___ 9060	
Oil & Grease	___ 413.1	___ 9070	
___ pH ____ pH; paper	___ 150.1	___ 9040B __ 9041A	
Petroleum Hydrocarbons, Total Recoverable	✓ 418.1		
Phenol	___ 420.1 __ 420.2	___ 9065 ___ 9066	
___Ortho ___Total Phosphate	___ 365.2		___ 4500-P B ___ C
Salinity			___ 210A (a) ___ 2520 (b)
Settleable Solids	___ 160.5		
Sulfide	___ 376.1 __ 376.2	___ 9030B/9034 (acid soluble)	
Reactive ___Cyanide ___Sulfide		___ Section 7.3	
Silica	___ 370.1		
Sulfite	___ 377.1		
Sulfate	___ 375.4	___ 9038	
Specific Conductance	___ 120.1	___ 9050A	
Specific Gravity			___ D5057-90 ___ 213E (a)
Synthetic Precipitation Leach		__ 1312	
Total ___Dissolved __Suspended ___Solids	160 ___.1 ___.2 ___.3		
Total Organic Halides	___ 450.1	___ 9020B	
Turbidity	___ 180.1		
Volatile Solids:			
__Total __Dissolved __Suspended	___ 160.4		
Other:		**Method:**	

002

Recra LabNet Philadelphia

METHOD REFERENCES AND DATA QUALIFIERS

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.

ABBREVIATIONS

MB = Method or Preparation Blank.
MS = Matrix Spike.
MSD = Matrix Spike Duplicate.
REP = Sample Replicate
LC = Laboratory Control Sample.
NC = Not calculated.

A suffix of -R, -S, or -T following these codes indicate a replicate, spike or sample duplicate analysis respectively.

ANALYTICAL WET CHEMISTRY METHODS

1. ASTM Standard Methods.

2. USEPA Methods for Chemical Analysis of Water and Wastes (USEPA 600/4-79-020).

3. Test Methods for Evaluating Solid Waste (USEPA SW-846).

a. Standard Methods for the Examination of Water and Waste, 16 ed, (1983).

b. Standard Methods for the Examination of Water and Waste, 17 ed, (1989)/18ed (1992).

c. Method of Soil Analysis, Part 1, Physical and Mineralogical Methods, 2nd ed, (1986).

d. Method of Soil Analysis, Part 2, Chemical and Microbiological Properties, Am. Soc. Agron., Madison, WI (1965).

e. USEPA Contract Laboratory Program, Statement of Work for Inorganic Analysis.

f. Code of Federal Regulations.

Recra LabNet - Lionville

INORGANICS DATA SUMMARY REPORT 03/24/00

CLIENT: NYSDEC

RECRA LOT #: 0002L553

WORK ORDER: 01667-600-001-9999-00

SAMPLE	SITE ID	ANALYTE	RESULT	UNITS	REPORTING LIMIT	DILUTION FACTOR
-001	SH800-02323-B70622	Petroleum Hydrocarbons	1.1 u	MG/L	1.1	1.0
-002	SH800-02323-B70623	Petroleum Hydrocarbons	3.7	MG/L	1.1	1.0
-003	SH800-02323-B70624	Petroleum Hydrocarbons	1.1 u	MG/L	1.1	1.0

Recra LabNet - Lionville

INORGANICS METHOD BLANK DATA SUMMARY PAGE 03/24/00

CLIENT: NYSDEC

RECRA LOT #: 0002L553

WORK ORDER: 01667-600-001-9999-00

SAMPLE	SITE ID	ANALYTE	RESULT	UNITS	REPORTING LIMIT	DILUTION FACTOR
BLANK10	00LHC008-MB1	Petroleum Hydrocarbons	1.0 U	MG/L	1.0	1.0

Recra LabNet - Lionville

INORGANICS ACCURACY REPORT 03/24/00

CLIENT: NYSDEC

RECRA LOT #: 0002L553

WORK ORDER: 01667-600-001-9999-00

SAMPLE	SITE ID	ANALYTE	SPIKED SAMPLE	INITIAL RESULT	SPIKED AMOUNT	%RECOV	DILUTION FACTOR(SPK)
-003	SH800-02323-B70624	Petroleum Hydrocarbons	3.8	0.00	4.5	84.5	1.0
LCS10	00LHC008-LC1	Petroleum Hydrocarbons	3.8	1.0 u	4.2	90.2	1.0

Recra LabNet - Lionville

INORGANICS PRECISION REPORT 03/24/00

CLIENT: NYSDEC RECRA LOT #: 0002L553

WORK ORDER: 01667-600-001-9999-00

SAMPLE	SITE ID	ANALYTE	INITIAL RESULT	REPLICATE	RPD	DILUTION FACTOR(REP)
-003REP	SH800-02323-B70624	Petroleum Hydrocarbons	1.1 u	1.1 u	NC	1.0

J092 870 673 4

8.2

RECRA LabNet Use Only
00021553

ALL

Custody Transfer Record/Lab Work Request

Page 1 of 1

FIELD PERSONNEL: COMPLETE ONLY SHADED AREAS

RECRA LabNet

Client: NYSDEC

Est. Final Proj. Sampling Date: 2/23/00

Project #: B706 011601-600-0019999-00

Project Contact/Phone #: FRANK SOWERS 716 226 5357

RECRA Project Manager: JS

QC: Clp Del: Clp TAT: 30 day

Date Rec'd: 2-25-00 Date Due: 3-26-00

Account #:

Refrigerator #		1	4			4			4						
#/Type Container	Liquid	2GC	1AG	1AG	1AG	1AG	1AG		1PC		1			1	
	Solid														
Volume	Liquid	40	950	950	950	950	950		1LT		1LT			1LT	
	Solid														
Preservatives		HCL	—	—	—	H_2SO_4	—		HNO_3						
ANALYSES REQUESTED		ORGANIC: VOA	TCL BNA	Pest/PCB	PCB	Herb	TPH	TCLP BNA		INORG: Metal	CN				
RECRA LabNet Use Only		OLM4C	OLM3C				TPHC			MH5LTO					

MATRIX CODES: S - Soil; SE - Sediment; SO - Solid; SL - Sludge; W - Water; O - Oil; A - Air; DS - Drum Solids; DL - Drum Liquids; L - EP/TCLP Leachate; WI - Wipe; X - Other; F - Fish

Lab ID	Client ID/Description (SH800-02323-)	MS	MSD	Matrix	Date Collected	Time Collected	VOA	BNA				TPH			Metal
001	B70622			W	2/23/00	1150	√2	√1				√1			√1
002	B70623	X	X	W	〃	1230	√2	√1				√1			√1
003	B70624	√	√	W	〃	1215	√6	√3				√3			√3
~~004~~	~~B70625~~			~~W/OL~~		~~1100~~	~~√~~	~~√~~				~~√~~			~~√~~
~~005~~	~~B70626~~			~~W/OL~~		~~1110~~	~~√~~	~~√~~				~~√~~			~~√~~
006	VOA-T.B			2	—	—	2								
007	VOA-R.B			1	2/25/00	0945	2								

Special Instructions:

* SEE NYSDEC CONTRACT LAB SHEETS (ATTACHED)

DATE/REVISIONS:

1. 006 Rec'd 2EA Added to COC.
2. 007 ⊥ ⊥ ⊥ VOA R.B.
3.
4.
5.
6.

RECRA LabNet Use Only

Samples were:
1) Shipped ✓ or Hand Delivered ___
Airbill # See Below
2) Ambient or (Chilled)
3) Received In Good Condition (Y) or N
4) Labels Indicate Properly Preserved (Y) or N
5) Received Within Holding Times (Y) or N

COC Tape was:
1) Present on Outer Package (Y) or N
2) Unbroken on Outer Package (Y) or N
3) Present on Sample Y or (N)
4) Unbroken on Sample Y or N
COC Record Present Upon Sample Rec't (Y) or N
Cooler Temp. 7.0 °C

Relinquished by	Received by	Date	Time	Relinquished by	Received by	Date	Time
R. Cory		2/24/00	1400				
UPS	[signature]		0920				

Discrepancies Between Samples Labels and COC Record? Y or (N)

NOTES:

J092 870 673 4 8.2

RECRA LabNet Use Only
00021553

ALL

Custody Transfer Record/Lab Work Request

Page 1 of 1

RECRA LabNet

FIELD PERSONNEL: COMPLETE ONLY SHADED AREAS

Client: NYSDEC
Est. Final Proj. Sampling Date: 2/23/00
Project #: B706 011007-600-0019999-00
Project Contact/Phone #: FRANK SWARTZ 716 226 5357
RECRA Project Manager: JS
QC: CLP   Del: CLP   TAT: 30day
Date Rec'd: 2-25-00   Date Due: 3-26-00
Account #:

		VOA	TCL BNA	Pest/PCB	Herb	TPH	TCL BNA		Metal	CN				
Refrigerator #		1	4			4			4					
#/Type Container	Liquid	2 40	1 AG	1 AG	1 AG	1 AG	1 AG		1 PL					
	Solid													
Volume	Liquid	40	950	950	950	950	950		1 L					
	Solid													
Preservatives		HCL	—	—	—	H2SO4	—		HNO3					
ANALYSES REQUESTED		ORGANIC							INORG					
RECRA LabNet Use Only		OLM4HC	OLM5C			TPHC			MHSLTO					

MATRIX CODES:
S - Soil
SE - Sediment
SO - Solid
SL - Sludge
W - Water
O - Oil
A - Air
DS - Drum Solids
DL - Drum Liquids
L - EP/TCLP Leachate
WI - Wipe
X - Other
F - Fish

Lab ID	Client ID/Description (SH800-02323-)	MS	MSD	Matrix	Date Collected	Time Collected	OLM4HC	OLM5C			TPHC			MHSLTO
001	B70622			W	2/23/00	1150	✓2	✓1			✓1			✓
002	B70623	X	X	W	"	1230	✓2	✓1			✓1			✓
003	B70624	✓	✓	W	"	1215	✓6	✓3			✓3			✓3
~~004~~	~~[illegible]~~			~~W/OL~~		~~1100~~								
~~005~~	~~B70626~~			~~W~~		~~1110~~								
006	VOA-T.B			W										
007	VOA-R.B			L	2/25/00	0935	2							

Special Instructions:
* SEE NYSDEC CONTRACT LAB SHEETS (ATTACHED)

DATE/REVISIONS:
006 1. Rec'd 2EA Added to COC.
007 2. L L L VOA R.B.
3.
4.
5.
6.

Relinquished by	Received by	Date	Time	Relinquished by	Received by	Date	Time
D Cory		2/24/00	1400				
UPS	V Hecord		0920				

Discrepancies Between Samples Labels and COC Record? Y or (N)
NOTES:

RECRA LabNet Use Only
Samples were:
1) Shipped ✓ or Hand Delivered ___
Airbill # See Below
2) Ambient or (Chilled)
3) Received in Good Condition (Y) or N
4) Labels Indicate Properly Preserved (Y) or N
5) Received Within Holding Times (Y) or N

COC Tape was:
1) Present on Outer Package (Y) or N
2) Unbroken on Outer Package (Y) or N
3) Present on Sample Y or (N)
4) Unbroken on Sample Y or N
COC Record Present Upon Sample Rec't (Y) or N
Cooler Temp. 7.0 °C

003

Case Narrative

RECRA
ENVIRONMENTAL
INC.

Chemical and Environmental Measurement Information

Recra LabNet Philadelphia
Analytical Report

Client : NYSDEC
RFW# : 0002L553
ELAP#: 10752

W.O.# : 01667-600-001-9999-00
Date Received: 02-25-00

CLP/ILM04.0 METALS

1. This narrative covers the analyses of 3 water samples.

2. The samples were prepared and analyzed in accordance with CLP/ILM04.0 protocol. Sample SH800-02323-B70622 was rerun and reported for Sodium from file PS0307B due to the high concentration on the original analysis.

3. ICVs, CCVs, and LCSs stock standards were purchased from Inorganic Ventures and High Purity.

4. All analyses were performed within the required holding times.

5. The cooler temperature has been recorded on the Chain of Custody.

6. All Initial and Continuing Calibration Verifications (ICV/CCVs) were within control limits.

7. All Initial and Continuing Calibration Blanks (ICB/CCBs) were within control limits.

8. All preparation/method blanks were below reporting limits. Refer to form 3.

9. All ICP Interference Check Samples (ICSA and ICSAB) were within control limits. Although not required, Sodium was spiked into the ICSAB solution at 2000 µg/L in file TA0306A and 1000 µg/L in file PS0307B. The recoveries were within the control limits. Refer to form 4.

10. All laboratory control samples (LCS) were within the 80-120% control limits. Refer to form 7.

11. The serial dilution percent differences for 2 analytes were outside CLP control limits. Refer to form 9. The serial dilution was performed on sample SH800-02323-B70622.

208 Welsh Pool Road • Lionville, PA 19341-1333 • (610) 280-3000 • Fax (610) 280-3041

12. The matrix spike (MS) recoveries for 2 analytes were outside the 75-125% control limits (exception allowed when sample concentration exceeds the spike added concentration by a factor of 4 or more). Refer to form 5A. For analytes where the MS is out of control, a post-digestion MS is performed (exception allowed for Silver). MS analyses are not required for Calcium, Magnesium, Sodium and Potassium in waters and soils. Also, not required for Aluminum and Iron in soils.

13. All duplicate analyses were within the method criteria. Refer to form 6.

14. The sample ID was changed to accommodate the EPA naming convention which allows a maximum of 6 characters on all CLP Forms. Refer to the comments section of form 1 for the original ID.

15. Recoveries on the Laboratory Summary Report and CLP forms will vary depending on the number of significant figures used in the recovery calculation.

J. Michael Taylor
Vice President
Philadelphia Analytical Laboratory

03-13-00
Date

alm/m03-553

METALS METHOD GLOSSARY

The following methods are used as reference for the digestion and analysis of samples contained within this Recra Lot#: 0002553

Leaching Procedure: __1310 __1311 __1312 __Other:_____

CLP Metals ✓ Digestion and ✓ Analysis Methods: __ILM03.0 ✓ILM04.0

Metals Digestion Methods: __3005A __3010A __3015 __3020A __3050B __3051 __200.7 __SS17
__Other: _____

Metals Analysis Methods

	SW846	EPA		STD MTD	EPA OSWR	USATHAMA
Aluminum	__6010B	__200.7				__99
Antimony	__6010B __7041 [5]	__200.7	__204.2			__99
Arsenic	__6010B __7060A [5]	__200.7	__206.2	__3113B		__99
Barium	__6010B	__200.7				__99
Beryllium	__6010B	__200.7				__99
Bismuth	__6010B [1]	__200.7 [1]			__1620	__99
Boron	__6010B	__200.7				__99
Cadmium	__6010B __7131A [5]	__200.7	__213.2			__99
Calcium	__6010B	__200.7				__99
Chromium	__6010B __7191 [5]	__200.7	__218.2			__SS17
Cobalt	__6010B	__200.7				__99
Copper	__6010B __7211 [5]	__200.7	__220.2			__99
Iron	__6010B	__200.7				__99
Lead	__6010B __7421 [5]	__200.7	__239.2	__3113B		__99
Lithium	__6010B __7430 [4]	__200.7			__1620	__99
Magnesium	__6010B	__200.7				__99
Manganese	__6010B	__200.7				__99
Mercury	__7470A [3] __7471A [3]	__245.1 [2]	__245.5 [2]			__99
Molybdenum	__6010B	__200.7				__99
Nickel	__6010B	__200.7				__99
Potassium	__6010B __7610 [4]	__200.7	__258.1 [4]			__99
Rare Earths	__6010B [1]	__200.7 [1]			__1620	__99
Selenium	__6010B __7740 [5]	__200.7	__270.2	__3113B		__99
Silicon	__6010B [1]	__200.7			__1620	__99
Silica	__6010B	__200.7			__1620	__99
Silver	__6010B __7761 [5]	__200.7	__272.2			__99
Sodium	__6010B __7770 [4]	__200.7	__273.1 [4]			__99
Strontium	__6010B	__200.7				__99
Thallium	__6010B __7841 [5]	__200.7	__279.2	__200.9		__99
Tin	__6010B	__200.7				__99
Titanium	__6010B	__200.7				__99
Uranium	__6010B [1]	__200.7 [1]			__1620	__99
Vanadium	__6010B	__200.7				__99
Zinc	__6010B	__200.7				__99
Zirconium	__6010B [1]	__200.7 [1]			__1620	__99

Other:_____ Method:_____

METHOD REFERENCES AND DATA QUALIFIERS

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.

B = Indicates that the parameter was between the Instrument Detection Limit (IDL) and the Contract Required Detection Limit (CRDL)

Q QUALIFIERS

E = The reported value is estimated because of the presence of interference.

M = Duplicate injection precision not met.

N = Spiked sample recovery not within control limits.

S = The reported value was determined by the Method of Standard Additions (MSA).

W = Post Digestion spike for Furnace AA analysis is out of control limits (85 -115 %), while sample absorbance is less than 50% of spike absorbance.

* = Duplicate analysis not within control limits.

+ = Correlation coefficient for the MSA is less than 0.995.

ABBREVIATIONS

PB = Method or Preparation Blank.
S = Matrix Spike.
T = Matrix Spike Duplicate.
R or D = Sample Replicate

ANALYTICAL METAL METHODS

1. Not included in the method element list.
2. Modified Hg: Hg1 and Hg2 require less total volume of digestate due to the autosampler analysis. Sample volumes and reagents for mercury determinations in water and soil have been proportionately scaled down to adapt to this semi-automated technique. The sample volume used for water analysis is 33 mL. For soils, 0.1 grams of sample is taken to a final volume of 50 mL (including all reagents).
3. Modified Hg: Hg1 and Hg2 require less total volume of digestate due to the autosampler analysis. Sample volumes and reagents for mercury determinations in water and soil have been proportionately scaled down to adapt to this semi-automated technique. The sample volume used for water analysis is 33 mL. For soils, three 0.1 gram of sample is taken to a final volume of 50 mL (including all reagents).
4. Flame AA.
5. Graphite Furnace AA.

Inorganic Analysis Data Package

U.S. EPA - CLP

1

INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

B70622

Lab Name: RECRA_LABNET Contract: 1667-6

Lab Code: RECRA_ Case No.: SH800_ SAS No.: _____ SDG No.: 02323_

Matrix (soil/water): WATER Lab Sample ID: 0002L553-001

Level (low/med): LOW Date Received: 02/25/00

% 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	4010		N	P
7440-36-0	Antimony	1.8	U		P
7440-38-2	Arsenic	6.9	B		P
7440-39-3	Barium	99.3	B		P
7440-41-7	Beryllium	0.40	B		P
7440-43-9	Cadmium	0.46	B		P
7440-70-2	Calcium	137000			P
7440-47-3	Chromium	6.2	B		P
7440-48-4	Cobalt	3.5	B		P
7440-50-8	Copper	30.4			P
7439-89-6	Iron	9360			P
7439-92-1	Lead	62.4			P
7439-95-4	Magnesium	49600			P
7439-96-5	Manganese	181		N	P
7439-97-6	Mercury	0.23			AV
7440-02-0	Nickel	10.7	B		P
7440-09-7	Potassium	10700		E	P
7782-49-2	Selenium	4.4	U		P
7440-22-4	Silver	0.90	U		P
7440-23-5	Sodium	152000			P
7440-28-0	Thallium	3.7	U		P
7440-62-2	Vanadium	7.2	B		P
7440-66-6	Zinc	274		E	P

Color Before: _____ Clarity Before: _____ Texture: _____

Color After: _____ Clarity After: _____ Artifacts: _____

Comments:

SH800-02323-B70622

U.S. EPA - CLP

1

INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

B70623

Lab Name: RECRA_LABNET Contract: 1667-6

Lab Code: RECRA_ Case No.: SH800_ SAS No.: _____ SDG No.: 02323_

Matrix (soil/water): WATER Lab Sample ID: 0002L553-002

Level (low/med): LOW Date Received: 02/25/00

% 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	7380		N	P
7440-36-0	Antimony	1.8	U		P
7440-38-2	Arsenic	7.6	B		P
7440-39-3	Barium	202			P
7440-41-7	Beryllium	0.68	B		P
7440-43-9	Cadmium	0.30	U		P
7440-70-2	Calcium	212000			P
7440-47-3	Chromium	10	B		P
7440-48-4	Cobalt	6.3	B		P
7440-50-8	Copper	15.2	B		P
7439-89-6	Iron	21700			P
7439-92-1	Lead	11.1			P
7439-95-4	Magnesium	76200			P
7439-96-5	Manganese	1130		N	P
7439-97-6	Mercury	0.10	U		AV
7440-02-0	Nickel	19.4	B		P
7440-09-7	Potassium	5090		E	P
7782-49-2	Selenium	4.4	U		P
7440-22-4	Silver	0.90	U		P
7440-23-5	Sodium	23600			P
7440-28-0	Thallium	3.7	U		P
7440-62-2	Vanadium	12.0	B		P
7440-66-6	Zinc	149		E	P

Color Before: _____ Clarity Before: _____ Texture: _____

Color After: _____ Clarity After: _____ Artifacts: _____

Comments:

SH800-02323-B70623

U.S. EPA - CLP

1

INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

B70624

Lab Name: RECRA_LABNET_____ Contract: 1667-6____

Lab Code: RECRA_ Case No.: SH800_ SAS No.: _____ SDG No.: 02323_

Matrix (soil/water): WATER Lab Sample ID: 0002L553-003

Level (low/med): LOW__ Date Received: 02/25/00

% 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_	4210		N	P
7440-36-0	Antimony_	1.8	U		P
7440-38-2	Arsenic__	17.0			P
7440-39-3	Barium___	246			P
7440-41-7	Beryllium	0.44	B		P
7440-43-9	Cadmium__	0.87	B		P
7440-70-2	Calcium__	158000			P
7440-47-3	Chromium_	7.6	B		P
7440-48-4	Cobalt___	4.4	B		P
7440-50-8	Copper___	18.4	B		P
7439-89-6	Iron_____	18700			P
7439-92-1	Lead_____	15.9			P
7439-95-4	Magnesium	50500			P
7439-96-5	Manganese	1730		N	P
7439-97-6	Mercury__	0.10	U		AV
7440-02-0	Nickel___	13.1	B		P
7440-09-7	Potassium	6480		E	P
7782-49-2	Selenium_	4.4	U		P
7440-22-4	Silver___	0.90	U		P
7440-23-5	Sodium___	10800			P
7440-28-0	Thallium_	3.7	U		P
7440-62-2	Vanadium_	8.5	B		P
7440-66-6	Zinc_____	263		E	P

Color Before: _____ Clarity Before: _____ Texture: _____

Color After: _____ Clarity After: _____ Artifacts: _____

Comments:

SH800-02323-B70624_____

3
BLANKS

Lab Name: RECRA_LABNET_____ Contract: 1667-6____

Lab Code: RECRA_ Case No.: SH800_ SAS No.: _____ SDG No.: 02323_

Preparation Blank Matrix (soil/water): WATER

Preparation Blank Concentration Units (ug/L or mg/kg): UG/L_

Analyte	Initial Calib. Blank (ug/L)	C	Continuing Calibration Blank (ug/L) 1	C	2	C	3	C	Prepa-ration Blank	C	M
Aluminum	17.1	U	25.2	B	30.2	B	31.3	B	36.420	B	P
Antimony	1.8	U	1.8	U	1.8	U	1.8	U	1.800	U	P
Arsenic	2.9	U	2.9	U	2.9	U	2.9	U	2.900	U	P
Barium	0.2	U	0.2	U	0.2	U	0.2	U	0.347	B	P
Beryllium	0.1	U	0.1	B	0.2	B	0.2	B	0.144	B	P
Cadmium	0.3	U	0.3	U	0.3	U	0.3	U	0.300	U	P
Calcium	13.2	U	13.2	U	13.2	U	13.2	U	31.870	B	P
Chromium	0.6	U	0.6	U	0.6	U	0.6	U	0.600	U	P
Cobalt	0.8	U	0.8	U	0.8	U	0.8	U	0.800	U	P
Copper	0.8	U	0.8	U	0.8	U	0.8	U	0.800	U	P
Iron	14.6	U	14.6	U	14.6	U	14.6	U	14.600	U	P
Lead	2.3	U	2.3	U	-2.9	B	2.3	U	2.300	U	P
Magnesium	6.5	U	6.5	U	6.5	U	6.5	U	8.390	B	P
Manganese	0.2	B	0.2	B	0.2	B	0.3	B	0.150	B	P
Mercury	0.1	U	0.1	U	0.1	U	0.1	U	0.100	U	AV
Nickel	1.4	U	1.4	U	1.4	U	1.4	U	1.400	U	P
Potassium	19.7	U	19.7	U	19.7	U	-21.5	B	19.700	U	P
Selenium	4.4	U	4.4	U	4.4	U	4.4	U	4.400	U	P
Silver	0.9	U	0.9	U	0.9	U	0.9	U	0.900	U	P
Sodium	2.4	U	-5.3	B	-5.8	B	-7.6	B	16.203	B	P
Thallium	3.7	U	3.7	U	3.7	U	3.7	U	3.700	U	P
Vanadium	0.6	U	0.6	U	0.6	U	0.6	U	0.600	U	P
Zinc	0.8	U	0.8	U	0.8	U	0.8	U	2.100	B	P

3
BLANKS

Lab Name: RECRA_LABNET_____ Contract: 1667-6____

Lab Code: RECRA_ Case No.: SH800_ SAS No.: _____ SDG No.: 02323_

Preparation Blank Matrix (soil/water): _____

Preparation Blank Concentration Units (ug/L or mg/kg): _____

Analyte	Initial Calib. Blank (ug/L)	C	Continuing Calibration Blank (ug/L) 1	C	2	C	3	C	Prepa-ration Blank	C	M
Aluminum	17.1	U	17.1	U	52.8	B	65.4	B			P
Antimony											NR
Arsenic											NR
Barium											NR
Beryllium											NR
Cadmium											NR
Calcium											NR
Chromium											NR
Cobalt											NR
Copper											NR
Iron											NR
Lead											NR
Magnesium											NR
Manganese	0.2	B	0.2	B	0.3	B	0.3	B			P
Mercury			0.1	U	0.1	U	0.1	U			AV
Nickel											NR
Potassium											NR
Selenium											NR
Silver											NR
Sodium	26.6	U	26.6	U	26.6	U	26.6	U			P
Thallium											NR
Vanadium											NR
Zinc											NR

U.S. EPA - CLP

5A
SPIKE SAMPLE RECOVERY

EPA SAMPLE NO.
B70624S

Lab Name: RECRA_LABNET Contract: 1667-6

Lab Code: RECRA Case No.: SH800 SAS No.: SDG No.: 02323

Matrix (soil/water): WATER Level (low/med): LOW

% Solids for Sample: 0.0

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

Analyte	Control Limit %R	Spiked Sample Result (SSR)	C	Sample Result (SR)	C	Spike Added (SA)	%R	Q	M
Aluminum	75-125	7306.2700		4211.2100		2000.00	154.8	N	P
Antimony	75-125	457.5750		1.8000	U	500.00	91.5		P
Arsenic	75-125	1878.1680		17.0030		2000.00	93.1		P
Barium	75-125	2069.8910		246.1750		2000.00	91.2		P
Beryllium	75-125	46.3940		0.4450	B	50.00	91.9		P
Cadmium	75-125	44.9280		0.8730	B	50.00	88.1		P
Calcium									NR
Chromium	75-125	189.4930		7.6440	B	200.00	90.9		P
Cobalt	75-125	454.9300		4.4240	B	500.00	90.1		P
Copper	75-125	248.4840		18.3540	B	250.00	92.1		P
Iron		18565.0800		18700.3500		1000.00	-13.5		P
Lead	75-125	466.6030		15.8970		500.00	90.1		P
Magnesium									NR
Manganese	75-125	2088.5200		1729.4300		500.00	71.8	N	P
Mercury	75-125	0.8500		0.1000	U	1.00	85.0		AV
Nickel	75-125	468.2540		13.1450	B	500.00	91.0		P
Potassium									NR
Selenium	75-125	1877.9460		4.4000	U	2000.00	93.9		P
Silver	75-125	45.9610		0.9000	U	50.00	91.9		P
Sodium									NR
Thallium	75-125	1797.7340		3.7000	U	2000.00	89.9		P
Vanadium	75-125	465.2600		8.5300	B	500.00	91.3		P
Zinc	75-125	696.0860		263.2680		500.00	86.6		P

Comments:
SH800-02323-B70624

U.S. EPA - CLP

5B
POST DIGEST SPIKE SAMPLE RECOVERY

EPA SAMPLE NO.
B70624A

Lab Name: RECRA_LABNET Contract: 1667-6

Lab Code: RECRA Case No.: SH800 SAS No.: SDG No.: 02323

Matrix (soil/water) : WATER Level (low/med): LOW

Concentration Units: ug/L

Analyte	Control Limit %R	Spiked Sample Result (SSR)	C	Sample Result (SR)	C	Added (SA)	%R	Q	M
Aluminum		12005.63		4211.21		8000.0	97.4		P
Antimony									NR
Arsenic									NR
Barium									NR
Beryllium									NR
Cadmium									NR
Calcium									NR
Chromium									NR
Cobalt									NR
Copper									NR
Iron									NR
Lead									NR
Magnesium									NR
Manganese		3674.62		1729.43		2000.0	97.3		P
Mercury									NR
Nickel									NR
Potassium									NR
Selenium									NR
Silver									NR
Sodium									NR
Thallium									NR
Vanadium									NR
Zinc									NR

Comments:
SH800-02323-B70624

6
DUPLICATES

EPA SAMPLE NO.
B70624D

Lab Name: RECRA_LABNET Contract: 1667-6

Lab Code: RECRA Case No.: SH800 SAS No.: SDG No.: 02323

Matrix (soil/water): WATER Level (low/med): LOW

% Solids for Sample: 0.0 % Solids for Duplicate: 0.0

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

Analyte	Control Limit	Sample (S)	C	Duplicate (D)	C	RPD	Q	M
Aluminum		4211.2100		4315.9200		2.5		P
Antimony		1.8000	U	1.8000	U			P
Arsenic	10.0	17.0030		15.7210		7.8		P
Barium	200.0	246.1750		238.5670		3.1		P
Beryllium		0.4450	B	0.4320	B	3.0		P
Cadmium		0.8730	B	0.6830	B	24.4		P
Calcium		157832.7100		152222.9400		3.6		P
Chromium		7.6440	B	6.4030	B	17.7		P
Cobalt		4.4240	B	4.0570	B	8.7		P
Copper		18.3540	B	17.2240	B	6.4		P
Iron		18700.3500		18107.7900		3.2		P
Lead	3.0	15.8970		14.8360		6.9		P
Magnesium		50472.9100		48829.4100		3.3		P
Manganese		1729.4300		1671.3400		3.4		P
Mercury		0.1000	U	0.1000	U			AV
Nickel		13.1450	B	12.9830	B	1.2		P
Potassium	5000.0	6479.0150		6410.2270		1.1		P
Selenium		4.4000	U	4.4000	U			P
Silver		0.9000	U	0.9000	U			P
Sodium	5000.0	10754.5410		10468.7540		2.7		P
Thallium		3.7000	U	3.7000	U			P
Vanadium		8.5300	B	8.9100	B	4.4		P
Zinc		263.2680		253.2980		3.9		P

U.S. EPA - CLP

9

ICP SERIAL DILUTION

EPA SAMPLE NO.

B70622L

Lab Name: RECRA_LABNET Contract: 1667-6

Lab Code: RECRA Case No.: SH800 SAS No.: SDG No.: 02323

Matrix (soil/water): WATER Level (low/med): LOW

Concentration Units: ug/L

Analyte	Initial Sample Result (I)	C	Serial Dilution Result (S)	C	% Difference	Q	M
Aluminum	4005.21		4058.15		1.3		P
Antimony	1.80	U	9.00	U			P
Arsenic	6.93	B	14.50	U	100.0		P
Barium	99.34	B	101.70	B	2.4		P
Beryllium	0.40	B	1.23	B	207.5		P
Cadmium	0.46	B	1.50	U	100.0		P
Calcium	136813.23		140324.90		2.6		P
Chromium	6.19	B	6.20	B	0.2		P
Cobalt	3.50	B	4.00	U	100.0		P
Copper	30.45		28.86	B	5.2		P
Iron	9358.71		9759.10		4.3		P
Lead	62.44		67.39		7.9		P
Magnesium	49565.98		50612.80		2.1		P
Manganese	181.41		187.65		3.4		P
Mercury							NR
Nickel	10.69	B	7.00	U	100.0		P
Potassium	10675.55		9140.68	B	14.4	E	P
Selenium	4.40	U	22.00	U			P
Silver	0.90	U	4.50	U			P
Sodium	151628.09		139739.12		7.8		P
Thallium	3.70	U	18.50	U			P
Vanadium	7.21	B	8.30	B	15.1		P
Zinc	273.81		334.22		22.1	E	P

RECRA
ENVIRONMENTAL
INC.

Chemical and Environmental Measurement Information

8 February 2000

Mr. Jack Ryan
NYSDEC
Room 392
50 Wolf Road
Albany, NY 12233-3502

Ref: Contract C003783
Sample Data Package: RFW Batch 9912L959
NYSDEC ID: SH899-12206-B70603 to B70614

Dear Mr. Ryan:

Enclosed please find the data report for 11 soil/solid samples received 8 December 1999. These were analyzed for CLP VOAs, BNAs, pesticides/PCBs, and metals/CN. The EDD is being emailed to you and a disk will be sent to the sampler.

We had received an extension for this report.

Please do not hesitate to contact me at (610) 280-3000 with any questions you may have.

Very truly yours,

Recra Environmental, Inc.

Judith L. Stone
Senior Project Manager

Enclosure

cc: Frank Sowers (NYSDEC)

208 Welsh Pool Road • Lionville, PA 19341-1333 • (610) 280-3000 • Fax (610) 280-3041

RECRA LabNet Use Only

99121959

Custody Transfer Record/Lab Work Request

FIELD PERSONNEL: COMPLETE ONLY SHADED AREAS

(8) ALL

RECRA LabNet

Client: Nyselec

Est. Final Proj. Sampling Date:

Project #: 01667-600-001-9999-00

Project Contact/Phone #:

RECRA Project Manager: JS

QC: Clp Del: Clp TAT: 30 day

Date Rec'd: 12/8/99 Date Due: 1/7/99

Account #:

	VOA	BNA	Pest/PCB	Herb				Metal	CN						
Refrigerator #	1	3	3					3	3	3					
#/Type Container – Liquid															
#/Type Container – Solid	1g	1g —						1g —							
Volume – Liquid															
Volume – Solid	125	200 —						125 —							
Preservatives															
RECRA LabNet Use Only	0824C	8325C	8808C					M4SLTO	10NTO	1TCLV					

ANALYSES REQUESTED: ORGANIC (VOA, BNA, Pest/PCB, Herb); INORG (Metal, CN)

MATRIX CODES: S - Soil, SE - Sediment, SO - Solid, SL - Sludge, W - Water, O - Oil, A - Air, DS - Drum Solids, DL - Drum Liquids, L - EP/TCLP Leachate, WI - Wipe, X - Other, F - Fish

Lab ID	Client ID/Description	MS	MSD	Matrix	Date Collected	Time Collected	0824C	8325C	8808C	M4SLTO	10NTO	1TCLV	
~~001~~	~~SH899-12206~~ ~~B70675~~ 01	12/8/99		S	12/6/99	1000	✓	✓	✓	✓	✓	✓	JS 12/8/99
~~2~~	02					~~1007~~						✓	
3	03					1110							
4	04					1150							
5	05					1220							
6	06					1325							
7	07	X	X			1430							(3X volume)
8	10					1620							
9	12207 11					0915							
010	12207 12					1010							

Special Instructions:

DATE/REVISIONS:
1. 12/10/99 1&2 relogged to batch
2. 99121973 - 99PM292
3.
4.
5.
6.

Relinquished by	Received by	Date	Time
UPS	Jameson	12/8/99	0930

Relinquished by	Received by	Date	Time
ORIGINAL REWRITTEN			

Discrepancies Between Samples Labels and COC Record? Y or (N)

NOTES: * N2163477956

RECRA LabNet Use Only

Samples were:
1) Shipped ✓ or Hand Delivered ___
Airbill # *
2) Ambient or (Chilled)
3) Received in Good Condition (Y) or N
4) Labels Indicate Properly Preserved (Y) or N
5) Received Within Holding Times (Y) or N

COC Tape was:
1) Present on Outer Package (Y) or N
2) Unbroken on Outer Package (Y) or N
3) Present on Sample Y or (N)
4) Unbroken on Sample Y or (N)
COC Record Present Upon Sample Rec't (Y) or N
Cooler Temp. 5.4 °C

RECRA LabNet Use Only

9912L959

Custody Transfer Record/Lab Work Request

Page 2 of 2

FIELD PERSONNEL: COMPLETE ONLY SHADED AREAS

RECRA LabNet

Client: Nysdec

Est. Final Proj. Sampling Date:

Project #:

Project Contact/Phone #:

RECRA Project Manager:

QC: Del: TAT:

Date Rec'd: Date Due:

Account #:

(see pg 1)

Refrigerator #		1	3	3					3	3
#/Type Container	Liquid									
	Solid	1g	1g	→					1g	→
Volume	Liquid									
	Solid	125	250	→					125	→
Preservatives										
ANALYSES REQUESTED →		ORGANIC: VOA	BNA	Pest/PCB	Herb				INORG: Metal	CN

MATRIX CODES: S - Soil; SE - Sediment; SO - Solid; SL - Sludge; W - Water; O - Oil; A - Air; DS - Drum Solids; DL - Drum Liquids; L - EP/TCLP Leachate; WI - Wipe; X - Other; F - Fish

Lab ID	Client ID/Description	Matrix QC Chosen (✓) MS	MSD	Matrix	Date Collected	Time Collected	VOA (CV24C)	BNA (CV25C)	Pest/PCB (CV08C)	Herb	(CD2AI)			Metal (MHSLTO)	CN (ICNTO)
	12207														
011	SH899-~~12707~~-B70613			S	12/6/99	0930	✓	✓	✓					✓	✓
12	↓ 14			↓	↓	0940	✓	✓	✓					✓	✓
13	↓ 15			↓	↓	1020	✓	✓	✓					✓	✓
14	Nysdec-fridge blank			W	12/8/99	1300	✓								
~~15~~	~~SH899-12707-B70601 teltof 001~~			~~L~~	~~*~~	~~-~~					~~✓~~				
~~16~~	~~↓ 02~~	~~↓~~	~~2~~	~~L~~	~~↓~~	~~-~~					~~✓~~				

(initialed, 12/9/99)

Special Instructions:

DATE/REVISIONS:
1. * see labchron
2.
3.
4.
5.
6.

Relinquished by	Received by	Date	Time	Relinquished by	Received by	Date	Time
UPS	Janson	12/8/99	0930				

Discrepancies Between Samples Labels and COC Record? Y or N
NOTES:

RECRA LabNet Use Only

Samples were:
1) Shipped ___ or Hand Delivered ___
Airbill # ___
2) Ambient or Chilled
3) Received in Good Condition Y or N
4) Labels Indicate Properly Preserved Y or N
5) Received Within Holding Times Y or N

COC Tape was:
1) Present on Outer Package Y or N
2) Unbroken on Outer Package Y or N
3) Present on Sample Y or N
4) Unbroken on Sample Y or N
COC Record Present Upon Sample Rec't Y or N
Cooler Temp. ___ °C

(see pg 1)

RECRA LabNet Use Only

9912L959

Custody Transfer Record/Lab Work Request

Page 1 of 2

FIELD PERSONNEL: COMPLETE ONLY SHADED AREAS

RECRA LabNet

Client: NYS DEC

Est. Final Proj. Sampling Date:

Project #: Vacuum Oil B706

Project Contact/Phone #: FRANK SOWERS 716 226-5357

RECRA Project Manager:

QC: Del: TAT:

Date Rec'd: Date Due:

Account #:

Refrigerator #:

#/Type Container: Liquid / Solid

Volume: Liquid / Solid

Preservatives:

ANALYSES REQUESTED → ORGANIC: VOA, BNA, Pest/PCB, Herb; INORG: Metal, CN

MATRIX CODES: S - Soil; SE - Sediment; SO - Solid; SL - Sludge; W - Water; O - Oil; A - Air; DS - Drum Solids; DL - Drum Liquids; L - EP/TCLP Leachate; WI - Wipe; X - Other; F - Fish

RECRA LabNet Use Only

Lab ID	Client ID/Description	Matrix QC Chosen (✓) MS	MSD	Matrix	Date Collected	Time Collected	95-1	95-2	95-3	[redacted]	TCLP			TAL Metals	
	01			S	12/6/92	1000	X	X	X		X			X	X
	02			S	"	1007	X	X	X		X			X	X
	03			S	"	1110	X	X	X					X	X
	04			S	"	1150	X	X	X					X	X
	05			S	"	1220	X	X	X					X	X
	06			S	"	1325	X	X	X					X	X
	07			S	"	1430	X	X	X					X	X
	08	X		S	"	1430	X	X	X					X	X
	09		X	S	"	1430	X	X	X					X	X
	10			S	"	1620	X	X	X					X	X

Special Instructions:

TCLP - Please do TCLP analysis for VOAs only if there is enough sample.

(2) Please Fax results for 01 & 02 within 5 days, Fax # 716.226.8696

DATE/REVISIONS:

1.
2. 2850
3. 2/1125
4.
5.
6.

original

Relinquished by	Received by	Date	Time
[signature]		12/7/92	1411

Relinquished	Received	Date	Time

N216 347 795 6

Discrepancies Between Samples Labels and COC Record? Y or N

NOTES:

RECRA LabNet Use Only

Samples were: 1) Shipped ___ or Hand Delivered ___

Airbill # ___

2) Ambient or Chilled

3) Received in Good Condition Y or N

4) Labels Indicate Properly Preserved Y or N

5) Received Within Holding Times Y or N

COC Tape was: 1) Present on Outer Package Y or N; 2) Unbroken on Outer Package Y or N; 3) Present on Sample Y or N; 4) Unbroken on Sample Y or N

COC Record Present Upon Sample Rec't Y or N

Cooler Temp. 5.4 °C

RECRA LabNet Use Only

Custody Transfer Record/Lab Work Request

FIELD PERSONNEL: COMPLETE ONLY SHADED AREAS

RECRA LabNet

Client NYSDEC

Est. Final Proj. Sampling Date

Project # Vacuum Oil B706

Project Contact/Phone # Frank Sowers 716.226 5357

RECRA Project Manager

QC ____ Del ____ TAT ____

Date Rec'd ____ Date Due ____

Account # ____

Refrigerator #

#/Type Container	Volume	Preservatives
Liquid	Liquid	
Solid	Solid	

ANALYSES REQUESTED → ORGANIC: VOA, BNA, Pest/PCB, Herb; INORG: Metal, CN

MATRIX CODES: S - Soil; SE - Sediment; SO - Solid; SL - Sludge; W - Water; O - Oil; A - Air; DS - Drum Solids; DL - Drum Liquids; L - EP/TCLP Leachate; WI - Wipe; X - Other; F - Fish

Lab ID	Client ID/Description	Matrix QC Chosen (✓) MS	MSD	Matrix	Date Collected	Time Collected	VOA 95-1	BNA 95-2	Pest/PCB 95-3	Herb	Metal TAL	CN
	11	9		S	12/1/99	0915	X	X	X		X	
	12	10		S	12/1/99	1010	X	X	X		X	
	13	11		S	12/1/99	0930	X	X	X		X	
	14	12		S	12/1/99	0940	X	X	X		X	
	15	13		S	12/1/99	1020	X	X	X		X	
	~~16~~	14		W								
		15										

RECRA LabNet Use Only

Special Instructions:

DATE/REVISIONS:

1. ____
2. ____
3. ____
4. ____
5. ____
6. ____

original

Relinquished by	Received by	Date	Time
[signature]		12/1/99	1411

Relinquished by	Received by	Date	Time

Discrepancies Between Samples Labels and COC Record? Y or N

NOTES:

RECRA LabNet Use Only

Samples were: 1) Shipped ____ or Hand Delivered ____

Airbill # ____

2) Ambient or Chilled

3) Received in Good Condition Y or N

4) Labels Indicate Properly Preserved Y or N

5) Received Within Holding Times Y or N

COC Tape was: 1) Present on Outer Package Y or N

2) Unbroken on Outer Package Y or N

3) Present on Sample Y or N

4) Unbroken on Sample Y or N

COC Record Present Upon Sample Rec't Y or N

Cooler Temp. ____ °C

METHOD REFERENCES AND DATA QUALIFIERS

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.

B = Indicates that the parameter was between the Instrument Detection Limit (IDL) and the Contract Required Detection Limit (CRDL)

Q QUALIFIERS

E = The reported value is estimated because of the presence of interference.

M = Duplicate injection precision not met.

N = Spiked sample recovery not within control limits.

S = The reported value was determined by the Method of Standard Additions (MSA).

W = Post Digestion spike for Furnace AA analysis is out of control limits (85 -115 %), while sample absorbance is less than 50% of spike absorbance.

* = Duplicate analysis not within control limits.

+ = Correlation coefficient for the MSA is less than 0.995.

ABBREVIATIONS

PB = Method or Preparation Blank.
S = Matrix Spike.
T = Matrix Spike Duplicate.
R or D = Sample Replicate

ANALYTICAL METAL METHODS

1. Not included in the method element list.
2. Modified Hg: Hg1 and Hg2 require less total volume of digestate due to the autosampler analysis. Sample volumes and reagents for mercury determinations in water and soil have been proportionately scaled down to adapt to this semi-automated technique. The sample volume used for water analysis is 33 mL. For soils, 0.1 grams of sample is taken to a final volume of 50 mL (including all reagents).
3. Modified Hg: Hg1 and Hg2 require less total volume of digestate due to the autosampler analysis. Sample volumes and reagents for mercury determinations in water and soil have been proportionately scaled down to adapt to this semi-automated technique. The sample volume used for water analysis is 33 mL. For soils, three 0.1 gram of sample is taken to a final volume of 50 mL (including all reagents).
4. Flame AA.
5. Graphite Furnace AA.

RECRA
ENVIRONMENTAL
INC.

Chemical and Environmental Measurement Information

Recra LabNet Philadelphia
Analytical Report

Client : NYSDEC
RFW# : 9912L959
ELAP# : 10752

W.O.# : 01664-600-001-9999-00
Date Received: 12-08-99

CLP/ILM04.0 METALS

1. This narrative covers the analyses of 11 soil samples.

2. The samples were prepared and analyzed in accordance with CLP/ILM04.0 protocol.

3. ICVs, CCVs, and LCSs stock standards were purchased from Inorganic Ventures and High Purity.

4. All analyses were performed within the required holding times.

5. The cooler temperature has been recorded on the Chain of Custody.

6. All Initial and Continuing Calibration Verifications (ICV/CCVs) were within control limits.

7. All Initial and Continuing Calibration Blanks (ICB/CCBs) were within control limits.

8. All preparation/method blanks were below reporting limits. Refer to form 3.

9. All ICP Interference Check Samples (ICSA and ICSAB) were within control limits. Refer to form 4.

10. All laboratory control samples (LCS) were within the 80-120% control limits. Refer to form 7.

11. All serial dilution percent differences were within CLP control limits. Refer to form 9.

12. The matrix spike (MS) recoveries for 2 analytes were outside the 75-125% control limits (exception allowed when sample concentration exceeds the spike added concentration by a factor of 4 or more). Refer to form 5A. For analytes where the MS is out of control, a post-digestion MS is performed (exception allowed for Silver). MS analyses are not required for Calcium, Magnesium, Sodium and Potassium in waters and soils. Also, not required for Aluminum and Iron in soils.

13. All duplicate analyses were within the method criteria. Refer to form 6.

14. All sample IDs were changed to accommodate the EPA naming convention which allows a maximum of 6 characters on all CLP Forms. Refer to the comments section of form 1 for the original ID.

15. Recoveries on the Laboratory Summary Report and CLP forms will vary depending on the number of significant figures used in the recovery calculation.

J. Michael Taylor
Vice President
Philadelphia Analytical Laboratory

1-24-00
Date

gmb/m12-959

METALS METHOD GLOSSARY

The following methods are used as reference for the digestion and analysis of samples contained within this Recra Lot#: 9912L959

Leaching Procedure: __1310 __1311 __1312 __Other:_____

CLP Metals __✓Digestion and __✓Analysis Methods: __ILM03.0 __✓ILM04.0

Metals Digestion Methods: __3005A __3010A __3015 __3020A __3050B __3051 __200.7 __SS17
__Other: _____

Metals Analysis Methods

	SW846	EPA	STD MTD	EPA OSWR	USATHAMA
Aluminum	__6010B	__200.7			__99
Antimony	__6010B __7041 [5]	__200.7 __204.2			__99
Arsenic	__6010B __7060A [5]	__200.7 __206.2	__3113B		__99
Barium	__6010B	__200.7			__99
Beryllium	__6010B	__200.7			__99
Bismuth	__6010B [1]	__200.7 [1]		__1620	__99
Boron	__6010B	__200.7			__99
Cadmium	__6010B __7131A [5]	__200.7 __213.2			__99
Calcium	__6010B	__200.7			__99
Chromium	__6010B __7191 [5]	__200.7 __218.2			__SS17
Cobalt	__6010B	__200.7			__99
Copper	__6010B __7211 [5]	__200.7 __220.2			__99
Iron	__6010B	__200.7			__99
Lead	__6010B __7421 [5]	__200.7 __239.2	__3113B		__99
Lithium	__6010B __7430 [4]	__200.7		__1620	__99
Magnesium	__6010B	__200.7			__99
Manganese	__6010B	__200.7			__99
Mercury	__7470A [3] __7471A [3]	__245.1 [2] __245.5 [2]			__99
Molybdenum	__6010B	__200.7			__99
Nickel	__6010B	__200.7			__99
Potassium	__6010B __7610 [4]	__200.7 __258.1 [4]			__99
Rare Earths	__6010B [1]	__200.7 [1]		__1620	__99
Selenium	__6010B __7740 [5]	__200.7 __270.2	__3113B		__99
Silicon	__6010B [1]	__200.7		__1620	__99
Silica	__6010B	__200.7		__1620	__99
Silver	__6010B __7761 [5]	__200.7 __272.2			__99
Sodium	__6010B __7770 [4]	__200.7 __273.1 [4]			__99
Strontium	__6010B	__200.7			__99
Thallium	__6010B __7841 [5]	__200.7 __279.2 __200.9			__99
Tin	__6010B	__200.7			__99
Titanium	__6010B	__200.7			__99
Uranium	__6010B [1]	__200.7 [1]		__1620	__99
Vanadium	__6010B	__200.7			__99
Zinc	__6010B	__200.7			__99
Zirconium	__6010B [1]	__200.7 [1]		__1620	__99

Other:_____ Method:_____

WET CHEMISTRY
METHODS GLOSSARY FOR ANALYSIS OF SOIL/SOLID SAMPLES

	ASTM	SW846	OTHER
%Ash	__ D2216-80		
%Moisture	__ D2216-80		__ ILMO4.0 (e)
%Solids			__ ILMO4.0 (e)
%Volatile Solids	__ D2216-80		
ASTM Extraction in Water	__ D3987-81/85		
BTU	__ D240-87		
CEC		__ 9081	__ c
Corrosivity __by coupon __by pH		__ 1110 (mod)__ 9045	
Cyanide, Total		__ 9010	✓ ILMO4.0 (e)
Cyanide, Reactive		__ Sec 7.3	
Density			__ b
Halides, Extractable Organic			__ EPA 600/4/84-008 (mod)
Halides, Total			__ EPA 600/4/84-008 (mod)
EP Toxicity		__ 1310A	
Flash Point		__ 1010	
Ignitability		__ 1010	
Carbon, Total Organic (by LOI)			__ c
Oil and Grease		__ 9071A	
Carbon, Total Organic		__ 9060	__ Lloyd Kahn (mod)
Oxygen Bomb Prep for Anions	__ D240-87 (mod)	__ 5050	
Petroleum Hydrocarbons, Total Recoverable		__ 9071	__ EPA 418.1 (mod)
pH, Soil		__ 9045B	
Sulfide, Reactive		__ Sec 7.3	
Specific Gravity	__ D1429-76C		
Sulfur, Total		__ 9056	
TCLP		__ 1311	
TCLV		__ 1311	
Synthetic Precipitation Leach		__ 1312	
Chlorine, Total		__ 9056	
Paint Filter		__ 9095	

Other: _____ Method: _____

RECRA

METHOD REFERENCES AND DATA QUALIFIERS

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

ABBREVIATIONS

MB = Method or Preparation Blank.
MS = Matrix Spike.
MSD = Matrix Spike Duplicate.
REP = Sample Replicate
LC = Laboratory Control Sample.
NC = Not calculated.

A suffix of -R, -S, or -T following these codes indicate a replicate, spike or sample duplicate analysis respectively.

ANALYTICAL WET CHEMISTRY METHODS

1. ASTM Standard Methods.

2. USEPA Methods for Chemical Analysis of Water and Wastes (USEPA 600/4-79 020).

3. Test Methods for Evaluating Solid Waste (USEPA SW-846).

a. Standard Methods for the Examination of Water and Waste, 16 ed., (1989).

b. Standard Methods for the Examination of Water and Waste, 17 ed., (1983)

c. Method of Soil Analysis, Part 1, Physical and Mineralogical Methods, 2nd. Ed. (1986)

d. Method of Soil Analysis, Part 2, Chemical and Microbiological Properties, Am. Soc. Agron., Madison, WI (1965)

e. USEPA Contract Laboratory Program, Statement of Work for Inorganic Analysis

f. Code of Federal Regulations.

Inorganic Analysis Data Package

U.S. EPA - CLP

1

INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

B70603

Lab Name: RECRA_LABNET Contract: 01667

Lab Code: RECRA Case No.: SH899 SAS No.: SDG No.: 12206

Matrix (soil/water): SOIL Lab Sample ID: 9912L959-003

Level (low/med): LOW Date Received: 12/08/99

% Solids: 65.9

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

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	20100			P
7440-36-0	Antimony	0.56	U	N	P
7440-38-2	Arsenic	16.1			P
7440-39-3	Barium	828			P
7440-41-7	Beryllium	2.2			P
7440-43-9	Cadmium	2.4			P
7440-70-2	Calcium	85100			P
7440-47-3	Chromium	47.9		N	P
7440-48-4	Cobalt	4.1	B		P
7440-50-8	Copper	45.8			P
7439-89-6	Iron	20200			P
7439-92-1	Lead	467			P
7439-95-4	Magnesium	35800			P
7439-96-5	Manganese	3480			P
7439-97-6	Mercury	1.0			AV
7440-02-0	Nickel	35.6			P
7440-09-7	Potassium	2540			P
7782-49-2	Selenium	2.6			P
7440-22-4	Silver	0.24	B		P
7440-23-5	Sodium	714	B		P
7440-28-0	Thallium	1.1	U		P
7440-62-2	Vanadium	23.2			P
7440-66-6	Zinc	663			P
5955-70-0	Cyanide	0.76	U		C

Color Before: Clarity Before: Texture:

Color After: Clarity After: Artifacts:

Comments:

SH899-12206-B70603

FORM I - IN ILM04.0

U.S. EPA - CLP

1

INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

B70604

Lab Name: RECRA_LABNET_____ Contract: 01667_____

Lab Code: RECRA_ Case No.: SH899_ SAS No.: _____ SDG No.: 12206_

Matrix (soil/water): SOIL_ Lab Sample ID: 9912L959-004

Level (low/med): LOW__ Date Received: 12/08/99

% Solids: _66.9

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

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	7560			P
7440-36-0	Antimony	0.59	U	N	P
7440-38-2	Arsenic	4.7			P
7440-39-3	Barium	86.1			P
7440-41-7	Beryllium	0.42	B		P
7440-43-9	Cadmium	0.47	B		P
7440-70-2	Calcium	15400			P
7440-47-3	Chromium	11.1		N	P
7440-48-4	Cobalt	5.5	B		P
7440-50-8	Copper	21.8			P
7439-89-6	Iron	16700			P
7439-92-1	Lead	47.2			P
7439-95-4	Magnesium	5900			P
7439-96-5	Manganese	346			P
7439-97-6	Mercury	0.12			AV
7440-02-0	Nickel	14.0			P
7440-09-7	Potassium	1020	B		P
7782-49-2	Selenium	1.3	B		P
7440-22-4	Silver	0.22	U		P
7440-23-5	Sodium	88.5	B		P
7440-28-0	Thallium	1.2	U		P
7440-62-2	Vanadium	15.5			P
7440-66-6	Zinc	196			P
5955-70-0	Cyanide	1.1			C

Color Before: _____ Clarity Before: _____ Texture: _____

Color After: _____ Clarity After: _____ Artifacts: _____

Comments:

SH899-12206-B70604_____

U.S. EPA - CLP

1

INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

B70605

Lab Name: RECRA_LABNET Contract: 01667

Lab Code: RECRA Case No.: SH899 SAS No.: SDG No.: 12206

Matrix (soil/water): SOIL Lab Sample ID: 9912L959-005

Level (low/med): LOW Date Received: 12/08/99

% Solids: 88.9

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

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	12000			P
7440-36-0	Antimony	0.46	U	N	P
7440-38-2	Arsenic	5.3			P
7440-39-3	Barium	98.8			P
7440-41-7	Beryllium	0.69	B		P
7440-43-9	Cadmium	0.31	B		P
7440-70-2	Calcium	3880			P
7440-47-3	Chromium	16.3		N	P
7440-48-4	Cobalt	11.5			P
7440-50-8	Copper	13.5			P
7439-89-6	Iron	23900			P
7439-92-1	Lead	14.8			P
7439-95-4	Magnesium	3790			P
7439-96-5	Manganese	780			P
7439-97-6	Mercury	0.03	B		AV
7440-02-0	Nickel	22.8			P
7440-09-7	Potassium	1170			P
7782-49-2	Selenium	0.99	B		P
7440-22-4	Silver	0.17	U		P
7440-23-5	Sodium	56.5	B		P
7440-28-0	Thallium	0.94	U		P
7440-62-2	Vanadium	20.1			P
7440-66-6	Zinc	79.4			P
5955-70-0	Cyanide	0.56	U		C

Color Before: Clarity Before: Texture:

Color After: Clarity After: Artifacts:

Comments:

SH899-12206-B70605

U.S. EPA - CLP

1

INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

B70606

Lab Name: RECRA_LABNET_____ Contract: 01667_____

Lab Code: RECRA_ Case No.: SH899_ SAS No.: _____ SDG No.: 12206_

Matrix (soil/water): SOIL_ Lab Sample ID: 9912L959-006

Level (low/med): LOW__ Date Received: 12/08/99

% Solids: _71.9

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

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	22200			P
7440-36-0	Antimony	0.58	U	N	P
7440-38-2	Arsenic	37.7			P
7440-39-3	Barium	41.6	B		P
7440-41-7	Beryllium	0.81	B		P
7440-43-9	Cadmium	1.1	B		P
7440-70-2	Calcium	39400			P
7440-47-3	Chromium	49.5		N	P
7440-48-4	Cobalt	2.7	B		P
7440-50-8	Copper	8.1			P
7439-89-6	Iron	14200			P
7439-92-1	Lead	25.9			P
7439-95-4	Magnesium	29900			P
7439-96-5	Manganese	100			P
7439-97-6	Mercury	0.03	U		AV
7440-02-0	Nickel	16.0			P
7440-09-7	Potassium	3400			P
7782-49-2	Selenium	1.1	U		P
7440-22-4	Silver	0.22	U		P
7440-23-5	Sodium	824	B		P
7440-28-0	Thallium	1.2	U		P
7440-62-2	Vanadium	52.6			P
7440-66-6	Zinc	54.7			P
5955-70-0	Cyanide	0.70	U		C

Color Before: _____ Clarity Before: _____ Texture: _____

Color After: _____ Clarity After: _____ Artifacts: _____

Comments:

SH899-12206-B70606

U.S. EPA - CLP

1

INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

B70607

Lab Name: RECRA_LABNET Contract: 01667

Lab Code: RECRA Case No.: SH899 SAS No.: SDG No.: 12206

Matrix (soil/water): SOIL Lab Sample ID: 9912L959-007

Level (low/med): LOW Date Received: 12/08/99

% Solids: 66.9

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

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	21400			P
7440-36-0	Antimony	0.58	U	N	P
7440-38-2	Arsenic	113			P
7440-39-3	Barium	28.5	B		P
7440-41-7	Beryllium	1.2	B		P
7440-43-9	Cadmium	1.1	B		P
7440-70-2	Calcium	14300			P
7440-47-3	Chromium	59.3		N	P
7440-48-4	Cobalt	10.0	B		P
7440-50-8	Copper	58.5			P
7439-89-6	Iron	65500			P
7439-92-1	Lead	44.0			P
7439-95-4	Magnesium	21200			P
7439-96-5	Manganese	1190			P
7439-97-6	Mercury	0.05	B		AV
7440-02-0	Nickel	23.7			P
7440-09-7	Potassium	2670			P
7782-49-2	Selenium	2.7			P
7440-22-4	Silver	0.22	U		P
7440-23-5	Sodium	554	B		P
7440-28-0	Thallium	1.2	U		P
7440-62-2	Vanadium	60.3			P
7440-66-6	Zinc	115			P
5955-70-0	Cyanide	0.75	U		C

Color Before: Clarity Before: Texture:

Color After: Clarity After: Artifacts:

Comments:

SH899-12206-B70607

U.S. EPA - CLP

1

INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

B70610

Lab Name: RECRA_LABNET Contract: 01667

Lab Code: RECRA Case No.: SH899 SAS No.: SDG No.: 12206

Matrix (soil/water): SOIL Lab Sample ID: 9912L959-008

Level (low/med): LOW Date Received: 12/08/99

% Solids: 67.1

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

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	4400			P
7440-36-0	Antimony	5.7	B	N	P
7440-38-2	Arsenic	12.2			P
7440-39-3	Barium	75.0			P
7440-41-7	Beryllium	0.46	B		P
7440-43-9	Cadmium	0.34	B		P
7440-70-2	Calcium	31400			P
7440-47-3	Chromium	9.9		N	P
7440-48-4	Cobalt	5.9	B		P
7440-50-8	Copper	132			P
7439-89-6	Iron	11400			P
7439-92-1	Lead	473			P
7439-95-4	Magnesium	17900			P
7439-96-5	Manganese	255			P
7439-97-6	Mercury	1.5			AV
7440-02-0	Nickel	14.7			P
7440-09-7	Potassium	491	B		P
7782-49-2	Selenium	3.5			P
7440-22-4	Silver	0.22	U		P
7440-23-5	Sodium	331	B		P
7440-28-0	Thallium	1.2	U		P
7440-62-2	Vanadium	20.2			P
7440-66-6	Zinc	128			P
5955-70-0	Cyanide	0.75	U		C

Color Before: Clarity Before: Texture:

Color After: Clarity After: Artifacts:

Comments:

SH899-12206-B70607

U.S. EPA - CLP

1

INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

B70611

Lab Name: RECRA_LABNET Contract: 01667

Lab Code: RECRA Case No.: SH899 SAS No.: SDG No.: 12206

Matrix (soil/water): SOIL Lab Sample ID: 9912L959-009

Level (low/med): LOW Date Received: 12/08/99

% Solids: 86.8

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

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	6770			P
7440-36-0	Antimony	0.46	U	N	P
7440-38-2	Arsenic	4.6			P
7440-39-3	Barium	51.0			P
7440-41-7	Beryllium	0.34	B		P
7440-43-9	Cadmium	0.34	B		P
7440-70-2	Calcium	46500			P
7440-47-3	Chromium	10.1		N	P
7440-48-4	Cobalt	4.7	B		P
7440-50-8	Copper	17.9			P
7439-89-6	Iron	14900			P
7439-92-1	Lead	152			P
7439-95-4	Magnesium	27200			P
7439-96-5	Manganese	440			P
7439-97-6	Mercury	0.12			AV
7440-02-0	Nickel	10.1			P
7440-09-7	Potassium	1000	B		P
7782-49-2	Selenium	0.90	U		P
7440-22-4	Silver	0.18	U		P
7440-23-5	Sodium	118	B		P
7440-28-0	Thallium	0.94	U		P
7440-62-2	Vanadium	16.6			P
7440-66-6	Zinc	103			P
5955-70-0	Cyanide	0.58	U		C

Color Before: Clarity Before: Texture:

Color After: Clarity After: Artifacts:

Comments:

SH899-12207-B70611

U.S. EPA - CLP

1

INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

B70612

Lab Name: RECRA_LABNET Contract: 01667

Lab Code: RECRA Case No.: SH899 SAS No.: SDG No.: 12206

Matrix (soil/water): SOIL Lab Sample ID: 9912L959-010

Level (low/med): LOW Date Received: 12/08/99

% Solids: 25.4

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

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	11900			P
7440-36-0	Antimony	1.5	U	N	P
7440-38-2	Arsenic	8.7			P
7440-39-3	Barium	138	B		P
7440-41-7	Beryllium	0.58	B		P
7440-43-9	Cadmium	1.8	B		P
7440-70-2	Calcium	11900			P
7440-47-3	Chromium	24.0		N	P
7440-48-4	Cobalt	8.4	B		P
7440-50-8	Copper	75.8			P
7439-89-6	Iron	22800			P
7439-92-1	Lead	164			P
7439-95-4	Magnesium	4510			P
7439-96-5	Manganese	352			P
7439-97-6	Mercury	2.1			AV
7440-02-0	Nickel	24.2	B		P
7440-09-7	Potassium	1790	B		P
7782-49-2	Selenium	3.1	B		P
7440-22-4	Silver	1.2	B		P
7440-23-5	Sodium	458	B		P
7440-28-0	Thallium	3.1	U		P
7440-62-2	Vanadium	24.8	B		P
7440-66-6	Zinc	309			P
5955-70-0	Cyanide	2.0	U		C

Color Before: Clarity Before: Texture:

Color After: Clarity After: Artifacts:

Comments:

SH899-12207-B70612

U.S. EPA - CLP

1

INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

B70613

Lab Name: RECRA_LABNET_____ Contract: 01667_____

Lab Code: RECRA_ Case No.: SH899_ SAS No.: _____ SDG No.: 12206_

Matrix (soil/water): SOIL_ Lab Sample ID: 9912L959-011

Level (low/med): LOW__ Date Received: 12/08/99

% Solids: _71.8

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

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	7000			P
7440-36-0	Antimony	1.2	B	N	P
7440-38-2	Arsenic	60.7			P
7440-39-3	Barium	366			P
7440-41-7	Beryllium	0.63	B		P
7440-43-9	Cadmium	2.3			P
7440-70-2	Calcium	167000			P
7440-47-3	Chromium	14.1		N	P
7440-48-4	Cobalt	4.9	B		P
7440-50-8	Copper	44.1			P
7439-89-6	Iron	17400			P
7439-92-1	Lead	119			P
7439-95-4	Magnesium	30600			P
7439-96-5	Manganese	1500			P
7439-97-6	Mercury	0.67			AV
7440-02-0	Nickel	23.6			P
7440-09-7	Potassium	2240			P
7782-49-2	Selenium	7.4			P
7440-22-4	Silver	0.36	B		P
7440-23-5	Sodium	497	B		P
7440-28-0	Thallium	0.96	U		P
7440-62-2	Vanadium	28.6			P
7440-66-6	Zinc	183			P
5955-70-0	Cyanide	0.70	U		C

Color Before: _____ Clarity Before: _____ Texture: _____

Color After: _____ Clarity After: _____ Artifacts: _____

Comments:

SH899-12207-B70613

U.S. EPA - CLP

1

INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

B70614

Lab Name: RECRA_LABNET Contract: 01667

Lab Code: RECRA Case No.: SH899 SAS No.: SDG No.: 12206

Matrix (soil/water): SOIL Lab Sample ID: 9912L959-012

Level (low/med): LOW Date Received: 12/08/99

% Solids: 21.7

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

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	2970			P
7440-36-0	Antimony	1.8	U	N	P
7440-38-2	Arsenic	4.3	B		P
7440-39-3	Barium	358			P
7440-41-7	Beryllium	0.09	U		P
7440-43-9	Cadmium	3.5	B		P
7440-70-2	Calcium	22600			P
7440-47-3	Chromium	10.4		N	P
7440-48-4	Cobalt	3.1	B		P
7440-50-8	Copper	54.2			P
7439-89-6	Iron	21200			P
7439-92-1	Lead	972			P
7439-95-4	Magnesium	2490	B		P
7439-96-5	Manganese	189			P
7439-97-6	Mercury	0.50			AV
7440-02-0	Nickel	11.4	B		P
7440-09-7	Potassium	1300	B		P
7782-49-2	Selenium	4.1	B		P
7440-22-4	Silver	1.2	B		P
7440-23-5	Sodium	186	B		P
7440-28-0	Thallium	3.8	U		P
7440-62-2	Vanadium	12.9	B		P
7440-66-6	Zinc	739			P
5955-70-0	Cyanide	2.3	U		C

Color Before: Clarity Before: Texture:

Color After: Clarity After: Artifacts:

Comments:

SH899-12207-B70614

U.S. EPA - CLP

1

INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

B70615

Lab Name: RECRA_LABNET Contract: 01667

Lab Code: RECRA Case No.: SH899 SAS No.: SDG No.: 12206

Matrix (soil/water): SOIL Lab Sample ID: 9912L959-013

Level (low/med): LOW Date Received: 12/08/99

% Solids: 63.1

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

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	4400			P
7440-36-0	Antimony	3.7	B	N	P
7440-38-2	Arsenic	13.5			P
7440-39-3	Barium	224			P
7440-41-7	Beryllium	0.39	B		P
7440-43-9	Cadmium	3.4			P
7440-70-2	Calcium	19600			P
7440-47-3	Chromium	13.1		N	P
7440-48-4	Cobalt	5.9	B		P
7440-50-8	Copper	73.1			P
7439-89-6	Iron	18700			P
7439-92-1	Lead	261			P
7439-95-4	Magnesium	4870			P
7439-96-5	Manganese	250			P
7439-97-6	Mercury	1.4			AV
7440-02-0	Nickel	17.3			P
7440-09-7	Potassium	853	B		P
7782-49-2	Selenium	2.9			P
7440-22-4	Silver	0.66	B		P
7440-23-5	Sodium	180	B		P
7440-28-0	Thallium	1.2	U		P
7440-62-2	Vanadium	17.8			P
7440-66-6	Zinc	772			P
5955-70-0	Cyanide	0.79	U		C

Color Before: Clarity Before: Texture:

Color After: Clarity After: Artifacts:

Comments:

SH899-12207-B70615

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3
BLANKS

Lab Name: RECRA_LABNET_____ Contract: 01667_____

Lab Code: RECRA_ Case No.: SH899_ SAS No.: _____ SDG No.: 12206_

Preparation Blank Matrix (soil/water): SOIL_

Preparation Blank Concentration Units (ug/L or mg/kg): MG/KG

Analyte	Initial Calib. Blank (ug/L)	C	Continuing Calibration Blank (ug/L) 1	C	2	C	3	C	Prepa-ration Blank	C	M
Aluminum	10.1	U	10.1	U	-11.0	B	-34.7	B	2.020	U	P
Antimony	2.1	U	2.1	U	2.1	U	2.1	U	0.420	U	P
Arsenic	2.7	U	-2.9	B	-3.1	B	2.7	U	0.540	U	P
Barium	0.2	U	0.2	U	0.2	U	0.2	U	-0.047	B	P
Beryllium	0.1	U	0.1	U	0.1	U	0.1	U	0.020	U	P
Cadmium	0.4	U	0.4	U	0.4	U	0.4	U	0.080	U	P
Calcium	8.6	U	8.6	U	8.6	U	8.6	U	8.674	B	P
Chromium	0.7	U	0.7	U	0.7	U	0.7	U	0.140	U	P
Cobalt	0.7	U	0.7	U	0.7	U	0.7	U	0.140	U	P
Copper	0.5	U	0.5	U	0.5	U	0.5	U	0.100	U	P
Iron	13.6	U	13.6	U	13.6	U	13.6	U	4.080	B	P
Lead	2.1	U	2.1	U	2.1	U	2.1	U	0.420	U	P
Magnesium	6.3	U	6.3	U	6.3	U	6.3	U	2.766	B	P
Manganese	0.2	U	0.2	U	0.2	B	0.3	B	0.136	B	P
Mercury	0.1	U	0.1	U	0.1	U	0.1	U	0.050	U	AV
Nickel	1.0	U	1.0	U	1.0	U	1.0	U	0.200	U	P
Potassium	17.8	U	-20.5	B	17.8	U	17.8	U	3.560	U	P
Selenium	-4.6	B	4.1	U	4.1	U	-4.8	B	0.820	U	P
Silver	0.8	U	0.8	U	0.8	U	0.8	U	0.160	U	P
Sodium	4.8	U	4.8	U	4.8	U	4.8	U	2.408	B	P
Thallium	4.3	U	4.3	U	4.3	U	4.3	U	0.860	U	P
Vanadium	0.6	U	0.6	U	0.6	U	0.6	U	0.120	U	P
Zinc	0.5	U	0.5	U	0.5	U	0.5	U	0.104	B	P
Cyanide	10.0	U	10.0	U	10.0	U	10.0	U	0.500	U	C

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3
BLANKS

Lab Name: RECRA_LABNET_____ Contract: 01667_____

Lab Code: RECRA_ Case No.: SH899_ SAS No.: _____ SDG No.: 12206_

Preparation Blank Matrix (soil/water): _____

Preparation Blank Concentration Units (ug/L or mg/kg): _____

Analyte	Initial Calib. Blank (ug/L)	C	Continuing Calibration Blank (ug/L) 1	C	2	C	3	C	Prepa-ration Blank	C	M
Aluminum			-52.7	B							P
Antimony			2.1	U							P
Arsenic			2.7	U							P
Barium			0.2	U							P
Beryllium			-0.2	B							P
Cadmium			0.4	U							P
Calcium			8.6	U							P
Chromium			0.7	U							P
Cobalt			0.7	U							P
Copper			0.5	U							P
Iron			13.6	U							P
Lead			2.1	U							P
Magnesium			6.3	U							P
Manganese			0.3	B							P
Mercury			0.1	U							AV
Nickel			1.0	U							P
Potassium			17.8	U							P
Selenium			4.1	U							P
Silver			0.8	U							P
Sodium			4.8	U							P
Thallium			4.3	U							P
Vanadium			0.6	U							P
Zinc			0.5	U							P
Cyanide			10.0	U							C

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3
BLANKS

Lab Name: RECRA_LABNET_____ Contract: 01667_____

Lab Code: RECRA_ Case No.: SH899_ SAS No.: _____ SDG No.: 12206_

Preparation Blank Matrix (soil/water): _____

Preparation Blank Concentration Units (ug/L or mg/kg): _____

Analyte	Initial Calib. Blank (ug/L)	C	Continuing Calibration Blank (ug/L) 1	C	2	C	3	C	Prepa-ration Blank	C	M
Aluminum											NR
Antimony											NR
Arsenic											NR
Barium											NR
Beryllium											NR
Cadmium											NR
Calcium	22.5	U	22.5	U	-28.3	B	-29.7	B			P
Chromium											NR
Cobalt											NR
Copper											NR
Iron											NR
Lead											NR
Magnesium											NR
Manganese											NR
Mercury											NR
Nickel											NR
Potassium											NR
Selenium											NR
Silver											NR
Sodium											NR
Thallium											NR
Vanadium											NR
Zinc											NR
Cyanide											NR

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3
BLANKS

Lab Name: RECRA_LABNET_____ Contract: 01667_____

Lab Code: RECRA_ Case No.: SH899_ SAS No.: _____ SDG No.: 12206_

Preparation Blank Matrix (soil/water): _____

Preparation Blank Concentration Units (ug/L or mg/kg): _____

Analyte	Initial Calib. Blank (ug/L)	C	Continuing Calibration Blank (ug/L) 1	C	2	C	3	C	Prepa-ration Blank	C	M
Aluminum											NR
Antimony											NR
Arsenic											NR
Barium											NR
Beryllium											NR
Cadmium											NR
Calcium			-26.1	B	22.5	U	22.5	U			P
Chromium											NR
Cobalt											NR
Copper											NR
Iron											NR
Lead											NR
Magnesium											NR
Manganese											NR
Mercury											NR
Nickel											NR
Potassium											NR
Selenium											NR
Silver											NR
Sodium											NR
Thallium											NR
Vanadium											NR
Zinc											NR
Cyanide											NR

U.S. EPA - CLP

3
BLANKS

Lab Name: RECRA_LABNET_____ Contract: 01667_____

Lab Code: RECRA_ Case No.: SH899_ SAS No.: _____ SDG No.: 12206_

Preparation Blank Matrix (soil/water): _____

Preparation Blank Concentration Units (ug/L or mg/kg): _____

Analyte	Initial Calib. Blank (ug/L)	C	Continuing Calibration Blank (ug/L) 1	C	2	C	3	C	Prepa-ration Blank	C	M
Aluminum											NR
Antimony											NR
Arsenic											NR
Barium											NR
Beryllium											NR
Cadmium											NR
Calcium			22.5	U							P
Chromium											NR
Cobalt											NR
Copper											NR
Iron											NR
Lead											NR
Magnesium											NR
Manganese											NR
Mercury											NR
Nickel											NR
Potassium											NR
Selenium											NR
Silver											NR
Sodium											NR
Thallium											NR
Vanadium											NR
Zinc											NR
Cyanide											NR

U.S. EPA - CLP

5A
SPIKE SAMPLE RECOVERY

EPA SAMPLE NO.
B70607S

Lab Name: RECRA_LABNET Contract: 01667

Lab Code: RECRA Case No.: SH899 SAS No.: SDG No.: 12206

Matrix (soil/water): SOIL Level (low/med): LOW

% Solids for Sample: 66.9

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

Analyte	Control Limit %R	Spiked Sample Result (SSR)	C	Sample Result (SR)	C	Spike Added (SA)	%R	Q	M
Aluminum									NR
Antimony	75-125	29.8526		0.5760	U	73.27	40.7	N	P
Arsenic	75-125	364.4110		112.5149		293.09	85.9		P
Barium	75-125	314.9864		28.5358	B	293.09	97.7		P
Beryllium	75-125	7.9730		1.1986	B	7.33	92.4		P
Cadmium	75-125	7.5852		1.0749	B	7.33	88.8		P
Calcium									NR
Chromium	75-125	78.5914		59.2570		29.31	66.0	N	P
Cobalt	75-125	79.9991		10.0240	B	73.27	95.5		P
Copper	75-125	88.5530		58.4690		36.64	82.1		P
Iron									NR
Lead	75-125	110.8725		43.9958		73.27	91.3		P
Magnesium									NR
Manganese		1061.3764		1193.4861		73.27	-180.3		P
Mercury	75-125	0.3976		0.0538	B	0.30	114.6		AV
Nickel	75-125	88.3004		23.7336		73.27	88.1		P
Potassium									NR
Selenium	75-125	274.5113		2.7079		293.09	92.7		P
Silver	75-125	7.1869		0.2194	U	7.33	98.0		P
Sodium									NR
Thallium	75-125	258.1661		1.1794	U	293.09	88.1		P
Vanadium	75-125	123.7522		60.3118		73.27	86.6		P
Zinc	75-125	170.2699		114.6934		73.27	75.9		P
Cyanide	75-125	7.1374		0.7474	U	7.47	95.5		C

Comments:
SH899-12206-B70607

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5B
POST DIGEST SPIKE SAMPLE RECOVERY

EPA SAMPLE NO.
B70607A

Lab Name: RECRA_LABNET Contract: 01667

Lab Code: RECRA Case No.: SH899 SAS No.: SDG No.: 12206

Matrix (soil/water) : SOIL Level (low/med): LOW

Concentration Units: ug/L

Analyte	Control Limit %R	Spiked Sample Result (SSR)	C	Sample Result (SR)	C	Added (SA)	%R	Q	M
Aluminum									NR
Antimony		105.47		2.10	U	100.0	105.5		P
Arsenic									NR
Barium									NR
Beryllium									NR
Cadmium									NR
Calcium									NR
Chromium		320.06		216.05		100.0	104.0		P
Cobalt									NR
Copper									NR
Iron									NR
Lead									NR
Magnesium									NR
Manganese									NR
Mercury									NR
Nickel									NR
Potassium									NR
Selenium									NR
Silver									NR
Sodium									NR
Thallium									NR
Vanadium									NR
Zinc									NR
Cyanide									NR

Comments:
SH899-12206-B70607A

U.S. EPA - CLP

6
DUPLICATES

EPA SAMPLE NO.

B70607D

Lab Name: RECRA_LABNET Contract: 01667

Lab Code: RECRA Case No.: SH899 SAS No.: SDG No.: 12206

Matrix (soil/water): SOIL Level (low/med): LOW

% Solids for Sample: 66.9 % Solids for Duplicate: 66.9

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

Analyte	Control Limit	Sample (S)	C	Duplicate (D)	C	RPD	Q	M
Aluminum		21436.8481		19178.4860		11.1		P
Antimony		0.5760	U	0.5605	U			P
Arsenic		112.5149		95.4826		16.4		P
Barium		28.5358	B	43.6408	B	41.9		P
Beryllium		1.1986	B	1.2545	B	4.6		P
Cadmium		1.0749	B	1.0429	B	3.0		P
Calcium		14345.4012		13516.7387		5.9		P
Chromium		59.2570		51.9242		13.2		P
Cobalt		10.0240	B	11.4256	B	13.1		P
Copper		58.4690		55.2296		5.7		P
Iron		65476.5020		61896.6715		5.6		P
Lead		43.9958		50.4428		13.7		P
Magnesium		21220.0655		18622.2614		13.0		P
Manganese		1193.4861		989.2163		18.7		P
Mercury	0.0598	0.0538	B	0.0604		11.6		AV
Nickel	10.9708	23.7336		23.5007		1.0		P
Potassium	1371.347	2671.0262		2325.1716		13.8		P
Selenium	1.3713	2.7079		3.6051		28.4		P
Silver		0.2194	U	0.2135	U			P
Sodium		554.2102	B	495.1527	B	11.3		P
Thallium		1.1794	U	1.1478	U			P
Vanadium	13.7135	60.3118		54.1907		10.7		P
Zinc		114.6934		117.1925		2.2		P
Cyanide		0.7474	U	0.7474	U			C

Case Narrative

Recra LabNet Philadelphia
Analytical Report

Client: NYSDEC
RFW#: 9912L959
ELAP #: 10752

W.O.#: 01667-600-001-9999-00
Date Received: 12-08-99

GC/MS VOLATILE

One (1) water and eleven (11) soil samples were collected on 12-06,07-99.

The samples and their associated QC samples were analyzed according to criteria set forth in NYSDEC ASP (Rev. 10-95) for TCL Volatile target compounds on 12-10,12.13-99.

The following is a summary of the QC results accompanying these sample results and a description of any problems encountered during their analyses:

1. The cooler temperature upon receipt has been recorded on the chain-of-custody.

2. The required holding time for analysis was met.

3. Non-target compounds were detected in the samples.

4. Two (2) of sixty (60) surrogate recoveries were outside EPA QC limits. Sample SH899-12207-B70614 was reanalyzed on 12-13-99 and reported. Sample SH899-12206-B70610 was reanalyzed due to internal standard, surrogate recoveries being out of range and the contamination of Methylene Chloride. The initial analysis also had surrogate, internal standard out of criteria and higher concentration of Methylene Chloride contamination. Further analysis was not performed due to exceeded holding time. The data of the initial analysis will be available upon request. A copy of the Sample Discrepancy Report (SDR) has been enclosed.

5. All matrix spike recoveries were within EPA QC limits.

6. One (1) of five (5) blank spike recoveries was outside EPA QC limits.

7. The method blanks contained the common laboratory contaminants Methylene Chloride and/or Acetone at levels less than 3x the CRQL. The method blank 99LVN487-MB1 also contained the target compound 2-Butanone at a level less than the CRQL.

8. Internal standard area criteria were not met for most of the samples. Samples were reanalyzed due to the contamination of Methylene Chloride and internal standard, surrogate recoveries being out of range. The initial analysis also had higher concentration of Methylene Chloride, and surrogate recoveries and internal standard area out of criteria. Further analysis was not performed due to the exceeded holding time. The data of the initial analysis will be available upon request. A copy of the Sample Discrepancy Report (SDR) has been enclosed.

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9. The samples were analyzed with a standard, which had expired for the gas compounds; however, upon comparison with a newly prepared standard (prepared on 12-14-99) indicated that the gas recoveries were within criteria; consequently, there were no significant impact on the data. A copy of the Corrective Action Documentation has been enclosed.

10. Manual integrations are performed according to OP L-QA-125 to produce quality data with the utmost integrity. All manual integrations are required to be technically valid and properly documented. Appropriate technical flags are defined in Section III ("Technical Flags For Manual Integration"); hard copies of the integrations have been included with the quantitation data.

11. 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 hard copy 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.

By _____ 02-04-00

J. Michael Taylor
Vice President
Philadelphia Analytical Laboratory

Date

som\group\data\voa\nysdec-12-959.doc

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 under the following circumstances: 1) when estimating a concentration for tentatively identified compounds (TICs) where a 1:1 response is assumed; or 2) 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.

D = Identifies all compounds identified in an analysis at a secondary dilution factor.

I = Interference.

NQ = Result qualitatively *confirmed* but not able to quantify.

N = Indicates presumptive evidence of a compound. This flag is only used for tentatively identified compounds (*TICs*), where the identification is based on a mass spectral library search. It is applied to all TIC results. For generic characterization of a TIC, such as chlorinated hydrocarbon, the N code is not used.

X = This flag is used for a TIC compound which is quantified relative to a response factor generated from a daily calibration standard (rather than quantified relative to the closest internal standard).

Y = Additional qualifiers used as required are explained in the case narrative.

GLOSSARY OF VOA DATA

ABBREVIATIONS

BS	=	Indicates blank spike in which reagent grade water is spiked with the CLP matrix spike 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	=	Suffix added to sample number to indicate that results are from a diluted analysis.
NA	=	Not Applicable.
DF	=	Dilution Factor.
NR	=	Not Required.
SP, Z	=	Indicates Spiked Compound.

TECHNICAL FLAGS FOR MANUAL INTEGRATION

Manual quan modifications or integrations are performed routinely to improve the data quality for a variety of technical reasons. Documentation of these modifications should be clear and concise. The following "flags" are used to indicate the technical reasons for quan modifications:

MP - Missed Peak: manually added peak not found by automatic quan program.

PA - Peak Assignment: quan report was changed to reflect correct peak assignment.

RI - Routine Integration: routine integrations are performed for some analytes that are consistently integrated improperly by the automatic integration programs. Examples are the dichlorobenzene isomers on the VOA packed column and benzo(b)fluoranthene/benzo(k)fluoranthene which are poorly resolved on the BNA column.

SP - Split Peak: the automatic integration improperly split the peak; a manual integration was performed to get the correct area.

CB - Coelution/Background: peak was manually integrated to eliminate contribution from coeluting compounds, background signal, or other interference.

PI - Proper Integration: a peak with poor or inconsistent integration (e.g., excessive tail) was properly integrated manually.

Recra LabNet Philadelphia Sample Discrepancy Report (SDR) SDR #: [illegible]

Initiator: [illegible] RFW Batch: [illegible] Parameter: C624
Date: 12/16/00 Samples: 003,6,7,8,10,11,13 Matrix: Soil
Client: NUSTEC Method: SW846/MCAWW/CLP Prep Batch: —

1. Reason for SDR

a. COC Discrepancy __ Tech Profile Error __ Client Request __ Sampler Error on C-O-C __ Transcription Error __ Wrong Test Code __ Other _____

b. General Discrepancy

__ Missing Sample/Extract __ Container Broken __ Wrong Sample Pulled __ Label ID's Illegible
__ Hold Time Exceeded __ Insufficient Sample __ Preservation Wrong __ Received Past Hold
__ Improper Bottle Type __ Not Amenable to Analysis

Note: Verified by [Log-In] or [Prep Group] (circle)...signature/date: _____

c. QC Problem (Include all relevant specific results; attach data if necessary)

The 1st attempt at analyzing this batch (on 12/10) had very high levels of DCM (lab) contamination (ranging from 51-87 ppb.) Samples also had IS and/or SS out of range. Samples were reanalyzed 12/12. Reanalysis also had IS and/or SS out of range, but DCM was considerably lower (15-48 ppb). (All Samples out of hold)

2. Known or Probable Causes(s)

Lab contamination.

3. Discussion and Proposed Action

__ Re-log
__ Entire Batch
__ Following Samples: _____
__ Re-leach
__ Re-extract
__ Re-digest
__ Revise EDD
__ Change Test Code to _____
__ Place On/Take Off Hold (circle)

Other Description:

Rather than reporting both runs, would prefer to only report 2nd runs (lower limited DCM), and narrate the IS/SS that are out of range. Original runs can be made available upon request.

4. Project Manager Instructions...signature/date: _____ 1/24/00

✓ Concur with Proposed Action
__ Disagree with Proposed Action; See Instruction
✓ Include in Case Narrative
__ Client Contacted:
Date/Person _____
__ Add
__ Cancel

Indicate IS/SS out also on first run. May have TPH contamination from field?

5. Final Action...signature/date: [illegible] Other Explanation:

__ Verified re-[log][leach][extract][digest][analysis] (circle)
✓ Included in Case Narrative
__ Hard Copy COC Revised
__ Electronic COC Revised
__ EDD Corrections Completed

When Final Action has been recorded, forward original to QA Specialist for distribution and filing.

Route	Distribution of Completed SDR	Route	Distribution of Completed SDR
__	X Initiator MRS	__	__ Metals: Doughty
__	X Lab Manager: M. Taylor	__	__ Inorganic: Perrone
✓	X Project Mgr: Stone/Carey/Schrenkel/Johnson	__	__ GC/LC: Schnell
✓	X Section Mgr: Wesson/Daniels	__	__ MS: LeMin/Taylor
__	X QA (file): Racioppi	__	__ Log-in: Toder
__	__ Data Management: Feldman	__	__ Admin: Soos
__	__ Sample Prep: Schnell/Doughty/Kauffman	__	__ Other: _____

Recra LabNet Philadelphia **Sample Discrepancy Report (SDR)** SDR #: GC VTO40

Initiator: Durnak RFW Batch: 9912459 Parameter: 1004
Date: 12/13/99 Samples: BS, all Matrix: Soil
Client: DyDC Method: SW846/MCAWW/CLP/ Prep Batch: —

1. Reason for SDR

a. COC Discrepancy __ Tech Profile Error __ Client Request __ Sampler Error on C-O-C __ Transcription Error __ Wrong Test Code __ Other _____

b. General Discrepancy

__ Missing Sample/Extract __ Container Broken __ Wrong Sample Pulled __ Label ID's Illegible
__ Hold Time Exceeded __ Insufficient Sample __ Preservation Wrong __ Received Past Hold
__ Improper Bottle Type __ Not Amenable to Analysis

Note: Verified by [Log-In] or [Prep Group] (circle)...signature/date: _____

c. QC Problem (Include all relevant specific results; attach data if necessary) low Blank Spike recovery for 1,1 DCA are there 44% lower limit 59 associated MS/MSD were acceptable for surrogates & spikes however all 3 runs of sample (MS/MSD) had low internals. Requirements filled for sample. would like to narrate low BS recovery.

2. Known or Probable Causes(s)

3. Discussion and Proposed Action Other Description:

__ Re-log
__ Entire Batch
__ Following Samples: _____
__ Re-leach
__ Re-extract
__ Re-digest
__ Revise EDD
__ Change Test Code to _____
__ Place On/Take Off Hold (circle)

4. Project Manager Instructions...signature/date: [signature] 12/13/99

✓ Concur with Proposed Action
__ Disagree with Proposed Action; See Instruction
✓ Include in Case Narrative
__ Client Contacted:
Date/Person _____
__ Add
__ Cancel

5. Final Action...signature/date: [signature] 02-01-00 Other Explanation:

__ Verified re-[log][leach][extract][digest][analysis] (circle)
✓ Included in Case Narrative
__ Hard Copy COC Revised
__ Electronic COC Revised
__ EDD Corrections Completed

When Final Action has been recorded, forward original to QA Specialist for distribution and filing.

Route	Distribution of Completed SDR	Route	Distribution of Completed SDR
2	X Initiator	__	__ Metals: Doughty
__	X Lab Manager: ~~M. Taylor~~	__	__ Inorganic: Perrone
1	X Project Mgr: Stone/Garey/Schrenkel/Johnson	__	__ GC/LC: Schnell
__	X Section Mgr: ~~Wesson~~/Daniels	__	__ MS: Taylor
__	X QA (file): Racioppi	__	__ Log-in: Janson
__	__ Data Management: Feldman	__	__ Admin: Soos
__	__ Sample Prep: Doughty/Kauffman	__	__ Other: _____

Recra LabNet Philadelphia

CORRECTIVE ACTION DOCUMENTATION

AUDIT REPORT #: AR99-035

INSTRUCTIONS: 1) **ORIGINATOR** complete **PERSON RESPONSIBLE FOR RESPONSE** and **DESCRIPTION OF PROBLEM** blocks.
2) Originator forward form to **PERSON RESPONSIBLE FOR RESPONSE.**
3) Develop/plan a **SEQUENCE OF CORRECTIVE ACTION** and obtain **INITIAL CA APPROVAL** sign-off from supervisor.
4) Forward original form to QA for sign-off and **FOLLOW-UP ACTION.** This allows all pertinent action to be documented on the original form. On completion of the corrective action, the form is signed off by QA, distributed, and the original archived with the QA records.

DATE/ORIGINATOR MARIE SCHNEIDER 12-14-99

PAGE 1 OF 1

PERSON RESPONSIBLE FOR RESPONSE (corrective action plan and implementation of corrective action plan):

MARIE SCHNEIDER

12/14

DISTRIBUTION:
___ LABORATORY MANAGER
___ INORGANIC MANAGER
___ GC/MS MANAGER
___ GC/EXTR MANAGER
___ QA MANAGER
___ QA REPORT FILE
___
___

DESCRIPTION OF PROBLEM and when identified: Samples analyzed from 12/10 → 12/13/99 ran on calibrations which used an expired std (gases only). The std (8109-006-02) expired on 12/9/99.

CAUSE OF PROBLEM if known or suspected: Replacement std was prepped, but was not good (8109-012-01) (prepped incorrectly)

SEQUENCE OF CORRECTIVE ACTION (CA) planned (signature/date): 12/14/99

The replacement std (8109-012-01) was prepped on 12/9/99; prior to "old" std's expiration. When std was analyzed, it did not meet criteria (bad prep). A 2nd replacement std was (8109-013-01) was prepped on 12/13/99 - it did meet criteria.

The expired std (gases only) were analyzed against the "new" std, and met criteria, confirming the validity of the "expired" std.

ATTACHED - Form 7; logbook noting effected batches

INITIAL CA APPROVAL: Supervisor signature/date: STD Webb 12-14-99
QA signature/date:

DESCRIPTION OF QA FOLLOW-UP ACTION (include signature/date): Thurmel Eic 12/28/99

FINAL CA APPROVED (QA signature/date):

RFW 21-21-006/C-05/97

3B

SOIL VOLATILE MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

Lab Name: Recra.LabNet Contract: 1667-00-01

Lab Code: Recra Case No.: _____ SAS No.: _____ SDG No.: _____

MATRIX Spike - EPA Sample No.: SH899-12206-B Level (low/med) LOW

COMPOUND	SPIKE ADDED ug/Kg	SAMPLE CONCENTRATION ug/Kg	MS CONCENTRATION ug/Kg	MS % REC #	QC LIMITS REC.
1,1-Dichloroethene	83.0	0	78.2	94	59 -172
Trichloroethene	83.0	0	70.5	85	62 -137
Benzene	83.0	0	81.9	99	66 -142
Toluene	83.0	0	97.4	117	59 -139
Chlorobenzene	83.0	0	83.0	100	60 -133

COMPOUND	SPIKE ADDED ug/Kg	MSD CONCENTRATION ug/Kg	MSD % REC #	% RPD #	QC LIMITS RPD	QC LIMITS REC
1,1-Dichloroethene	73.3	72.3	99	5	22	59 -172
Trichloroethene	73.3	57.2	78	8	24	62 -137
Benzene	73.3	67.8	93	6	21	66 -142
Toluene	73.3	89.4	122	4	21	59 -139
Chlorobenzene	73.3	67.1	92	8	21	60 -133

Column to be used to flag recovery and RPD values with an asterisk

* Values outside of QC limits

RPD: 0 out of 5 outside limits
Spike Recovery: 0 out of 10 outside limits

COMMENTS: _____

_____

02-01-00

3B

SOIL VOLATILE MATRIX SPIKE RECOVERY

Lab Name: Recra.LabNet Contract: 1667-00-01

Lab Code: Recra Case No.: _____ SAS No.: _____ SDG No.: _____

MATRIX Spike - EPA Sample No.: VBLKIE Level (low/med) LOW

COMPOUND	SPIKE ADDED ug/Kg	SAMPLE CONCENTRATION ug/Kg	MS CONCENTRATION ug/Kg	MS % REC #	QC LIMITS REC.
1,1-Dichloroethene	50.0	0	21.8	44 *	59 -172
Trichloroethene	50.0	0	39.8	80	62 -137
Benzene	50.0	0	41.6	83	66 -142
Toluene	50.0	0	43.5	87	59 -139
Chlorobenzene	50.0	0	44.7	89	60 -133

Column to be used to flag recovery value with an asterisk

* Values outside of QC limits

Spike Recovery: 1 out of 5 outside limits

COMMENTS: _____

_____

gw 02-01-00

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

SH899-12206-B70603

Lab Name: Recra.LabNet Contract: 01667600001

Lab Code: Recra Case No.: _____ SAS No.: _____ SDG No.: _____

Matrix: (soil/water) SOIL Lab Sample ID: 9912L959-003

Sample wt/vol: 4.80 (g/mL) G Lab File ID: h121216

Level: (low/med) LOW Date Received: 12/08/99

% Moisture: not dec. 34 Date Analyzed: 12/12/99

GC Column: ID: ____(mm) Dilution Factor: 1.04

Soil Extract Volume: _____(uL) Soil Aliquot Volume: _____(uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
74-87-3	Chloromethane	16	U
74-83-9	Bromomethane	16	U
75-01-4	Vinyl Chloride	16	U
75-00-3	Chloroethane	16	U
75-09-2	Methylene Chloride	86	B
67-64-1	Acetone	16	U
75-15-0	Carbon Disulfide	16	U
75-35-4	1,1-Dichloroethene	16	U
75-34-3	1,1-Dichloroethane	16	U
540-59-0	1,2-Dichloroethene (total)	16	U
67-66-3	Chloroform	16	U
107-06-2	1,2-Dichloroethane	16	U
78-93-3	2-Butanone	16	U
71-55-6	1,1,1-Trichloroethane	16	U
56-23-5	Carbon Tetrachloride	16	U
75-27-4	Bromodichloromethane	16	U
78-87-5	1,2-Dichloropropane	16	U
10061-01-5	cis-1,3-Dichloropropene	16	U
79-01-6	Trichloroethene	16	U
124-48-1	Dibromochloromethane	16	U
79-00-5	1,1,2-Trichloroethane	16	U
71-43-2	Benzene	16	U
10061-02-6	Trans-1,3-Dichloropropene	16	U
75-25-2	Bromoform	16	U
108-10-1	4-Methyl-2-pentanone	16	U
591-78-6	2-Hexanone	16	U
127-18-4	Tetrachloroethene	16	U
79-34-5	1,1,2,2-Tetrachloroethane	16	U
108-88-3	Toluene	16	U
108-90-7	Chlorobenzene	16	U
100-41-4	Ethylbenzene	16	U
100-42-5	Styrene	16	U
1330-20-7	Xylene (total)	16	U

gw 02-01-00

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

SH899-12206-B70603

Lab Name: Recra.LabNet Contract: 01667600001

Lab Code: Recra Case No.: _____ SAS No.: _____ SDG No.: _____

Matrix: (soil/water) SOIL Lab Sample ID: 9912L959-003

Sample wt/vol: 4.80 (g/mL) G Lab File ID: h121216

Level: (low/med) LOW Date Received: 12/08/99

% Moisture: not dec. 34 Date Analyzed: 12/12/99

GC Column: ID: ____(mm) Dilution Factor: 1.04

Soil Extract Volume: _____(uL) Soil Aliquot Volume: _____(uL)

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 DATA SHEET

EPA SAMPLE NO.

SH899-12206-B70604

Lab Name: Recra.LabNet Contract: 01667600001

Lab Code: Recra Case No.: _____ SAS No.: _____ SDG No.: _____

Matrix: (soil/water) SOIL Lab Sample ID: 9912L959-004

Sample wt/vol: 4.50 (g/mL) G Lab File ID: n121018

Level: (low/med) LOW Date Received: 12/08/99

% Moisture: not dec. 33 Date Analyzed: 12/10/99

GC Column: RTX624 ID: 0.32 (mm) Dilution Factor: 1.11

Soil Extract Volume: _____(uL) Soil Aliquot Volume: _____(uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
74-87-3	Chloromethane	17	U
74-83-9	Bromomethane	17	U
75-01-4	Vinyl Chloride	17	U
75-00-3	Chloroethane	17	U
75-09-2	Methylene Chloride	49	B
67-64-1	Acetone	98	B
75-15-0	Carbon Disulfide	2	J
75-35-4	1,1-Dichloroethene	17	U
75-34-3	1,1-Dichloroethane	8	J
540-59-0	1,2-Dichloroethene (total)	6	J
67-66-3	Chloroform	17	U
107-06-2	1,2-Dichloroethane	17	U
78-93-3	2-Butanone	17	U
71-55-6	1,1,1-Trichloroethane	17	U
56-23-5	Carbon Tetrachloride	17	U
75-27-4	Bromodichloromethane	17	U
78-87-5	1,2-Dichloropropane	17	U
10061-01-5	cis-1,3-Dichloropropene	17	U
79-01-6	Trichloroethene	28	
124-48-1	Dibromochloromethane	17	U
79-00-5	1,1,2-Trichloroethane	17	U
71-43-2	Benzene	17	U
10061-02-6	Trans-1,3-Dichloropropene	17	U
75-25-2	Bromoform	17	U
108-10-1	4-Methyl-2-pentanone	17	U
591-78-6	2-Hexanone	17	U
127-18-4	Tetrachloroethene	17	U
79-34-5	1,1,2,2-Tetrachloroethane	17	U
108-88-3	Toluene	3	J
108-90-7	Chlorobenzene	17	U
100-41-4	Ethylbenzene	17	U
100-42-5	Styrene	17	U
1330-20-7	Xylene (total)	17	U

W 03-01-00

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

SH899-12206-B70604

Lab Name: Recra.LabNet Contract: 01667600001

Lab Code: Recra Case No.: _____ SAS No.: _____ SDG No.: _____

Matrix: (soil/water) SOIL Lab Sample ID: 9912L959-004

Sample wt/vol: 4.50 (g/mL) G Lab File ID: n121018

Level: (low/med) LOW Date Received: 12/08/99

% Moisture: not dec. 33 Date Analyzed: 12/10/99

GC Column: RTX624 ID: 0.32 (mm) Dilution Factor: 1.11

Soil Extract Volume: _____(uL) Soil Aliquot Volume: _____(uL)

Number TICs found: 9 CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	79209	ACETIC ACID, METHYL ESTER	8.654	8	NJ
2.	91576	NAPHTHALENE, 2-METHYL-	21.386	90	NJ
3.	91576	NAPHTHALENE, 2-METHYL-	22.511	50	NJ
4.	1120214	UNDECANE	24.384	9	NJ
5.	92524	BIPHENYL	24.572	10	NJ
6.	581420	NAPHTHALENE, 2,6-DIMETHYL-	25.489	20	NJ
7.	575417	NAPHTHALENE, 1,3-DIMETHYL-	25.972	20	NJ
8.	571619	NAPHTHALENE, 1,5-DIMETHYL-	26.091	10	NJ
9.	91203	NAPHTHALENE	26.485	20	NJ

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

SH899-12206-B70605

Lab Name: Recra.LabNet Contract: 01667600001

Lab Code: Recra Case No.: _____ SAS No.: _____ SDG No.: _____

Matrix: (soil/water) SOIL Lab Sample ID: 9912L959-005

Sample wt/vol: 4.50 (g/mL) G Lab File ID: h121207

Level: (low/med) LOW Date Received: 12/08/99

% Moisture: not dec. 11 Date Analyzed: 12/12/99

GC Column: RTX624 ID: 0.32 (mm) Dilution Factor: 1.11

Soil Extract Volume: _____(uL) Soil Aliquot Volume: _____(uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
74-87-3	Chloromethane	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	24	B
67-64-1	Acetone	13	U
75-15-0	Carbon Disulfide	13	U
75-35-4	1,1-Dichloroethene	13	U
75-34-3	1,1-Dichloroethane	13	U
540-59-0	1,2-Dichloroethene (total)	13	U
67-66-3	Chloroform	13	U
107-06-2	1,2-Dichloroethane	13	U
78-93-3	2-Butanone	13	U
71-55-6	1,1,1-Trichloroethane	13	U
56-23-5	Carbon Tetrachloride	13	U
75-27-4	Bromodichloromethane	13	U
78-87-5	1,2-Dichloropropane	13	U
10061-01-5	cis-1,3-Dichloropropene	13	U
79-01-6	Trichloroethene	13	U
124-48-1	Dibromochloromethane	13	U
79-00-5	1,1,2-Trichloroethane	13	U
71-43-2	Benzene	13	U
10061-02-6	Trans-1,3-Dichloropropene	13	U
75-25-2	Bromoform	13	U
108-10-1	4-Methyl-2-pentanone	13	U
591-78-6	2-Hexanone	13	U
127-18-4	Tetrachloroethene	13	U
79-34-5	1,1,2,2-Tetrachloroethane	13	U
108-88-3	Toluene	13	U
108-90-7	Chlorobenzene	13	U
100-41-4	Ethylbenzene	13	U
100-42-5	Styrene	13	U
1330-20-7	Xylene (total)	13	U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

SH899-12206-B70605

Lab Name: Recra.LabNet Contract: 01667600001

Lab Code: Recra Case No.: _____ SAS No.: _____ SDG No.: _____

Matrix: (soil/water) SOIL Lab Sample ID: 9912L959-005

Sample wt/vol: 4.50 (g/mL) G Lab File ID: h121207

Level: (low/med) LOW Date Received: 12/08/99

% Moisture: not dec. 11 Date Analyzed: 12/12/99

GC Column: RTX624 ID: 0.32 (mm) Dilution Factor: 1.11

Soil Extract Volume: _____(uL) Soil Aliquot Volume: _____(uL)

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 DATA SHEET

EPA SAMPLE NO.
SH899-12206-B70606

Lab Name: Recra.LabNet Contract: 01667600001

Lab Code: Recra Case No.: _____ SAS No.: _____ SDG No.: _____

Matrix: (soil/water) SOIL Lab Sample ID: 9912L959-006

Sample wt/vol: 4.90 (g/mL) G Lab File ID: h121208

Level: (low/med) LOW Date Received: 12/08/99

% Moisture: not dec. 28 Date Analyzed: 12/12/99

GC Column: RTX624 ID: 0.32 (mm) Dilution Factor: 1.02

Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____ (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
74-87-3	Chloromethane	14	U
74-83-9	Bromomethane	14	U
75-01-4	Vinyl Chloride	14	U
75-00-3	Chloroethane	14	U
75-09-2	Methylene Chloride	36	B
67-64-1	Acetone	14	U
75-15-0	Carbon Disulfide	14	U
75-35-4	1,1-Dichloroethene	14	U
75-34-3	1,1-Dichloroethane	14	U
540-59-0	1,2-Dichloroethene (total)	14	U
67-66-3	Chloroform	14	U
107-06-2	1,2-Dichloroethane	14	U
78-93-3	2-Butanone	14	U
71-55-6	1,1,1-Trichloroethane	14	U
56-23-5	Carbon Tetrachloride	14	U
75-27-4	Bromodichloromethane	14	U
78-87-5	1,2-Dichloropropane	14	U
10061-01-5	cis-1,3-Dichloropropene	14	U
79-01-6	Trichloroethene	14	U
124-48-1	Dibromochloromethane	14	U
79-00-5	1,1,2-Trichloroethane	14	U
71-43-2	Benzene	14	U
10061-02-6	Trans-1,3-Dichloropropene	14	U
75-25-2	Bromoform	14	U
108-10-1	4-Methyl-2-pentanone	14	U
591-78-6	2-Hexanone	14	U
127-18-4	Tetrachloroethene	14	U
79-34-5	1,1,2,2-Tetrachloroethane	14	U
108-88-3	Toluene	14	U
108-90-7	Chlorobenzene	14	U
100-41-4	Ethylbenzene	14	U
100-42-5	Styrene	14	U
1330-20-7	Xylene (total)	14	U

12-21-00

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

SH899-12206-B70606

Lab Name: Recra.LabNet Contract: 01667600001

Lab Code: Recra Case No.: _____ SAS No.: _____ SDG No.: _____

Matrix: (soil/water) SOIL Lab Sample ID: 9912L959-006

Sample wt/vol: 4.90 (g/mL) G Lab File ID: h121208

Level: (low/med) LOW Date Received: 12/08/99

% Moisture: not dec. 28 Date Analyzed: 12/12/99

GC Column: RTX624 ID: 0.32(mm) Dilution Factor: 1.02

Soil Extract Volume: _____(uL) Soil Aliquot Volume: _____(uL)

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 DATA SHEET

EPA SAMPLE NO.

SH899-12206-B70607

Lab Name: Recra.LabNet Contract: 01667600001

Lab Code: Recra Case No.: _____ SAS No.: _____ SDG No.: _____

Matrix: (soil/water) SOIL Lab Sample ID: 9912L959-007

Sample wt/vol: 4.80 (g/mL) G Lab File ID: h121209

Level: (low/med) LOW Date Received: 12/08/99

% Moisture: not dec. 33 Date Analyzed: 12/12/99

GC Column: RTX624 ID: 0.32 (mm) Dilution Factor: 1.04

Soil Extract Volume: _____(uL) Soil Aliquot Volume: _____(uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
74-87-3	Chloromethane	16	U
74-83-9	Bromomethane	16	U
75-01-4	Vinyl Chloride	16	U
75-00-3	Chloroethane	16	U
75-09-2	Methylene Chloride	62	B
67-64-1	Acetone	28	B
75-15-0	Carbon Disulfide	16	U
75-35-4	1,1-Dichloroethene	16	U
75-34-3	1,1-Dichloroethane	16	U
540-59-0	1,2-Dichloroethene (total)	16	U
67-66-3	Chloroform	16	U
107-06-2	1,2-Dichloroethane	16	U
78-93-3	2-Butanone	16	U
71-55-6	1,1,1-Trichloroethane	16	U
56-23-5	Carbon Tetrachloride	16	U
75-27-4	Bromodichloromethane	16	U
78-87-5	1,2-Dichloropropane	16	U
10061-01-5	cis-1,3-Dichloropropene	16	U
79-01-6	Trichloroethene	16	U
124-48-1	Dibromochloromethane	16	U
79-00-5	1,1,2-Trichloroethane	16	U
71-43-2	Benzene	16	U
10061-02-6	Trans-1,3-Dichloropropene	16	U
75-25-2	Bromoform	16	U
108-10-1	4-Methyl-2-pentanone	16	U
591-78-6	2-Hexanone	16	U
127-18-4	Tetrachloroethene	16	U
79-34-5	1,1,2,2-Tetrachloroethane	16	U
108-88-3	Toluene	16	U
108-90-7	Chlorobenzene	16	U
100-41-4	Ethylbenzene	16	U
100-42-5	Styrene	16	U
1330-20-7	Xylene (total)	16	U

02-01-00

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

SH899-12206-B70607

Lab Name: Recra.LabNet Contract: 01667600001

Lab Code: Recra Case No.: _____ SAS No.: _____ SDG No.: _____

Matrix: (soil/water) SOIL Lab Sample ID: 9912L959-007

Sample wt/vol: 4.80 (g/mL) G Lab File ID: h121209

Level: (low/med) LOW Date Received: 12/08/99

% Moisture: not dec. 33 Date Analyzed: 12/12/99

GC Column: RTX624 ID: 0.32 (mm) Dilution Factor: 1.04

Soil Extract Volume: _____(uL) Soil Aliquot Volume: _____(uL)

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 DATA SHEET

EPA SAMPLE NO.

SH899-12206-B70610

Lab Name: Recra.LabNet Contract: 01667600001

Lab Code: Recra Case No.: _____ SAS No.: _____ SDG No.: _____

Matrix: (soil/water) SOIL Lab Sample ID: 9912L959-008

Sample wt/vol: 4.90 (g/mL) G Lab File ID: h121210

Level: (low/med) LOW Date Received: 12/08/99

% Moisture: not dec. 33 Date Analyzed: 12/12/99

GC Column: RTX624 ID: 0.32 (mm) Dilution Factor: 1.02

Soil Extract Volume: _____(uL) Soil Aliquot Volume: _____(uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
74-87-3	Chloromethane	15	U
74-83-9	Bromomethane	15	U
75-01-4	Vinyl Chloride	15	U
75-00-3	Chloroethane	15	U
75-09-2	Methylene Chloride	58	B
67-64-1	Acetone	100	B
75-15-0	Carbon Disulfide	15	U
75-35-4	1,1-Dichloroethene	15	U
75-34-3	1,1-Dichloroethane	15	U
540-59-0	1,2-Dichloroethene (total)	15	U
67-66-3	Chloroform	15	U
107-06-2	1,2-Dichloroethane	15	U
78-93-3	2-Butanone	22	
71-55-6	1,1,1-Trichloroethane	15	U
56-23-5	Carbon Tetrachloride	15	U
75-27-4	Bromodichloromethane	15	U
78-87-5	1,2-Dichloropropane	15	U
10061-01-5	cis-1,3-Dichloropropene	15	U
79-01-6	Trichloroethene	15	U
124-48-1	Dibromochloromethane	15	U
79-00-5	1,1,2-Trichloroethane	15	U
71-43-2	Benzene	15	U
10061-02-6	Trans-1,3-Dichloropropene	15	U
75-25-2	Bromoform	15	U
108-10-1	4-Methyl-2-pentanone	15	U
591-78-6	2-Hexanone	15	U
127-18-4	Tetrachloroethene	15	U
79-34-5	1,1,2,2-Tetrachloroethane	15	U
108-88-3	Toluene	15	U
108-90-7	Chlorobenzene	15	U
100-41-4	Ethylbenzene	15	U
100-42-5	Styrene	15	U
1330-20-7	Xylene (total)	15	U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

SH899-12206-B70610

Lab Name: Recra.LabNet Contract: 01667600001

Lab Code: Recra Case No.: _____ SAS No.: _____ SDG No.: _____

Matrix: (soil/water) SOIL Lab Sample ID: 9912L959-008

Sample wt/vol: 4.90 (g/mL) G Lab File ID: h121210

Level: (low/med) LOW Date Received: 12/08/99

% Moisture: not dec. 33 Date Analyzed: 12/12/99

GC Column: RTX624 ID: 0.32(mm) Dilution Factor: 1.02

Soil Extract Volume: _____(uL) Soil Aliquot Volume: _____(uL)

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 DATA SHEET

EPA SAMPLE NO.

SH899-12207-B70611

Lab Name: Recra.LabNet Contract: 01667600001

Lab Code: Recra Case No.: _____ SAS No.: _____ SDG No.: _____

Matrix: (soil/water) SOIL Lab Sample ID: 9912L959-009

Sample wt/vol: 5.50 (g/mL) G Lab File ID: h121211

Level: (low/med) LOW Date Received: 12/08/99

% Moisture: not dec. 13 Date Analyzed: 12/12/99

GC Column: RTX624 ID: 0.32 (mm) Dilution Factor: 0.909

Soil Extract Volume: _____(uL) Soil Aliquot Volume: _____(uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
74-87-3	Chloromethane	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	24	B
67-64-1	Acetone	10	U
75-15-0	Carbon Disulfide	10	U
75-35-4	1,1-Dichloroethene	10	U
75-34-3	1,1-Dichloroethane	10	U
540-59-0	1,2-Dichloroethene (total)	10	U
67-66-3	Chloroform	10	U
107-06-2	1,2-Dichloroethane	10	U
78-93-3	2-Butanone	10	U
71-55-6	1,1,1-Trichloroethane	10	U
56-23-5	Carbon Tetrachloride	10	U
75-27-4	Bromodichloromethane	10	U
78-87-5	1,2-Dichloropropane	10	U
10061-01-5	cis-1,3-Dichloropropene	10	U
79-01-6	Trichloroethene	10	U
124-48-1	Dibromochloromethane	10	U
79-00-5	1,1,2-Trichloroethane	10	U
71-43-2	Benzene	10	U
10061-02-6	Trans-1,3-Dichloropropene	10	U
75-25-2	Bromoform	10	U
108-10-1	4-Methyl-2-pentanone	10	U
591-78-6	2-Hexanone	10	U
127-18-4	Tetrachloroethene	10	U
79-34-5	1,1,2,2-Tetrachloroethane	10	U
108-88-3	Toluene	10	U
108-90-7	Chlorobenzene	10	U
100-41-4	Ethylbenzene	10	U
100-42-5	Styrene	10	U
1330-20-7	Xylene (total)	10	U

FORM 1 VOA 3/90

12-21-00

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

SH899-12207-B70611

Lab Name: Recra.LabNet Contract: 01667600001

Lab Code: Recra Case No.: _____ SAS No.: _____ SDG No.: _____

Matrix: (soil/water) SOIL Lab Sample ID: 9912L959-009

Sample wt/vol: 5.50 (g/mL) G Lab File ID: h121211

Level: (low/med) LOW Date Received: 12/08/99

% Moisture: not dec. 13 Date Analyzed: 12/12/99

GC Column: RTX624 ID: 0.32 (mm) Dilution Factor: 0.909

Soil Extract Volume: _____(uL) Soil Aliquot Volume: _____(uL)

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 DATA SHEET

EPA SAMPLE NO.

SH899-12207-B70612

Lab Name: Recra.LabNet Contract: 01667600001

Lab Code: Recra Case No.: _____ SAS No.: _____ SDG No.: _____

Matrix: (soil/water) SOIL Lab Sample ID: 9912L959-010

Sample wt/vol: 4.80 (g/mL) G Lab File ID: h121212

Level: (low/med) LOW Date Received: 12/08/99

% Moisture: not dec. 75 Date Analyzed: 12/12/99

GC Column: RTX624 ID: 0.32 (mm) Dilution Factor: 1.04

Soil Extract Volume: _____(uL) Soil Aliquot Volume: _____(uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
74-87-3	Chloromethane	41	U
74-83-9	Bromomethane	41	U
75-01-4	Vinyl Chloride	41	U
75-00-3	Chloroethane	41	U
75-09-2	Methylene Chloride	63	B
67-64-1	Acetone	41	U
75-15-0	Carbon Disulfide	41	U
75-35-4	1,1-Dichloroethene	41	U
75-34-3	1,1-Dichloroethane	41	U
540-59-0	1,2-Dichloroethene (total)	41	U
67-66-3	Chloroform	41	U
107-06-2	1,2-Dichloroethane	41	U
78-93-3	2-Butanone	41	U
71-55-6	1,1,1-Trichloroethane	41	U
56-23-5	Carbon Tetrachloride	41	U
75-27-4	Bromodichloromethane	41	U
78-87-5	1,2-Dichloropropane	41	U
10061-01-5	cis-1,3-Dichloropropene	41	U
79-01-6	Trichloroethene	41	U
124-48-1	Dibromochloromethane	41	U
79-00-5	1,1,2-Trichloroethane	41	U
71-43-2	Benzene	41	U
10061-02-6	Trans-1,3-Dichloropropene	41	U
75-25-2	Bromoform	41	U
108-10-1	4-Methyl-2-pentanone	41	U
591-78-6	2-Hexanone	41	U
127-18-4	Tetrachloroethene	41	U
79-34-5	1,1,2,2-Tetrachloroethane	41	U
108-88-3	Toluene	41	U
108-90-7	Chlorobenzene	41	U
100-41-4	Ethylbenzene	41	U
100-42-5	Styrene	41	U
1330-20-7	Xylene (total)	41	U

00-01-00

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

SH899-12207-B70612

Lab Name: Recra.LabNet Contract: 01667600001

Lab Code: Recra Case No.: _____ SAS No.: _____ SDG No.: _____

Matrix: (soil/water) SOIL Lab Sample ID: 9912L959-010

Sample wt/vol: 4.80 (g/mL) G Lab File ID: h121212

Level: (low/med) LOW Date Received: 12/08/99

% Moisture: not dec. 75 Date Analyzed: 12/12/99

GC Column: RTX624 ID: 0.32 (mm) Dilution Factor: 1.04

Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____ (uL)

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 DATA SHEET

EPA SAMPLE NO.

SH899-12207-B70613

Lab Name: Recra.LabNet Contract: 01667600001

Lab Code: Recra Case No.: _____ SAS No.: _____ SDG No.: _____

Matrix: (soil/water) SOIL Lab Sample ID: 9912L959-011

Sample wt/vol: 5.20 (g/mL) G Lab File ID: h121213

Level: (low/med) LOW Date Received: 12/08/99

% Moisture: not dec. 28 Date Analyzed: 12/12/99

GC Column: RTX624 ID: 0.32 (mm) Dilution Factor: 0.962

Soil Extract Volume: _____(uL) Soil Aliquot Volume: _____(uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
74-87-3	Chloromethane	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	40	B
67-64-1	Acetone	13	U
75-15-0	Carbon Disulfide	13	U
75-35-4	1,1-Dichloroethene	13	U
75-34-3	1,1-Dichloroethane	13	U
540-59-0	1,2-Dichloroethene (total)	13	U
67-66-3	Chloroform	13	U
107-06-2	1,2-Dichloroethane	13	U
78-93-3	2-Butanone	13	U
71-55-6	1,1,1-Trichloroethane	13	U
56-23-5	Carbon Tetrachloride	13	U
75-27-4	Bromodichloromethane	13	U
78-87-5	1,2-Dichloropropane	13	U
10061-01-5	cis-1,3-Dichloropropene	13	U
79-01-6	Trichloroethene	13	U
124-48-1	Dibromochloromethane	13	U
79-00-5	1,1,2-Trichloroethane	13	U
71-43-2	Benzene	13	U
10061-02-6	Trans-1,3-Dichloropropene	13	U
75-25-2	Bromoform	13	U
108-10-1	4-Methyl-2-pentanone	13	U
591-78-6	2-Hexanone	13	U
127-18-4	Tetrachloroethene	13	U
79-34-5	1,1,2,2-Tetrachloroethane	13	U
108-88-3	Toluene	13	U
108-90-7	Chlorobenzene	13	U
100-41-4	Ethylbenzene	13	U
100-42-5	Styrene	13	U
1330-20-7	Xylene (total)	13	U

12-01-00

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

SH899-12207-B70613

Lab Name: Recra.LabNet Contract: 01667600001

Lab Code: Recra Case No.: _____ SAS No.: _____ SDG No.: _____

Matrix: (soil/water) SOIL Lab Sample ID: 9912L959-011

Sample wt/vol: 5.20 (g/mL) G Lab File ID: h121213

Level: (low/med) LOW Date Received: 12/08/99

% Moisture: not dec. 28 Date Analyzed: 12/12/99

GC Column: RTX624 ID: 0.32 (mm) Dilution Factor: 0.962

Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____ (uL)

Number TICs found: 1 CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1. 556672	CYCLOTETRASILOXANE, OCTAMETH	22.043	20	NJ

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

SH899-12207-B70614

Lab Name: Recra.LabNet Contract: 01667600001

Lab Code: Recra Case No.: _____ SAS No.: _____ SDG No.: _____

Matrix: (soil/water) SOIL Lab Sample ID: 9912L959-012

Sample wt/vol: 4.50 (g/mL) G Lab File ID: h121214

Level: (low/med) LOW Date Received: 12/08/99

% Moisture: not dec. 78 Date Analyzed: 12/12/99

GC Column: RTX624 ID: 0.32 (mm) Dilution Factor: 1.11

Soil Extract Volume: _____(uL) Soil Aliquot Volume: _____(uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
74-87-3	Chloromethane	51	U
74-83-9	Bromomethane	51	U
75-01-4	Vinyl Chloride	51	U
75-00-3	Chloroethane	51	U
75-09-2	Methylene Chloride	250	B
67-64-1	Acetone	30	BJ
75-15-0	Carbon Disulfide	51	U
75-35-4	1,1-Dichloroethene	51	U
75-34-3	1,1-Dichloroethane	51	U
540-59-0	1,2-Dichloroethene (total)	51	U
67-66-3	Chloroform	51	U
107-06-2	1,2-Dichloroethane	51	U
78-93-3	2-Butanone	51	U
71-55-6	1,1,1-Trichloroethane	51	U
56-23-5	Carbon Tetrachloride	51	U
75-27-4	Bromodichloromethane	51	U
78-87-5	1,2-Dichloropropane	51	U
10061-01-5	cis-1,3-Dichloropropene	51	U
79-01-6	Trichloroethene	51	U
124-48-1	Dibromochloromethane	51	U
79-00-5	1,1,2-Trichloroethane	51	U
71-43-2	Benzene	51	U
10061-02-6	Trans-1,3-Dichloropropene	51	U
75-25-2	Bromoform	51	U
108-10-1	4-Methyl-2-pentanone	51	U
591-78-6	2-Hexanone	51	U
127-18-4	Tetrachloroethene	51	U
79-34-5	1,1,2,2-Tetrachloroethane	51	U
108-88-3	Toluene	51	U
108-90-7	Chlorobenzene	51	U
100-41-4	Ethylbenzene	51	U
100-42-5	Styrene	51	U
1330-20-7	Xylene (total)	51	U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

SH899-12207-B70614

Lab Name: Recra.LabNet Contract: 01667600001

Lab Code: Recra Case No.: _____ SAS No.: _____ SDG No.: _____

Matrix: (soil/water) SOIL Lab Sample ID: 9912L959-012

Sample wt/vol: 4.50 (g/mL) G Lab File ID: h121214

Level: (low/med) LOW Date Received: 12/08/99

% Moisture: not dec. 78 Date Analyzed: 12/12/99

GC Column: RTX624 ID: 0.32 (mm) Dilution Factor: 1.11

Soil Extract Volume: _____(uL) Soil Aliquot Volume: _____(uL)

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 DATA SHEET

EPA SAMPLE NO.

SH899-12207-B70614RE

Lab Name: Recra.LabNet Contract: 01667600001

Lab Code: Recra Case No.: _____ SAS No.: _____ SDG No.: _____

Matrix: (soil/water) SOIL Lab Sample ID: 9912L959-012

Sample wt/vol: 5.00 (g/mL) G Lab File ID: h121309

Level: (low/med) LOW Date Received: 12/08/99

% Moisture: not dec. 78 Date Analyzed: 12/13/99

GC Column: RTX624 ID: 0.32 (mm) Dilution Factor: 1.00

Soil Extract Volume: _____(uL) Soil Aliquot Volume: _____(uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
74-87-3	Chloromethane	46	U
74-83-9	Bromomethane	46	U
75-01-4	Vinyl Chloride	46	U
75-00-3	Chloroethane	46	U
75-09-2	Methylene Chloride	150	B
67-64-1	Acetone	46	U
75-15-0	Carbon Disulfide	46	U
75-35-4	1,1-Dichloroethene	46	U
75-34-3	1,1-Dichloroethane	46	U
540-59-0	1,2-Dichloroethene (total)	46	U
67-66-3	Chloroform	46	U
107-06-2	1,2-Dichloroethane	46	U
78-93-3	2-Butanone	46	U
71-55-6	1,1,1-Trichloroethane	46	U
56-23-5	Carbon Tetrachloride	46	U
75-27-4	Bromodichloromethane	46	U
78-87-5	1,2-Dichloropropane	46	U
10061-01-5	cis-1,3-Dichloropropene	46	U
79-01-6	Trichloroethene	46	U
124-48-1	Dibromochloromethane	46	U
79-00-5	1,1,2-Trichloroethane	46	U
71-43-2	Benzene	46	U
10061-02-6	Trans-1,3-Dichloropropene	46	U
75-25-2	Bromoform	46	U
108-10-1	4-Methyl-2-pentanone	46	U
591-78-6	2-Hexanone	46	U
127-18-4	Tetrachloroethene	46	U
79-34-5	1,1,2,2-Tetrachloroethane	46	U
108-88-3	Toluene	46	U
108-90-7	Chlorobenzene	46	U
100-41-4	Ethylbenzene	46	U
100-42-5	Styrene	46	U
1330-20-7	Xylene (total)	46	U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

SH899-12207-B70614RE

Lab Name: Recra.LabNet Contract: 01667600001

Lab Code: Recra Case No.: _____ SAS No.: _____ SDG No.: _____

Matrix: (soil/water) SOIL Lab Sample ID: 9912L959-012

Sample wt/vol: 5.00 (g/mL) G Lab File ID: h121309

Level: (low/med) LOW Date Received: 12/08/99

% Moisture: not dec. 78 Date Analyzed: 12/13/99

GC Column: RTX624 ID: 0.32 (mm) Dilution Factor: 1.00

Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____ (uL)

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 DATA SHEET

EPA SAMPLE NO.

SH899-12207-B70615

Lab Name: Recra.LabNet Contract: 01667600001

Lab Code: Recra Case No.: _____ SAS No.: _____ SDG No.: _____

Matrix: (soil/water) SOIL Lab Sample ID: 9912L959-013

Sample wt/vol: 4.60 (g/mL) G Lab File ID: h121215

Level: (low/med) LOW Date Received: 12/08/99

% Moisture: not dec. 37 Date Analyzed: 12/12/99

GC Column: RTX624 ID: 0.32 (mm) Dilution Factor: 1.09

Soil Extract Volume: _____(uL) Soil Aliquot Volume: _____(uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
74-87-3	Chloromethane	17	U
74-83-9	Bromomethane	17	U
75-01-4	Vinyl Chloride	17	U
75-00-3	Chloroethane	17	U
75-09-2	Methylene Chloride	82	B
67-64-1	Acetone	17	U
75-15-0	Carbon Disulfide	17	U
75-35-4	1,1-Dichloroethene	17	U
75-34-3	1,1-Dichloroethane	17	U
540-59-0	1,2-Dichloroethene (total)	17	U
67-66-3	Chloroform	17	U
107-06-2	1,2-Dichloroethane	17	U
78-93-3	2-Butanone	17	U
71-55-6	1,1,1-Trichloroethane	17	U
56-23-5	Carbon Tetrachloride	17	U
75-27-4	Bromodichloromethane	17	U
78-87-5	1,2-Dichloropropane	17	U
10061-01-5	cis-1,3-Dichloropropene	17	U
79-01-6	Trichloroethene	17	U
124-48-1	Dibromochloromethane	17	U
79-00-5	1,1,2-Trichloroethane	17	U
71-43-2	Benzene	17	U
10061-02-6	Trans-1,3-Dichloropropene	17	U
75-25-2	Bromoform	17	U
108-10-1	4-Methyl-2-pentanone	17	U
591-78-6	2-Hexanone	17	U
127-18-4	Tetrachloroethene	17	U
79-34-5	1,1,2,2-Tetrachloroethane	17	U
108-88-3	Toluene	17	U
108-90-7	Chlorobenzene	17	U
100-41-4	Ethylbenzene	17	U
100-42-5	Styrene	17	U
1330-20-7	Xylene (total)	17	U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

SH899-12207-B70615

Lab Name: Recra.LabNet Contract: 01667600001

Lab Code: Recra Case No.: _____ SAS No.: _____ SDG No.: _____

Matrix: (soil/water) SOIL Lab Sample ID: 9912L959-013

Sample wt/vol: 4.60 (g/mL) G Lab File ID: h121215

Level: (low/med) LOW Date Received: 12/08/99

% Moisture: not dec. 37 Date Analyzed: 12/12/99

GC Column: RTX624 ID: 0.32 (mm) Dilution Factor: 1.09

Soil Extract Volume: _____(uL) Soil Aliquot Volume: _____(uL)

Number TICs found: 1 CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	556672	CYCLOTETRASILOXANE, OCTAMETH	22.031	9	NJ

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

NYSDEC-FRIDGE BLANK

Lab Name: Recra.LabNet Contract: 01667600001

Lab Code: Recra Case No.: _____ SAS No.: _____ SDG No.: _____

Matrix: (soil/water) WATER Lab Sample ID: 9912L959-014

Sample wt/vol: 5.00 (g/mL) ML Lab File ID: h121220

Level: (low/med) LOW Date Received: 12/08/99

% Moisture: not dec. _____ Date Analyzed: 12/12/99

GC Column: RTX624 ID: 0.32 (mm) Dilution Factor: 1.00

Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____ (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
74-87-3	Chloromethane	10	U
74-83-9	Bromomethane	10	U
75-01-4	Vinyl Chloride	10	U
75-00-3	Chloroethane	10	U
75-09-2	Methylene Chloride	23	B
67-64-1	Acetone	13	B
75-15-0	Carbon Disulfide	10	U
75-35-4	1,1-Dichloroethene	10	U
75-34-3	1,1-Dichloroethane	10	U
540-59-0	1,2-Dichloroethene (total)	10	U
67-66-3	Chloroform	10	U
107-06-2	1,2-Dichloroethane	10	U
78-93-3	2-Butanone	10	U
71-55-6	1,1,1-Trichloroethane	10	U
56-23-5	Carbon Tetrachloride	10	U
75-27-4	Bromodichloromethane	10	U
78-87-5	1,2-Dichloropropane	10	U
10061-01-5	cis-1,3-Dichloropropene	10	U
79-01-6	Trichloroethene	10	U
124-48-1	Dibromochloromethane	10	U
79-00-5	1,1,2-Trichloroethane	10	U
71-43-2	Benzene	10	U
10061-02-6	Trans-1,3-Dichloropropene	10	U
75-25-2	Bromoform	10	U
108-10-1	4-Methyl-2-pentanone	10	U
591-78-6	2-Hexanone	10	U
127-18-4	Tetrachloroethene	10	U
79-34-5	1,1,2,2-Tetrachloroethane	10	U
108-88-3	Toluene	10	U
108-90-7	Chlorobenzene	10	U
100-41-4	Ethylbenzene	10	U
100-42-5	Styrene	10	U
1330-20-7	Xylene (total)	10	U

Raw QC Data: Tune, Blank and Spike Data

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

VBLKIE

Lab Name: Recra.LabNet Contract: 01667600001

Lab Code: Recra Case No.: _____ SAS No.: _____ SDG No.: _____

Matrix: (soil/water) SOIL Lab Sample ID: 99LVH638-MB1

Sample wt/vol: 5.00 (g/mL) G Lab File ID: h121205

Level: (low/med) LOW Date Received: 12/12/99

% Moisture: not dec. _____ Date Analyzed: 12/12/99

GC Column: RTX624 ID: 0.32 (mm) Dilution Factor: 1.00

Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____ (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
74-87-3	Chloromethane	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	11	
67-64-1	Acetone	2	J
75-15-0	Carbon Disulfide	10	U
75-35-4	1,1-Dichloroethene	10	U
75-34-3	1,1-Dichloroethane	10	U
540-59-0	1,2-Dichloroethene (total)	10	U
67-66-3	Chloroform	10	U
107-06-2	1,2-Dichloroethane	10	U
78-93-3	2-Butanone	10	U
71-55-6	1,1,1-Trichloroethane	10	U
56-23-5	Carbon Tetrachloride	10	U
75-27-4	Bromodichloromethane	10	U
78-87-5	1,2-Dichloropropane	10	U
10061-01-5	cis-1,3-Dichloropropene	10	U
79-01-6	Trichloroethene	10	U
124-48-1	Dibromochloromethane	10	U
79-00-5	1,1,2-Trichloroethane	10	U
71-43-2	Benzene	10	U
10061-02-6	Trans-1,3-Dichloropropene	10	U
75-25-2	Bromoform	10	U
108-10-1	4-Methyl-2-pentanone	10	U
591-78-6	2-Hexanone	10	U
127-18-4	Tetrachloroethene	10	U
79-34-5	1,1,2,2-Tetrachloroethane	10	U
108-88-3	Toluene	10	U
108-90-7	Chlorobenzene	10	U
100-41-4	Ethylbenzene	10	U
100-42-5	Styrene	10	U
1330-20-7	Xylene (total)	10	U

02/01/00

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

VBLKIEMS

Lab Name: Recra.LabNet Contract: 01667600001

Lab Code: Recra Case No.: _____ SAS No.: _____ SDG No.: _____

Matrix: (soil/water) SOIL Lab Sample ID: 99LVH638-MB1 BS

Sample wt/vol: 5.00 (g/mL) G Lab File ID: h121217

Level: (low/med) LOW Date Received: 12/12/99

% Moisture: not dec. _____ Date Analyzed: 12/12/99

GC Column: RTX624 ID: 0.32 (mm) Dilution Factor: 1.00

Soil Extract Volume: _____(uL) Soil Aliquot Volume: _____(uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
74-87-3	Chloromethane	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	23	B
67-64-1	Acetone	6	BJ
75-15-0	Carbon Disulfide	10	U
75-35-4	1,1-Dichloroethene	22	Z
75-34-3	1,1-Dichloroethane	10	U
540-59-0	1,2-Dichloroethene (total)	10	U
67-66-3	Chloroform	10	U
107-06-2	1,2-Dichloroethane	10	U
78-93-3	2-Butanone	10	U
71-55-6	1,1,1-Trichloroethane	10	U
56-23-5	Carbon Tetrachloride	10	U
75-27-4	Bromodichloromethane	10	U
78-87-5	1,2-Dichloropropane	10	U
10061-01-5	cis-1,3-Dichloropropene	10	U
79-01-6	Trichloroethene	40	Z
124-48-1	Dibromochloromethane	10	U
79-00-5	1,1,2-Trichloroethane	10	U
71-43-2	Benzene	42	Z
10061-02-6	Trans-1,3-Dichloropropene	10	U
75-25-2	Bromoform	10	U
108-10-1	4-Methyl-2-pentanone	10	U
591-78-6	2-Hexanone	10	U
127-18-4	Tetrachloroethene	10	U
79-34-5	1,1,2,2-Tetrachloroethane	10	U
108-88-3	Toluene	44	Z
108-90-7	Chlorobenzene	45	Z
100-41-4	Ethylbenzene	10	U
100-42-5	Styrene	10	U
1330-20-7	Xylene (total)	10	U

Z: SPIKE COMPOUND FORM 1 VOA 3/90

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

VBLKIF

Lab Name: Recra.LabNet Contract: 01667600001

Lab Code: Recra Case No.: _____ SAS No.: _____ SDG No.: _____

Matrix: (soil/water) WATER Lab Sample ID: 99LVH639-MB1

Sample wt/vol: 5.00 (g/mL) ML Lab File ID: h121206

Level: (low/med) LOW Date Received: 12/12/99

% Moisture: not dec. _____ Date Analyzed: 12/12/99

GC Column: RTX624 ID: 0.32 (mm) Dilution Factor: 1.00

Soil Extract Volume: _____(uL) Soil Aliquot Volume: _____(uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
74-87-3	Chloromethane	10	U
74-83-9	Bromomethane	10	U
75-01-4	Vinyl Chloride	10	U
75-00-3	Chloroethane	10	U
75-09-2	Methylene Chloride	12	
67-64-1	Acetone	3	J
75-15-0	Carbon Disulfide	10	U
75-35-4	1,1-Dichloroethene	10	U
75-34-3	1,1-Dichloroethane	10	U
540-59-0	1,2-Dichloroethene (total)	10	U
67-66-3	Chloroform	10	U
107-06-2	1,2-Dichloroethane	10	U
78-93-3	2-Butanone	10	U
71-55-6	1,1,1-Trichloroethane	10	U
56-23-5	Carbon Tetrachloride	10	U
75-27-4	Bromodichloromethane	10	U
78-87-5	1,2-Dichloropropane	10	U
10061-01-5	cis-1,3-Dichloropropene	10	U
79-01-6	Trichloroethene	10	U
124-48-1	Dibromochloromethane	10	U
79-00-5	1,1,2-Trichloroethane	10	U
71-43-2	Benzene	10	U
10061-02-6	Trans-1,3-Dichloropropene	10	U
75-25-2	Bromoform	10	U
108-10-1	4-Methyl-2-pentanone	10	U
591-78-6	2-Hexanone	10	U
127-18-4	Tetrachloroethene	10	U
79-34-5	1,1,2,2-Tetrachloroethane	10	U
108-88-3	Toluene	10	U
108-90-7	Chlorobenzene	10	U
100-41-4	Ethylbenzene	10	U
100-42-5	Styrene	10	U
1330-20-7	Xylene (total)	10	U

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

VBLKIH

Lab Name: Recra.LabNet Contract: 01667600001

Lab Code: Recra Case No.: _____ SAS No.: _____ SDG No.: _____

Matrix: (soil/water) SOIL Lab Sample ID: 99LVN487-MB1

Sample wt/vol: 5.00 (g/mL) G Lab File ID: n121005

Level: (low/med) LOW Date Received: 12/10/99

% Moisture: not dec. _____ Date Analyzed: 12/10/99

GC Column: RTX624 ID: 0.32 (mm) Dilution Factor: 1.00

Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____ (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
74-87-3	Chloromethane	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	9	
67-64-1	Acetone	8	J
75-15-0	Carbon Disulfide	10	U
75-35-4	1,1-Dichloroethene	10	U
75-34-3	1,1-Dichloroethane	10	U
540-59-0	1,2-Dichloroethene (total)	10	U
67-66-3	Chloroform	10	U
107-06-2	1,2-Dichloroethane	10	U
78-93-3	2-Butanone	2	J
71-55-6	1,1,1-Trichloroethane	10	U
56-23-5	Carbon Tetrachloride	10	U
75-27-4	Bromodichloromethane	10	U
78-87-5	1,2-Dichloropropane	10	U
10061-01-5	cis-1,3-Dichloropropene	10	U
79-01-6	Trichloroethene	10	U
124-48-1	Dibromochloromethane	10	U
79-00-5	1,1,2-Trichloroethane	10	U
71-43-2	Benzene	10	U
10061-02-6	Trans-1,3-Dichloropropene	10	U
75-25-2	Bromoform	10	U
108-10-1	4-Methyl-2-pentanone	10	U
591-78-6	2-Hexanone	10	U
127-18-4	Tetrachloroethene	10	U
79-34-5	1,1,2,2-Tetrachloroethane	10	U
108-88-3	Toluene	10	U
108-90-7	Chlorobenzene	10	U
100-41-4	Ethylbenzene	10	U
100-42-5	Styrene	10	U
1330-20-7	Xylene (total)	10	U

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

VBLKIG

Lab Name: Recra.LabNet Contract: 01667600001

Lab Code: Recra Case No.: _____ SAS No.: _____ SDG No.: _____

Matrix: (soil/water) SOIL Lab Sample ID: 99LVH641-MB1

Sample wt/vol: 5.00 (g/mL) G Lab File ID: h121305

Level: (low/med) LOW Date Received: 12/13/99

% Moisture: not dec. _____ Date Analyzed: 12/13/99

GC Column: RTX624 ID: 0.32 (mm) Dilution Factor: 1.00

Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____ (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
74-87-3	Chloromethane	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	14	
67-64-1	Acetone	10	J
75-15-0	Carbon Disulfide	10	U
75-35-4	1,1-Dichloroethene	10	U
75-34-3	1,1-Dichloroethane	10	U
540-59-0	1,2-Dichloroethene (total)	10	U
67-66-3	Chloroform	10	U
107-06-2	1,2-Dichloroethane	10	U
78-93-3	2-Butanone	10	U
71-55-6	1,1,1-Trichloroethane	10	U
56-23-5	Carbon Tetrachloride	10	U
75-27-4	Bromodichloromethane	10	U
78-87-5	1,2-Dichloropropane	10	U
10061-01-5	cis-1,3-Dichloropropene	10	U
79-01-6	Trichloroethene	10	U
124-48-1	Dibromochloromethane	10	U
79-00-5	1,1,2-Trichloroethane	10	U
71-43-2	Benzene	10	U
10061-02-6	Trans-1,3-Dichloropropene	10	U
75-25-2	Bromoform	10	U
108-10-1	4-Methyl-2-pentanone	10	U
591-78-6	2-Hexanone	10	U
127-18-4	Tetrachloroethene	10	U
79-34-5	1,1,2,2-Tetrachloroethane	10	U
108-88-3	Toluene	10	U
108-90-7	Chlorobenzene	10	U
100-41-4	Ethylbenzene	10	U
100-42-5	Styrene	10	U
1330-20-7	Xylene (total)	10	U

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

SH899-12206-B70607MS

Lab Name: Recra.LabNet Contract: 01667600001

Lab Code: Recra Case No.: _____ SAS No.: _____ SDG No.: _____

Matrix: (soil/water) SOIL Lab Sample ID: 9912L959-007 MS

Sample wt/vol: 4.50 (g/mL) G Lab File ID: h121218

Level: (low/med) LOW Date Received: 12/08/99

% Moisture: not dec. 33 Date Analyzed: 12/12/99

GC Column: RTX624 ID: 0.32 (mm) Dilution Factor: 1.11

Soil Extract Volume: _____(uL) Soil Aliquot Volume: _____(uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
74-87-3	Chloromethane	17	U
74-83-9	Bromomethane	17	U
75-01-4	Vinyl Chloride	17	U
75-00-3	Chloroethane	17	U
75-09-2	Methylene Chloride	77	B
67-64-1	Acetone	25	B
75-15-0	Carbon Disulfide	17	U
75-35-4	1,1-Dichloroethene	78	Z
75-34-3	1,1-Dichloroethane	17	U
540-59-0	1,2-Dichloroethene (total)	17	U
67-66-3	Chloroform	17	U
107-06-2	1,2-Dichloroethane	17	U
78-93-3	2-Butanone	17	U
71-55-6	1,1,1-Trichloroethane	17	U
56-23-5	Carbon Tetrachloride	17	U
75-27-4	Bromodichloromethane	17	U
78-87-5	1,2-Dichloropropane	17	U
10061-01-5	cis-1,3-Dichloropropene	17	U
79-01-6	Trichloroethene	70	Z
124-48-1	Dibromochloromethane	17	U
79-00-5	1,1,2-Trichloroethane	17	U
71-43-2	Benzene	82	Z
10061-02-6	Trans-1,3-Dichloropropene	17	U
75-25-2	Bromoform	17	U
108-10-1	4-Methyl-2-pentanone	17	U
591-78-6	2-Hexanone	17	U
127-18-4	Tetrachloroethene	17	U
79-34-5	1,1,2,2-Tetrachloroethane	17	U
108-88-3	Toluene	97	Z
108-90-7	Chlorobenzene	83	Z
100-41-4	Ethylbenzene	17	U
100-42-5	Styrene	17	U
1330-20-7	Xylene (total)	17	U

Z: SPIKE COMPOUND FORM 1 VOA 3/90

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

SH899-12206-B70607MSD

Lab Name: Recra.LabNet Contract: 01667600001

Lab Code: Recra Case No.: _____ SAS No.: _____ SDG No.: _____

Matrix: (soil/water) SOIL Lab Sample ID: 9912L959-007 MSD

Sample wt/vol: 5.10 (g/mL) G Lab File ID: h121219

Level: (low/med) LOW Date Received: 12/08/99

% Moisture: not dec. 33 Date Analyzed: 12/12/99

GC Column: RTX624 ID: 0.32 (mm) Dilution Factor: 0.980

Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____ (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
74-87-3	Chloromethane	15	U
74-83-9	Bromomethane	15	U
75-01-4	Vinyl Chloride	15	U
75-00-3	Chloroethane	15	U
75-09-2	Methylene Chloride	78	B
67-64-1	Acetone	31	B
75-15-0	Carbon Disulfide	15	U
75-35-4	1,1-Dichloroethene	72	Z
75-34-3	1,1-Dichloroethane	15	U
540-59-0	1,2-Dichloroethene (total)	15	U
67-66-3	Chloroform	15	U
107-06-2	1,2-Dichloroethane	15	U
78-93-3	2-Butanone	15	U
71-55-6	1,1,1-Trichloroethane	15	U
56-23-5	Carbon Tetrachloride	15	U
75-27-4	Bromodichloromethane	15	U
78-87-5	1,2-Dichloropropane	15	U
10061-01-5	cis-1,3-Dichloropropene	15	U
79-01-6	Trichloroethene	57	Z
124-48-1	Dibromochloromethane	15	U
79-00-5	1,1,2-Trichloroethane	15	U
71-43-2	Benzene	68	Z
10061-02-6	Trans-1,3-Dichloropropene	15	U
75-25-2	Bromoform	15	U
108-10-1	4-Methyl-2-pentanone	15	U
591-78-6	2-Hexanone	15	U
127-18-4	Tetrachloroethene	15	U
79-34-5	1,1,2,2-Tetrachloroethane	15	U
108-88-3	Toluene	89	Z
108-90-7	Chlorobenzene	67	Z
100-41-4	Ethylbenzene	15	U
100-42-5	Styrene	15	U
1330-20-7	Xylene (total)	15	U

Z: SPIKE COMPOUND

00-01-03

Case Narrative

RECRA
ENVIRONMENTAL
INC.

Chemical and Environmental Measurement Information

Recra LabNet Philadelphia
Analytical Report

Client: NYSDEC
RFW #: 9912L959
ELAP #: 10752

W.O.#: 01667-600-001-9999-00
Date Received: 12-08-99

SEMIVOLATILE

Eleven (11) soil samples were collected on 12-06,07-99.

The samples and their associated QC samples were extracted on 12-18-99 and analyzed according to criteria set forth in NYSDEC ASP (Rev. 10-95) for TCL Semivolatile target compounds on 01-10,11,12-2000.

The following is a summary of the QC results accompanying the sample results and a description of any problems encountered during their analyses:

1. The cooler temperature upon receipt has been recorded on the chain-of-custody.

2. The samples were extracted and analyzed within required holding times.

3. Non-target compounds were detected in the samples.

4. All samples with the exception of SH899-12206-B70605 and SH899-12206-B70612 required 2 to 1000-fold dilutions due to high levels of both target and non-target compounds.

5. Two (2) of one hundred four (104) obtainable surrogate recoveries were outside EPA QC limits. However, EPA CLP surrogate recovery criteria were met (i.e., no more than one outlier per fraction {acid and base neutral} and no recoveries less than 10%).

6. Five (5) of eleven (11) blank spike recoveries were outside EPA QC limits.

7. Two (2) of twenty-two (22) matrix spike recoveries were outside EPA QC limits. The spike concentration of Pyrene proved to be too low for the sample matrix (Pyrene was present in the sample).

8. The method blank contained the common laboratory contaminants Di-n-butylphthalate and Bis(2-Ethylhexyl)phthalate at levels less than the CRQL.

9. Internal standard area and retention time criteria were met.

10. 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 hard copy 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.

By _____ 12-08-00
J. Michael Taylor — Date
Vice President
Philadelphia Analytical Laboratory

somgroup data\bna\nys12959.doc
The results presented in this report relate only to the analytical testing and conditions of the samples at receipt and during storage. All pages of this report are integral parts of the analytical data. Therefore, this report should only be reproduced in its entirety of 8 0 8 pages.

GLOSSARY OF BNA 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 under the following circumstances: 1) when estimating a concentration for tentatively identified compounds (TICs) where a 1:1 response is assumed; or 2) 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.

D = Identifies all compounds identified in an analysis at a secondary dilution factor.

I = Interference.

NQ = Result qualitatively confirmed but not able to quantify.

A = Indicates that a TIC is a suspected aldol-condensation product.

N = Indicates presumptive evidence of a compound. This flag is only used for tentatively identified compounds (TICs), where the identification is based on a mass spectral library search. It is applied to all TIC results. For generic characterization of a TIC, such as chlorinated hydrocarbon, the N code is not used.

X = This flag is used for a TIC compound which is quantified relative to a response factor generated from a daily calibration standard (rather than quantified relative to the closest internal standard).

Y = Additional qualifiers used as required are explained in the case narrative.

GLOSSARY OF BNA DATA

ABBREVIATIONS

BS	=	Indicates blank spike in which reagent grade water is spiked with the CLP matrix spike 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	=	Suffix added to sample number to indicate that results are from a diluted analysis.
NA	=	Not Applicable.
DF	=	Dilution Factor.
NR	=	Not Required.
SP, Z	=	Indicates Spiked Compound.

TECHNICAL FLAGS FOR MANUAL INTEGRATION

Manual quan modifications or integrations are performed routinely to improve the data quality for a variety of technical reasons. Documentation of these modifications should be clear and concise. The following "flags" are used to indicate the technical reasons for quan modifications:

MP - Missed Peak: manually added peak not found by automatic quan program.

PA - Peak Assignment: quan report was changed to reflect correct peak assignment.

RI - Routine Integration: routine integrations are performed for some analytes that are consistently integrated improperly by the automatic integration programs. Examples are the dichlorobenzene isomers on the VOA packed column and benzo(b)fluoranthene/benzo(k)fluoranthene which are poorly resolved on the BNA column.

SP - Split Peak: the automatic integration improperly split the peak; a manual integration was performed to get the correct area.

CB - Coelution/Background: peak was manually integrated to eliminate contribution from coeluting compounds, background signal, or other interference.

PI - Proper Integration: a peak with poor or inconsistent integration (e.g., excessive tail) was properly integrated manually.

RECRA LabNet Use Only

9912L959

Custody Transfer Record/Lab Work Request

Page 1 of 2

FIELD PERSONNEL: COMPLETE ONLY SHADED AREAS

(8) ALL

RECRA LabNet

Client: Nyseldec

Est. Final Proj. Sampling Date:

Project #: 01CC67-600-001-9999-00

Project Contact/Phone #:

RECRA Project Manager: JS

QC: Clp Del: Clp TAT: 30 days

Date Rec'd: 12/8/99 Date Due: 1/7/99

Account #:

Refrigerator #		1	3	3					3	3	3					
#/Type Container	Liquid															
	Solid	1g	1g	1					1g		1					
Volume	Liquid															
	Solid	125	250	1					125		1					
Preservatives																
ANALYSES REQUESTED →		ORGANIC							INORG							
		VOA	BNA	Pest/PCB	Herb				Metal	CN						

RECRA LabNet Use Only

MATRIX CODES	Lab ID	Client ID/Description	Matrix QC Chosen (✓) MS	MSD	Matrix	Date Collected	Time Collected	OLV2AC ✓	OLV2SC ✓	OLC03SC ✓	MHSL7O ✓	ICN7O ✓	ITCLV ✓	
S - Soil, SE - Sediment, SO - Solid, SL - Sludge, W - Water, O - Oil, A - Air, DS - Drum Solids, DL - Drum Liquids, L - EP/TCLP Leachate, WI - Wipe, X - Other, F - Fish	001	~~SH899-10207-B7~~ 12206 01			S	12/8/99	1000	✓	✓	✓	✓	✓	✓	Hg/Lipids
	2	02					1007							
	3	03					1110							
	4	04					1150							
	5	05					1220							
	6	06					1325							
	7	07	X	X			1430						(3X volume)	
	8	10					1620							
	9	12207 11					0915							
	010	~~12207~~ 12					1016							

Special Instructions:

DATE/REVISIONS:

12/10/99 1. 1&2 relogged to batch

2. CQ12CC173-99PM292

3.

4.

5.

6.

Relinquished by	Received by	Date	Time
UPS	Jameson	12/8/99	0930

Relinquished by	Received by	Date	Time
ORIGINAL			
REWRITTEN			

Discrepancies Between Samples Labels and COC Record? Y or (N)

NOTES:

* N2163477956

RECRA LabNet Use Only

Samples were: 1) Shipped ✓ or Hand Delivered ___

Airbill # *

2) Ambient or (Chilled)

3) Received in Good Condition (Y) or N

4) Labels Indicate Properly Preserved (Y) or N

5) Received Within Holding Times (Y) or N

COC Tape was: 1) Present on Outer Package (Y) or N

2) Unbroken on Outer Package (Y) or N

3) Present on Sample Y or (N)

4) Unbroken on Sample Y or (N)

COC Record Present Upon Sample Rec't (Y) or N

Cooler Temp. 5.4 °C

RECRA LabNet Use Only
99122959

Custody Transfer Record/Lab Work Request

Page 2 of 2

FIELD PERSONNEL: COMPLETE ONLY SHADED AREAS

RECRA LabNet

Client Nysdec

Est. Final Proj. Sampling Date

Project #

Project Contact/Phone #

RECRA Project Manager

QC Del TAT

Date Rec'd Date Due

Account #

see pg 1

		VOA	BNA	Pest/PCB	Herb				Metal	CN
Refrigerator #		1	3	3					3	3
#/Type Container	Liquid									
	Solid	1g	1g	—					1g	—
Volume	Liquid									
	Solid	125	250	—					125	—
Preservatives										
ANALYSES REQUESTED →		ORGANIC: VOA	BNA	Pest/PCB	Herb				INORG: Metal	CN
RECRA LabNet Use Only		CO24AC	CO25SC	CO16SC		CO24AT			MH5C70	ICNTO

MATRIX CODES:
S - Soil
SE - Sediment
SO - Solid
SL - Sludge
W - Water
O - Oil
A - Air
DS - Drum Solids
DL - Drum Liquids
L - EP/TCLP Leachate
WI - Wipe
X - Other
F - Fish

Lab ID	Client ID/Description	Matrix QC Chosen (✓) MS	MSD	Matrix	Date Collected	Time Collected	VOA (CO24AC)	BNA (CO25SC)	Pest/PCB (CO16SC)	Herb	CO24AT			Metal (MH5C70)	CN (ICNTO)
	12207														
011	SH899-~~12707~~-B70613			S	12/6/99	0930	✓	✓	✓					✓	✓
12	↓ 14			↓	↓	0940	✓	✓	✓					✓	✓
13	↓ 15			↓	↓	1020	✓	✓	✓					✓	✓
14	Nysdec-fridge blank			W	12/8/99	1300	✓								
~~15~~	~~SH899-12707-B70601 telvofoo1~~			~~L~~	~~*~~	~~-~~					~~✓~~				
~~16~~	~~↓ 02 ↓ 2~~			~~L~~	~~↓~~	~~-~~					~~✓~~				

12/9/99

Special Instructions:

DATE/REVISIONS:
1. * see labchron
2.
3.
4.
5.
6.

Relinquished by	Received by	Date	Time
UPS	Janson	12/8/99	0930

Relinquished by	Received by	Date	Time

Discrepancies Between Samples Labels and COC Record? Y or N
NOTES:

RECRA LabNet Use Only

Samples were:
1) Shipped ___ or Hand Delivered ___
Airbill # ___
2) Ambient or Chilled
3) Received in Good Condition Y or N
4) Labels Indicate Properly Preserved Y or N
5) Received Within Holding Times Y or N

COC Tape was:
1) Present on Outer Package Y or N
2) Unbroken on Outer Package Y or N
3) Present on Sample Y or N
4) Unbroken on Sample Y or N
COC Record Present Upon Sample Rec't Y or N
Cooler Temp. ___ °C

see pg 1

3D

SOIL SEMIVOLATILE MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

Lab Name: Recra.LabNet Contract: 1667-00-01

Lab Code: Recra Case No.: _____ SAS No.: _____ SDG No.: _____

MATRIX Spike - EPA Sample No.: SH899-12206-B Level (low/med) LOW

COMPOUND	SPIKE ADDED UG/KG	SAMPLE CONCENTRATION UG/KG	MS CONCENTRATION UG/KG	MS % REC #	QC LIMITS REC.
Phenol	3640	0	3290	90	26 - 90
2-Chlorophenol	3640	0	3280	90	25 -102
1,4-Dichlorobenzene	2430	0	2060	85	28 -104
N-Nitroso-di-n-prop.(1)	2430	0	2160	89	41 -126
1,2,4-Trichlorobenzene	2430	0	2120	87	38 -107
4-Chloro-3-methylphenol	3640	0	3430	94	26 -103
Acenaphthene	2430	275	2620	96	31 -137
4-Nitrophenol	3640	0	2170	60	11 -114
2,4-Dinitrotoluene	2430	0	1950	80	28 - 89
Pentachlorophenol	3640	0	2620	72	17 -109
Pyrene	2430	19300	14200	0 *	35 -142

COMPOUND	SPIKE ADDED UG/KG	MSD CONCENTRATION UG/KG	MSD % REC #	% RPD #	QC LIMITS RPD	QC LIMITS REC
Phenol	3740	3200	86	4	35	26 - 90
2-Chlorophenol	3740	3380	91	1	50	25 -102
1,4-Dichlorobenzene	2490	2110	85	0	27	28 -104
N-Nitroso-di-n-prop.(1)	2490	1970	79	11	38	41 -126
1,2,4-Trichlorobenzene	2490	2310	93	6	23	38 -107
4-Chloro-3-methylphenol	3740	3140	84	11	33	26 -103
Acenaphthene	2490	2760	100	4	19	31 -137
4-Nitrophenol	3740	2480	66	9	50	11 -114
2,4-Dinitrotoluene	2490	2070	83	3	47	28 - 89
Pentachlorophenol	3740	2480	66	8	47	17 -109
Pyrene	2490	38700	780 *	200 *	36	35 -142

(1) N-Nitroso-di-n-propylamine

Column to be used to flag recovery and RPD values with an asterisk
* Values outside of QC limits

RPD: 1 out of 11 outside limits
Spike Recovery: 2 out of 22 outside limits

COMMENTS: _____

_____

3D

SOIL SEMIVOLATILE BLANK SPIKE RECOVERY

Lab Name: Recra.LabNet Contract: 1667-00-01

Lab Code: Recra Case No.: _____ SAS No.: _____ SDG No.: _____

BLANK Spike - EPA Sample No.: SBLKJD Level (low/med) LOW

COMPOUND	SPIKE ADDED UG/KG	SAMPLE CONCENTRATION UG/KG	BS CONCENTRATION UG/KG	BS % REC #	QC LIMITS REC.
Phenol	2500	0	2810	112 *	26 - 90
2-Chlorophenol	2500	0	2600	104 *	25 -102
1,4-Dichlorobenzene	1670	0	1600	96	28 -104
N-Nitroso-di-n-prop.(1)	1670	0	1610	96	41 -126
1,2,4-Trichlorobenzene	1670	0	1720	103	38 -107
4-Chloro-3-methylphenol	2500	0	2640	105 *	26 -103
Acenaphthene	1670	0	1750	105	31 -137
4-Nitrophenol	2500	0	2720	108	11 -114
2,4-Dinitrotoluene	1670	0	1690	101 *	28 - 89
Pentachlorophenol	2500	0	3560	142 *	17 -109
Pyrene	1670	0	2210	132	35 -142

(1) N-Nitroso-di-n-propylamine

Column to be used to flag recovery value with an asterisk
* Values outside of QC limits

Spike Recovery: 5 out of 11 outside limits

COMMENTS: _____

_____

Sample Data

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

SH899-12206-B70603

Lab Name: Recra.LabNet Contract: 01667600001

Lab Code: Recra Case No.: _____ SAS No.: _____ SDG No.: _____

Matrix: (soil/water) SOIL Lab Sample ID: 9912L959-003

Sample wt/vol: 30.0 (g/mL) G Lab File ID: D011117

Level: (low/med) LOW Date Received: 12/08/99

% Moisture: 34 decanted: (Y/N)__ Date Extracted: 12/18/99

Concentrated Extract Volume: 500(uL) Date Analyzed: 01/11/00

Injection Volume: 2.0(uL) Dilution Factor: 200

GPC Cleanup: (Y/N) Y pH: 8.1

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
108-95-2	Phenol	100000	U
111-44-4	bis(2-Chloroethyl)ether	100000	U
95-57-8	2-Chlorophenol	100000	U
541-73-1	1,3-Dichlorobenzene	100000	U
106-46-7	1,4-Dichlorobenzene	100000	U
95-50-1	1,2-Dichlorobenzene	100000	U
95-48-7	2-Methylphenol	100000	U
108-60-1	2,2'-oxybis(1-Chloropropane)	100000	U
106-44-5	4-Methylphenol	100000	U
621-64-7	N-Nitroso-di-n-propylamine	100000	U
67-72-1	Hexachloroethane	100000	U
98-95-3	Nitrobenzene	100000	U
78-59-1	Isophorone	100000	U
88-75-5	2-Nitrophenol	100000	U
105-67-9	2,4-Dimethylphenol	100000	U
111-91-1	bis(2-Chloroethoxy)methane	100000	U
120-83-2	2,4-Dichlorophenol	100000	U
120-82-1	1,2,4-Trichlorobenzene	100000	U
91-20-3	Naphthalene	320000	
106-47-8	4-Chloroaniline	100000	U
87-68-3	Hexachlorobutadiene	100000	U
59-50-7	4-Chloro-3-methylphenol	100000	U
91-57-6	2-Methylnaphthalene	110000	
77-47-4	Hexachlorocyclopentadiene	100000	U
88-06-2	2,4,6-Trichlorophenol	100000	U
95-95-4	2,4,5-Trichlorophenol	250000	U
91-58-7	2-Chloronaphthalene	100000	U
88-74-4	2-Nitroaniline	250000	U
131-11-3	Dimethylphthalate	100000	U
208-96-8	Acenaphthylene	100000	U
606-20-2	2,6-Dinitrotoluene	100000	U
99-09-2	3-Nitroaniline	250000	U
83-32-9	Acenaphthene	170000	

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

SH899-12206-B70603

Lab Name: Recra.LabNet Contract: 01667600001

Lab Code: Recra Case No.: _____ SAS No.: _____ SDG No.: _____

Matrix: (soil/water) SOIL Lab Sample ID: 9912L959-003

Sample wt/vol: 30.0 (g/mL) G Lab File ID: D011117

Level: (low/med) LOW Date Received: 12/08/99

% Moisture: 34 decanted: (Y/N)__ Date Extracted: 12/18/99

Concentrated Extract Volume: 500(uL) Date Analyzed: 01/11/00

Injection Volume: 2.0(uL) Dilution Factor: 200

GPC Cleanup: (Y/N) Y pH: 8.1

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
51-28-5	2,4-Dinitrophenol	250000	U
100-02-7	4-Nitrophenol	250000	U
132-64-9	Dibenzofuran	220000	
121-14-2	2,4-Dinitrotoluene	100000	U
84-66-2	Diethylphthalate	100000	U
7005-72-3	4-Chlorophenyl-phenylether	100000	U
86-73-7	Fluorene	360000	
100-01-6	4-Nitroaniline	250000	U
534-52-1	4,6-Dinitro-2-methylphenol	250000	U
86-30-6	N-Nitrosodiphenylamine (1)	100000	U
101-55-3	4-Bromophenyl-phenylether	100000	U
118-74-1	Hexachlorobenzene	100000	U
87-86-5	Pentachlorophenol	250000	U
85-01-8	Phenanthrene	3100000	E
120-12-7	Anthracene	510000	
86-74-8	Carbazole	170000	
84-74-2	Di-n-butylphthalate	100000	U
206-44-0	Fluoranthene	2800000	E
129-00-0	Pyrene	1700000	E
85-68-7	Butylbenzylphthalate	100000	U
91-94-1	3,3'-Dichlorobenzidine	100000	U
56-55-3	Benzo(a)anthracene	760000	
218-01-9	Chrysene	710000	
117-81-7	bis(2-Ethylhexyl)phthalate	100000	U
117-84-0	Di-n-octyl phthalate	100000	U
205-99-2	Benzo(b)fluoranthene	480000	
207-08-9	Benzo(k)fluoranthene	470000	
50-32-8	Benzo(a)pyrene	530000	
193-39-5	Indeno(1,2,3-cd)pyrene	280000	
53-70-3	Dibenz(a,h)anthracene	100000	
191-24-2	Benzo(g,h,i)perylene	280000	

(1) - Cannot be separated from Diphenylamine

1F

EPA SAMPLE NO.

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

SH899-12206-B70603

Lab Name: Recra.LabNet Contract: 01667600001

Lab Code: Recra Case No.: _____ SAS No.: _____ SDG No.: _____

Matrix: (soil/water) SOIL Lab Sample ID: 9912L959-003

Sample wt/vol: 30.0 (g/mL) G Lab File ID: D011117

Level: (low/med) LOW Date Received: 12/08/99

% Moisture: 34 decanted: (Y/N) __ Date Extracted: 12/18/99

Concentrated Extract Volume: 500 (uL) Date Analyzed: 01/11/00

Injection Volume: 2.0 (uL) Dilution Factor: 200

GPC Cleanup: (Y/N) Y pH: 8.1

Number TICs found: 22 CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	90-12-0	1-METHYLNAPHTHALENE	13.67	100000	JN
2.		PAH	17.92	70000	J
3.	132-65-0	DIBENZOTHIOPHENE	19.29	100000	JN
4.		UNKNOWN	19.71	50000	J
5.		PAH	20.40	100000	J
6.		PAH	20.46	200000	J
7.		PAH	20.52	80000	J
8.		PAH	20.63	300000	J
9.		PAH	20.89	100000	J
10.	84-65-1	ANTHRACENEDIONE	20.98	60000	JN
11.	243-42-5	BENZONAPHTHOFURAN	21.90	30000	JN
12.		PAH	22.42	50000	J
13.		PAH	22.51	40000	J
14.	239-35-0	BENZONAPHTHOTHIOPHENE	23.46	30000	JN
15.		PAH	23.58	20000	J
16.	239-01-0	BENZOCARBAZOLE	24.34	30000	JN
17.		PAH	24.84	20000	J
18.		PAH	27.13	100000	J
19.		PAH	27.76	400000	J
20.		PAH	28.25	200000	J
21.		PAH	28.92	80000	J
22.		PAH	33.84	80000	J

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

SH899-12206-B70603DL

Lab Name: Recra.LabNet Contract: 01667600001

Lab Code: Recra Case No.: _____ SAS No.: _____ SDG No.: _____

Matrix: (soil/water) SOIL Lab Sample ID: 9912L959-003 DL

Sample wt/vol: 30.0 (g/mL) G Lab File ID: D011210

Level: (low/med) LOW Date Received: 12/08/99

% Moisture: 34 decanted: (Y/N)__ Date Extracted: 12/18/99

Concentrated Extract Volume: 500(uL) Date Analyzed: 01/12/00

Injection Volume: 2.0(uL) Dilution Factor: 1000

GPC Cleanup: (Y/N) Y pH: 8.1

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
51-28-5	2,4-Dinitrophenol	1300000	U
100-02-7	4-Nitrophenol	1300000	U
132-64-9	Dibenzofuran	170000	JD
121-14-2	2,4-Dinitrotoluene	510000	U
84-66-2	Diethylphthalate	510000	U
7005-72-3	4-Chlorophenyl-phenylether	510000	U
86-73-7	Fluorene	270000	JD
100-01-6	4-Nitroaniline	1300000	U
534-52-1	4,6-Dinitro-2-methylphenol	1300000	U
86-30-6	N-Nitrosodiphenylamine (1)	510000	U
101-55-3	4-Bromophenyl-phenylether	510000	U
118-74-1	Hexachlorobenzene	510000	U
87-86-5	Pentachlorophenol	1300000	U
85-01-8	Phenanthrene	1600000	D
120-12-7	Anthracene	380000	JD
86-74-8	Carbazole	130000	JD
84-74-2	Di-n-butylphthalate	510000	U
206-44-0	Fluoranthene	1500000	D
129-00-0	Pyrene	960000	D
85-68-7	Butylbenzylphthalate	510000	U
91-94-1	3,3'-Dichlorobenzidine	510000	U
56-55-3	Benzo(a)anthracene	510000	D
218-01-9	Chrysene	500000	JD
117-81-7	bis(2-Ethylhexyl)phthalate	510000	U
117-84-0	Di-n-octyl phthalate	510000	U
205-99-2	Benzo(b)fluoranthene	380000	JD
207-08-9	Benzo(k)fluoranthene	350000	JD
50-32-8	Benzo(a)pyrene	410000	JD
193-39-5	Indeno(1,2,3-cd)pyrene	220000	JD
53-70-3	Dibenz(a,h)anthracene	81000	JD
191-24-2	Benzo(g,h,i)perylene	200000	JD

(1) - Cannot be separated from Diphenylamine

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

SH899-12206-B70603DL

Lab Name: Recra.LabNet Contract: 01667600001

Lab Code: Recra Case No.: _____ SAS No.: _____ SDG No.: _____

Matrix: (soil/water) SOIL Lab Sample ID: 9912L959-003 DL

Sample wt/vol: 30.0 (g/mL) G Lab File ID: D011210

Level: (low/med) LOW Date Received: 12/08/99

% Moisture: 34 decanted: (Y/N)__ Date Extracted: 12/18/99

Concentrated Extract Volume: 500(uL) Date Analyzed: 01/12/00

Injection Volume: 2.0(uL) Dilution Factor: 1000

GPC Cleanup: (Y/N) Y pH: 8.1

Number TICs found: 7 CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.		PAH	20.17	100000	J
2.		PAH	22.20	200000	J
3.		PAH	20.40	300000	J
4.		PAH	22.22	200000	J
5.		PAH	22.29	100000	J
6.		PAH	27.16	300000	J
7.		PAH	27.63	100000	J

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

SH899-12206-B70604

Lab Name: Recra.LabNet Contract: 01667600001

Lab Code: Recra Case No.: _____ SAS No.: _____ SDG No.: _____

Matrix: (soil/water) SOIL Lab Sample ID: 9912L959-004

Sample wt/vol: 30.1 (g/mL) G Lab File ID: D011208

Level: (low/med) LOW Date Received: 12/08/99

% Moisture: 33 decanted: (Y/N)__ Date Extracted: 12/18/99

Concentrated Extract Volume: 500(uL) Date Analyzed: 01/12/00

Injection Volume: 2.0(uL) Dilution Factor: 10.0

GPC Cleanup: (Y/N) Y pH: 8.3

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
108-95-2	Phenol	5000	U
111-44-4	bis(2-Chloroethyl)ether	5000	U
95-57-8	2-Chlorophenol	5000	U
541-73-1	1,3-Dichlorobenzene	5000	U
106-46-7	1,4-Dichlorobenzene	5000	U
95-50-1	1,2-Dichlorobenzene	5000	U
95-48-7	2-Methylphenol	5000	U
108-60-1	2,2'-oxybis(1-Chloropropane)	5000	U
106-44-5	4-Methylphenol	5000	U
621-64-7	N-Nitroso-di-n-propylamine	5000	U
67-72-1	Hexachloroethane	5000	U
98-95-3	Nitrobenzene	5000	U
78-59-1	Isophorone	5000	U
88-75-5	2-Nitrophenol	5000	U
105-67-9	2,4-Dimethylphenol	5000	U
111-91-1	bis(2-Chloroethoxy)methane	5000	U
120-83-2	2,4-Dichlorophenol	5000	U
120-82-1	1,2,4-Trichlorobenzene	5000	U
91-20-3	Naphthalene	2300	J
106-47-8	4-Chloroaniline	5000	U
87-68-3	Hexachlorobutadiene	5000	U
59-50-7	4-Chloro-3-methylphenol	5000	U
91-57-6	2-Methylnaphthalene	670	J
77-47-4	Hexachlorocyclopentadiene	5000	U
88-06-2	2,4,6-Trichlorophenol	5000	U
95-95-4	2,4,5-Trichlorophenol	12000	U
91-58-7	2-Chloronaphthalene	5000	U
88-74-4	2-Nitroaniline	12000	U
131-11-3	Dimethylphthalate	5000	U
208-96-8	Acenaphthylene	310	J
606-20-2	2,6-Dinitrotoluene	5000	U
99-09-2	3-Nitroaniline	12000	U
83-32-9	Acenaphthene	1700	J

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

SH899-12206-B70604

Lab Name: Recra.LabNet Contract: 01667600001

Lab Code: Recra Case No.: _____ SAS No.: _____ SDG No.: _____

Matrix: (soil/water) SOIL Lab Sample ID: 9912L959-004

Sample wt/vol: 30.1 (g/mL) G Lab File ID: D011208

Level: (low/med) LOW Date Received: 12/08/99

% Moisture: 33 decanted: (Y/N)__ Date Extracted: 12/18/99

Concentrated Extract Volume: 500(uL) Date Analyzed: 01/12/00

Injection Volume: 2.0(uL) Dilution Factor: 10.0

GPC Cleanup: (Y/N) Y pH: 8.3

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
51-28-5	2,4-Dinitrophenol	12000	U
100-02-7	4-Nitrophenol	12000	U
132-64-9	Dibenzofuran	1500	J
121-14-2	2,4-Dinitrotoluene	5000	U
84-66-2	Diethylphthalate	5000	U
7005-72-3	4-Chlorophenyl-phenylether	5000	U
86-73-7	Fluorene	2400	J
100-01-6	4-Nitroaniline	12000	U
534-52-1	4,6-Dinitro-2-methylphenol	12000	U
86-30-6	N-Nitrosodiphenylamine (1)	5000	U
101-55-3	4-Bromophenyl-phenylether	5000	U
118-74-1	Hexachlorobenzene	5000	U
87-86-5	Pentachlorophenol	12000	U
85-01-8	Phenanthrene	25000	
120-12-7	Anthracene	4700	J
86-74-8	Carbazole	2500	J
84-74-2	Di-n-butylphthalate	5000	U
206-44-0	Fluoranthene	24000	
129-00-0	Pyrene	20000	
85-68-7	Butylbenzylphthalate	5000	U
91-94-1	3,3'-Dichlorobenzidine	5000	U
56-55-3	Benzo(a)anthracene	10000	
218-01-9	Chrysene	11000	
117-81-7	bis(2-Ethylhexyl)phthalate	5000	U
117-84-0	Di-n-octyl phthalate	5000	U
205-99-2	Benzo(b)fluoranthene	7000	
207-08-9	Benzo(k)fluoranthene	6900	
50-32-8	Benzo(a)pyrene	8100	
193-39-5	Indeno(1,2,3-cd)pyrene	3900	J
53-70-3	Dibenz(a,h)anthracene	1400	J
191-24-2	Benzo(g,h,i)perylene	4200	J

(1) - Cannot be separated from Diphenylamine

1F

EPA SAMPLE NO.

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

SH899-12206-B70604

Lab Name: Recra.LabNet Contract: 01667600001

Lab Code: Recra Case No.: _____ SAS No.: _____ SDG No.: _____

Matrix: (soil/water) SOIL Lab Sample ID: 9912L959-004

Sample wt/vol: 30.1 (g/mL) G Lab File ID: D011208

Level: (low/med) LOW Date Received: 12/08/99

% Moisture: 33 decanted: (Y/N)__ Date Extracted: 12/18/99

Concentrated Extract Volume: 500(uL) Date Analyzed: 01/12/00

Injection Volume: 2.0(uL) Dilution Factor: 10.0

GPC Cleanup: (Y/N) Y pH: 8.3

Number TICs found: 30 CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.		UNKNOWN	6.49	3000	J
2.	486-25-9	FLUORENONE	18.85	1000	JN
3.	132-65-0	DIBENZOTHIOPHENE	19.02	1000	JN
4.		PAH	20.17	3000	J
5.		PAH	20.22	4000	J
6.		PAH	20.29	1000	J
7.		PAH	20.40	7000	J
8.		PAH	20.67	2000	J
9.	84-65-1	ANTHRACENEDIONE	20.75	2000	JN
10.		PAH	21.11	2000	J
11.	239-30-5	BENZONAPHTHOFURAN	21.68	2000	JN
12.	243-42-5	BENZONAPHTHOFURAN	21.79	1000	JN
13.		PAH	22.04	2000	J
14.		PAH	22.20	4000	J
15.		PAH	22.30	3000	J
16.		PAH	22.36	2000	J
17.		PAH	22.51	1000	J
18.		PAH	22.55	1000	J
19.		UNKNOWN	23.01	1000	J
20.	239-35-0	BENZONAPHTHOTHIOPHENE	23.19	2000	JN
21.	239-35-0	BENZONAPHTHOTHIOPHENE	23.24	1000	JN
22.		PAH	23.30	1000	J
23.		PAH	23.36	2000	J
24.		UNKNOWN	24.01	1000	J
25.		UNKNOWN	24.13	1000	J
26.		UNKNOWN	24.47	2000	J
27.		PAH	25.84	1000	J
28.		PAH	26.60	1000	J
29.		PAH	27.17	6000	J
30.		PAH	27.63	2000	J

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

SH899-12206-B70605

Lab Name: Recra.LabNet Contract: 01667600001

Lab Code: Recra Case No.: _____ SAS No.: _____ SDG No.: _____

Matrix: (soil/water) SOIL Lab Sample ID: 9912L959-005

Sample wt/vol: 30.0 (g/mL) G Lab File ID: D011017

Level: (low/med) LOW Date Received: 12/08/99

% Moisture: 11 decanted: (Y/N)__ Date Extracted: 12/18/99

Concentrated Extract Volume: 500(uL) Date Analyzed: 01/10/00

Injection Volume: 2.0(uL) Dilution Factor: 1.00

GPC Cleanup: (Y/N) Y pH: 8.4

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
108-95-2	Phenol	380	U
111-44-4	bis(2-Chloroethyl)ether	380	U
95-57-8	2-Chlorophenol	380	U
541-73-1	1,3-Dichlorobenzene	380	U
106-46-7	1,4-Dichlorobenzene	380	U
95-50-1	1,2-Dichlorobenzene	380	U
95-48-7	2-Methylphenol	380	U
108-60-1	2,2'-oxybis(1-Chloropropane)	380	U
106-44-5	4-Methylphenol	380	U
621-64-7	N-Nitroso-di-n-propylamine	380	U
67-72-1	Hexachloroethane	380	U
98-95-3	Nitrobenzene	380	U
78-59-1	Isophorone	380	U
88-75-5	2-Nitrophenol	380	U
105-67-9	2,4-Dimethylphenol	380	U
111-91-1	bis(2-Chloroethoxy)methane	380	U
120-83-2	2,4-Dichlorophenol	380	U
120-82-1	1,2,4-Trichlorobenzene	380	U
91-20-3	Naphthalene	380	U
106-47-8	4-Chloroaniline	380	U
87-68-3	Hexachlorobutadiene	380	U
59-50-7	4-Chloro-3-methylphenol	380	U
91-57-6	2-Methylnaphthalene	380	U
77-47-4	Hexachlorocyclopentadiene	380	U
88-06-2	2,4,6-Trichlorophenol	380	U
95-95-4	2,4,5-Trichlorophenol	940	U
91-58-7	2-Chloronaphthalene	380	U
88-74-4	2-Nitroaniline	940	U
131-11-3	Dimethylphthalate	380	U
208-96-8	Acenaphthylene	380	U
606-20-2	2,6-Dinitrotoluene	380	U
99-09-2	3-Nitroaniline	940	U
83-32-9	Acenaphthene	380	U

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

SH899-12206-B70605

Lab Name: Recra.LabNet Contract: 01667600001

Lab Code: Recra Case No.: _____ SAS No.: _____ SDG No.: _____

Matrix: (soil/water) SOIL Lab Sample ID: 9912L959-005

Sample wt/vol: 30.0 (g/mL) G Lab File ID: D011017

Level: (low/med) LOW Date Received: 12/08/99

% Moisture: 11 decanted: (Y/N)__ Date Extracted: 12/18/99

Concentrated Extract Volume: 500(uL) Date Analyzed: 01/10/00

Injection Volume: 2.0(uL) Dilution Factor: 1.00

GPC Cleanup: (Y/N) Y pH: 8.4

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
51-28-5	2,4-Dinitrophenol	940	U
100-02-7	4-Nitrophenol	940	U
132-64-9	Dibenzofuran	380	U
121-14-2	2,4-Dinitrotoluene	380	U
84-66-2	Diethylphthalate	380	U
7005-72-3	4-Chlorophenyl-phenylether	380	U
86-73-7	Fluorene	380	U
100-01-6	4-Nitroaniline	940	U
534-52-1	4,6-Dinitro-2-methylphenol	940	U
86-30-6	N-Nitrosodiphenylamine (1)	380	U
101-55-3	4-Bromophenyl-phenylether	380	U
118-74-1	Hexachlorobenzene	380	U
87-86-5	Pentachlorophenol	940	U
85-01-8	Phenanthrene	99	J
120-12-7	Anthracene	380	U
86-74-8	Carbazole	380	U
84-74-2	Di-n-butylphthalate	380	U
206-44-0	Fluoranthene	130	J
129-00-0	Pyrene	110	J
85-68-7	Butylbenzylphthalate	380	U
91-94-1	3,3'-Dichlorobenzidine	380	U
56-55-3	Benzo(a)anthracene	65	J
218-01-9	Chrysene	72	J
117-81-7	bis(2-Ethylhexyl)phthalate	380	U
117-84-0	Di-n-octyl phthalate	380	U
205-99-2	Benzo(b)fluoranthene	55	J
207-08-9	Benzo(k)fluoranthene	59	J
50-32-8	Benzo(a)pyrene	54	J
193-39-5	Indeno(1,2,3-cd)pyrene	35	J
53-70-3	Dibenz(a,h)anthracene	380	U
191-24-2	Benzo(g,h,i)perylene	43	J

(1) - Cannot be separated from Diphenylamine

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

SH899-12206-B70605

Lab Name: Recra.LabNet Contract: 01667600001

Lab Code: Recra Case No.: _____ SAS No.: _____ SDG No.: _____

Matrix: (soil/water) SOIL Lab Sample ID: 9912L959-005

Sample wt/vol: 30.0 (g/mL) G Lab File ID: D011017

Level: (low/med) LOW Date Received: 12/08/99

% Moisture: 11 decanted: (Y/N)__ Date Extracted: 12/18/99

Concentrated Extract Volume: 500(uL) Date Analyzed: 01/10/00

Injection Volume: 2.0(uL) Dilution Factor: 1.00

GPC Cleanup: (Y/N) Y pH: 8.4

Number TICs found: 10 CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.		UNKNOWN	6.78	200	J
2.		ALDOL CONDENSATE	7.06	200	JA
3.		ALDOL CONDENSATE	7.40	90	JA
4.		ALDOL CONDENSATE	8.17	100	JA
5.		ALDOL CONDENSATE	9.29	80	JA
6.		UNKNOWN	19.16	80	J
7.		UNKNOWN	20.34	300	JB
8.		UNKNOWN	23.27	100	J
9.		ALKANE	26.28	200	J
10.		ALKANE	28.80	100	J

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

SH899-12206-B70606

Lab Name: Recra.LabNet Contract: 01667600001

Lab Code: Recra Case No.: _____ SAS No.: _____ SDG No.: _____

Matrix: (soil/water) SOIL Lab Sample ID: 9912L959-006

Sample wt/vol: 30.1 (g/mL) G Lab File ID: D011203

Level: (low/med) LOW Date Received: 12/08/99

% Moisture: 28 decanted: (Y/N)__ Date Extracted: 12/18/99

Concentrated Extract Volume: 500(uL) Date Analyzed: 01/12/00

Injection Volume: 2.0(uL) Dilution Factor: 5.00

GPC Cleanup: (Y/N) Y pH: 7.9

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
108-95-2	Phenol	2300	U
111-44-4	bis(2-Chloroethyl)ether	2300	U
95-57-8	2-Chlorophenol	2300	U
541-73-1	1,3-Dichlorobenzene	2300	U
106-46-7	1,4-Dichlorobenzene	2300	U
95-50-1	1,2-Dichlorobenzene	2300	U
95-48-7	2-Methylphenol	2300	U
108-60-1	2,2'-oxybis(1-Chloropropane)	2300	U
106-44-5	4-Methylphenol	2300	U
621-64-7	N-Nitroso-di-n-propylamine	2300	U
67-72-1	Hexachloroethane	2300	U
98-95-3	Nitrobenzene	2300	U
78-59-1	Isophorone	2300	U
88-75-5	2-Nitrophenol	2300	U
105-67-9	2,4-Dimethylphenol	2300	U
111-91-1	bis(2-Chloroethoxy)methane	2300	U
120-83-2	2,4-Dichlorophenol	2300	U
120-82-1	1,2,4-Trichlorobenzene	2300	U
91-20-3	Naphthalene	2300	U
106-47-8	4-Chloroaniline	2300	U
87-68-3	Hexachlorobutadiene	2300	U
59-50-7	4-Chloro-3-methylphenol	2300	U
91-57-6	2-Methylnaphthalene	2300	U
77-47-4	Hexachlorocyclopentadiene	2300	U
88-06-2	2,4,6-Trichlorophenol	2300	U
95-95-4	2,4,5-Trichlorophenol	5800	U
91-58-7	2-Chloronaphthalene	2300	U
88-74-4	2-Nitroaniline	5800	U
131-11-3	Dimethylphthalate	2300	U
208-96-8	Acenaphthylene	2300	U
606-20-2	2,6-Dinitrotoluene	2300	U
99-09-2	3-Nitroaniline	5800	U
83-32-9	Acenaphthene	2300	U

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

SH899-12206-B70606

Lab Name: Recra.LabNet Contract: 01667600001

Lab Code: Recra Case No.: _____ SAS No.: _____ SDG No.: _____

Matrix: (soil/water) SOIL Lab Sample ID: 9912L959-006

Sample wt/vol: 30.1 (g/mL) G Lab File ID: D011203

Level: (low/med) LOW Date Received: 12/08/99

% Moisture: 28 decanted: (Y/N)__ Date Extracted: 12/18/99

Concentrated Extract Volume: 500(uL) Date Analyzed: 01/12/00

Injection Volume: 2.0(uL) Dilution Factor: 5.00

GPC Cleanup: (Y/N) Y pH: 7.9

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
51-28-5	2,4-Dinitrophenol	5800	U
100-02-7	4-Nitrophenol	5800	U
132-64-9	Dibenzofuran	2300	U
121-14-2	2,4-Dinitrotoluene	2300	U
84-66-2	Diethylphthalate	2300	U
7005-72-3	4-Chlorophenyl-phenylether	2300	U
86-73-7	Fluorene	2300	U
100-01-6	4-Nitroaniline	5800	U
534-52-1	4,6-Dinitro-2-methylphenol	5800	U
86-30-6	N-Nitrosodiphenylamine (1)	2300	U
101-55-3	4-Bromophenyl-phenylether	2300	U
118-74-1	Hexachlorobenzene	2300	U
87-86-5	Pentachlorophenol	5800	U
85-01-8	Phenanthrene	1400	J
120-12-7	Anthracene	2300	U
86-74-8	Carbazole	2300	U
84-74-2	Di-n-butylphthalate	2300	U
206-44-0	Fluoranthene	2300	U
129-00-0	Pyrene	120	J
85-68-7	Butylbenzylphthalate	2300	U
91-94-1	3,3'-Dichlorobenzidine	2300	U
56-55-3	Benzo(a)anthracene	630	J
218-01-9	Chrysene	3100	
117-81-7	bis(2-Ethylhexyl)phthalate	2300	U
117-84-0	Di-n-octyl phthalate	130	J
205-99-2	Benzo(b)fluoranthene	460	J
207-08-9	Benzo(k)fluoranthene	220	J
50-32-8	Benzo(a)pyrene	260	J
193-39-5	Indeno(1,2,3-cd)pyrene	190	J
53-70-3	Dibenz(a,h)anthracene	310	J
191-24-2	Benzo(g,h,i)perylene	300	J

(1) - Cannot be separated from Diphenylamine

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

SH899-12206-B70606

Lab Name: Recra.LabNet Contract: 01667600001

Lab Code: Recra Case No.: _____ SAS No.: _____ SDG No.: _____

Matrix: (soil/water) SOIL Lab Sample ID: 9912L959-006

Sample wt/vol: 30.1 (g/mL) G Lab File ID: D011203

Level: (low/med) LOW Date Received: 12/08/99

% Moisture: 28 decanted: (Y/N)__ Date Extracted: 12/18/99

Concentrated Extract Volume: 500(uL) Date Analyzed: 01/12/00

Injection Volume: 2.0(uL) Dilution Factor: 5.00

GPC Cleanup: (Y/N) Y pH: 7.9

Number TICs found: 37 CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.		UNRESOLVED HYDROCARBONS			
2.		18 TO 33 MINUTES			
3.		UNKNOWN	13.32	2000	J
4.		ALKANE	16.63	1000	J
5.		ALKANE	17.79	2000	J
6.		ALKANE	18.82	4000	J
7.		ALKANE	19.65	6000	J
8.		PAH	20.17	800	J
9.		PAH	20.22	2000	J
10.		ALKANE	20.36	7000	J
11.		ALKANE	20.61	1000	J
12.		PAH	20.66	900	J
13.		UNKNOWN	20.75	1000	J
14.		UNKNOWN	20.82	800	J
15.		ALKANE	20.97	5000	J
16.		UNKNOWN	21.20	1000	J
17.		ALKANE	21.53	2000	J
18.		UNKNOWN	21.79	600	J
19.		ALKANE	21.85	800	J
20.		ALKANE	22.03	1000	J
21.		UNKNOWN	22.08	700	J
22.		ALKANE	22.20	1000	J
23.		UNKNOWN	22.31	600	J
24.		UNKNOWN	22.50	600	J
25.		ALKANE	22.67	1000	J
26.		UNKNOWN	23.00	800	J
27.		UNKNOWN	23.19	1000	J
28.		UNKNOWN	23.97	1000	J
29.		UNKNOWN	24.21	700	J
30.		PAH	24.47	2000	J

1F

EPA SAMPLE NO.

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

SH899-12206-B70606

Lab Name: Recra.LabNet Contract: 01667600001

Lab Code: Recra Case No.: _____ SAS No.: _____ SDG No.: _____

Matrix: (soil/water) SOIL Lab Sample ID: 9912L959-006

Sample wt/vol: 30.1 (g/mL) G Lab File ID: D011203

Level: (low/med) LOW Date Received: 12/08/99

% Moisture: 28 decanted: (Y/N)__ Date Extracted: 12/18/99

Concentrated Extract Volume: 500(uL) Date Analyzed: 01/12/00

Injection Volume: 2.0(uL) Dilution Factor: 5.00

GPC Cleanup: (Y/N) Y pH: 7.9

Number TICs found: 37 CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
31.	PAH	24.58	1000	J
32.	UNKNOWN	24.89	600	J
33.	UNKNOWN	24.96	700	J
34.	UNKNOWN	25.39	600	J
35.	PAH	25.62	1000	J
36.	PAH	25.81	1000	J
37.	UNKNOWN	25.92	1000	J
38.	UNKNOWN	25.99	1000	J
39.	PAH	27.17	1000	J

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

SH899-12206-B70607

Lab Name: Recra.LabNet Contract: 01667600001

Lab Code: Recra Case No.: _____ SAS No.: _____ SDG No.: _____

Matrix: (soil/water) SOIL Lab Sample ID: 9912L959-007

Sample wt/vol: 30.0 (g/mL) G Lab File ID: D011207

Level: (low/med) LOW Date Received: 12/08/99

% Moisture: 33 decanted: (Y/N)__ Date Extracted: 12/18/99

Concentrated Extract Volume: 500(uL) Date Analyzed: 01/12/00

Injection Volume: 2.0(uL) Dilution Factor: 10.0

GPC Cleanup: (Y/N) Y pH: 8.3

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
108-95-2	Phenol	5000	U
111-44-4	bis(2-Chloroethyl)ether	5000	U
95-57-8	2-Chlorophenol	5000	U
541-73-1	1,3-Dichlorobenzene	5000	U
106-46-7	1,4-Dichlorobenzene	5000	U
95-50-1	1,2-Dichlorobenzene	5000	U
95-48-7	2-Methylphenol	5000	U
108-60-1	2,2'-oxybis(1-Chloropropane)	5000	U
106-44-5	4-Methylphenol	5000	U
621-64-7	N-Nitroso-di-n-propylamine	5000	U
67-72-1	Hexachloroethane	5000	U
98-95-3	Nitrobenzene	5000	U
78-59-1	Isophorone	5000	U
88-75-5	2-Nitrophenol	5000	U
105-67-9	2,4-Dimethylphenol	5000	U
111-91-1	bis(2-Chloroethoxy)methane	5000	U
120-83-2	2,4-Dichlorophenol	5000	U
120-82-1	1,2,4-Trichlorobenzene	5000	U
91-20-3	Naphthalene	5000	U
106-47-8	4-Chloroaniline	5000	U
87-68-3	Hexachlorobutadiene	5000	U
59-50-7	4-Chloro-3-methylphenol	5000	U
91-57-6	2-Methylnaphthalene	5000	U
77-47-4	Hexachlorocyclopentadiene	5000	U
88-06-2	2,4,6-Trichlorophenol	5000	U
95-95-4	2,4,5-Trichlorophenol	12000	U
91-58-7	2-Chloronaphthalene	5000	U
88-74-4	2-Nitroaniline	12000	U
131-11-3	Dimethylphthalate	5000	U
208-96-8	Acenaphthylene	540	J
606-20-2	2,6-Dinitrotoluene	5000	U
99-09-2	3-Nitroaniline	12000	U
83-32-9	Acenaphthene	270	J

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

SH899-12206-B70607

Lab Name: Recra.LabNet Contract: 01667600001

Lab Code: Recra Case No.: _____ SAS No.: _____ SDG No.: _____

Matrix: (soil/water) SOIL Lab Sample ID: 9912L959-007

Sample wt/vol: 30.0 (g/mL) G Lab File ID: D011207

Level: (low/med) LOW Date Received: 12/08/99

% Moisture: 33 decanted: (Y/N)__ Date Extracted: 12/18/99

Concentrated Extract Volume: 500(uL) Date Analyzed: 01/12/00

Injection Volume: 2.0(uL) Dilution Factor: 10.0

GPC Cleanup: (Y/N) Y pH: 8.3

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
51-28-5	2,4-Dinitrophenol	12000	U
100-02-7	4-Nitrophenol	12000	U
132-64-9	Dibenzofuran	380	J
121-14-2	2,4-Dinitrotoluene	5000	U
84-66-2	Diethylphthalate	5000	U
7005-72-3	4-Chlorophenyl-phenylether	5000	U
86-73-7	Fluorene	450	J
100-01-6	4-Nitroaniline	12000	U
534-52-1	4,6-Dinitro-2-methylphenol	12000	U
86-30-6	N-Nitrosodiphenylamine (1)	5000	U
101-55-3	4-Bromophenyl-phenylether	5000	U
118-74-1	Hexachlorobenzene	5000	U
87-86-5	Pentachlorophenol	12000	U
85-01-8	Phenanthrene	12000	
120-12-7	Anthracene	2000	J
86-74-8	Carbazole	650	J
84-74-2	Di-n-butylphthalate	5000	U
206-44-0	Fluoranthene	20000	
129-00-0	Pyrene	19000	
85-68-7	Butylbenzylphthalate	5000	U
91-94-1	3,3'-Dichlorobenzidine	5000	U
56-55-3	Benzo(a)anthracene	7900	
218-01-9	Chrysene	9100	
117-81-7	bis(2-Ethylhexyl)phthalate	5000	U
117-84-0	Di-n-octyl phthalate	5000	U
205-99-2	Benzo(b)fluoranthene	5800	
207-08-9	Benzo(k)fluoranthene	5800	
50-32-8	Benzo(a)pyrene	7200	
193-39-5	Indeno(1,2,3-cd)pyrene	3900	J
53-70-3	Dibenz(a,h)anthracene	1600	J
191-24-2	Benzo(g,h,i)perylene	4500	J

(1) - Cannot be separated from Diphenylamine

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

SH899-12206-B70607

Lab Name: Recra.LabNet Contract: 01667600001

Lab Code: Recra Case No.: _____ SAS No.: _____ SDG No.: _____

Matrix: (soil/water) SOIL Lab Sample ID: 9912L959-007

Sample wt/vol: 30.0 (g/mL) G Lab File ID: D011207

Level: (low/med) LOW Date Received: 12/08/99

% Moisture: 33 decanted: (Y/N)__ Date Extracted: 12/18/99

Concentrated Extract Volume: 500(uL) Date Analyzed: 01/12/00

Injection Volume: 2.0(uL) Dilution Factor: 10.0

GPC Cleanup: (Y/N) Y pH: 8.3

Number TICs found: 34 CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.		19 TO 30 MINUTES			
2.		UNRESOLVED HYDROCARBONS			
3.		ALKANE	16.64	4000	J
4.		ALKANE	17.80	5000	J
5.		ALKANE	18.82	10000	J
6.		ALKANE	19.66	10000	J
7.		PAH	20.18	2000	J
8.		PAH	20.22	2000	J
9.		ALKANE	20.36	20000	J
10.		ALKANE	20.62	3000	J
11.		PAH	20.67	2000	J
12.	84-65-1	ANTHRACENEDIONE	20.75	4000	JN
13.		UNKNOWN	20.82	2000	J
14.		ALKANE	20.98	10000	J
15.		ALKANE	21.20	2000	J
16.		ALKANE	21.53	6000	J
17.	243-42-5	BENZONAPHTHOFURAN	21.68	1000	JN
18.		ALKANE	21.85	1000	J
19.		UNKNOWN	21.98	2000	J
20.		UNKNOWN	22.04	5000	J
21.		UNKNOWN	22.21	6000	J
22.		PAH	22.36	2000	J
23.		UNKNOWN	22.50	4000	J
24.		UNKNOWN	22.54	3000	J
25.		ALKANE	22.68	4000	J
26.		UNKNOWN	23.00	3000	J
27.		UNKNOWN	23.19	6000	J
28.	82-05-3	BENZOANTHRACENEONE	23.98	2000	JN
29.		PAH	24.48	4000	J
30.		UNKNOWN	24.97	2000	J

1F

EPA SAMPLE NO.

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

SH899-12206-B70607

Lab Name: Recra.LabNet Contract: 01667600001

Lab Code: Recra Case No.: _____ SAS No.: _____ SDG No.: _____

Matrix: (soil/water) SOIL Lab Sample ID: 9912L959-007

Sample wt/vol: 30.0 (g/mL) G Lab File ID: D011207

Level: (low/med) LOW Date Received: 12/08/99

% Moisture: 33 decanted: (Y/N)__ Date Extracted: 12/18/99

Concentrated Extract Volume: 500(uL) Date Analyzed: 01/12/00

Injection Volume: 2.0(uL) Dilution Factor: 10.0

GPC Cleanup: (Y/N) Y pH: 8.3

Number TICs found: 34 CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
31.	PAH	25.81	3000	J
32.	UNKNOWN	25.92	6000	J
33.	UNKNOWN	26.01	3000	J
34.	UNKNOWN	27.12	5000	J
35.	PAH	27.18	6000	J
36.	UNKNOWN	28.94	3000	J

FORM 1 SV-TIC RFW (v3.3)

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

SH899-12206-B70610

Lab Name: Recra.LabNet Contract: 01667600001

Lab Code: Recra Case No.: _____ SAS No.: _____ SDG No.: _____

Matrix: (soil/water) SOIL Lab Sample ID: 9912L959-008

Sample wt/vol: 30.1 (g/mL) G Lab File ID: D011214

Level: (low/med) LOW Date Received: 12/08/99

% Moisture: 33 decanted: (Y/N)__ Date Extracted: 12/18/99

Concentrated Extract Volume: 500(uL) Date Analyzed: 01/12/00

Injection Volume: 2.0(uL) Dilution Factor: 2.00

GPC Cleanup: (Y/N) Y pH: 8.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
108-95-2	Phenol	990	U
111-44-4	bis(2-Chloroethyl)ether	990	U
95-57-8	2-Chlorophenol	990	U
541-73-1	1,3-Dichlorobenzene	990	U
106-46-7	1,4-Dichlorobenzene	990	U
95-50-1	1,2-Dichlorobenzene	990	U
95-48-7	2-Methylphenol	990	U
108-60-1	2,2'-oxybis(1-Chloropropane)	990	U
106-44-5	4-Methylphenol	990	U
621-64-7	N-Nitroso-di-n-propylamine	990	U
67-72-1	Hexachloroethane	990	U
98-95-3	Nitrobenzene	990	U
78-59-1	Isophorone	990	U
88-75-5	2-Nitrophenol	990	U
105-67-9	2,4-Dimethylphenol	990	U
111-91-1	bis(2-Chloroethoxy)methane	990	U
120-83-2	2,4-Dichlorophenol	990	U
120-82-1	1,2,4-Trichlorobenzene	990	U
91-20-3	Naphthalene	86	J
106-47-8	4-Chloroaniline	990	U
87-68-3	Hexachlorobutadiene	990	U
59-50-7	4-Chloro-3-methylphenol	990	U
91-57-6	2-Methylnaphthalene	140	J
77-47-4	Hexachlorocyclopentadiene	990	U
88-06-2	2,4,6-Trichlorophenol	990	U
95-95-4	2,4,5-Trichlorophenol	2500	U
91-58-7	2-Chloronaphthalene	990	U
88-74-4	2-Nitroaniline	2500	U
131-11-3	Dimethylphthalate	990	U
208-96-8	Acenaphthylene	71	J
606-20-2	2,6-Dinitrotoluene	990	U
99-09-2	3-Nitroaniline	2500	U
83-32-9	Acenaphthene	990	U

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

SH899-12206-B70610

Lab Name: Recra.LabNet Contract: 01667600001

Lab Code: Recra Case No.: _____ SAS No.: _____ SDG No.: _____

Matrix: (soil/water) SOIL Lab Sample ID: 9912L959-008

Sample wt/vol: 30.1 (g/mL) G Lab File ID: D011214

Level: (low/med) LOW Date Received: 12/08/99

% Moisture: 33 decanted: (Y/N)__ Date Extracted: 12/18/99

Concentrated Extract Volume: 500(uL) Date Analyzed: 01/12/00

Injection Volume: 2.0(uL) Dilution Factor: 2.00

GPC Cleanup: (Y/N) Y pH: 8.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
51-28-5	2,4-Dinitrophenol	2500	U
100-02-7	4-Nitrophenol	2500	U
132-64-9	Dibenzofuran	86	J
121-14-2	2,4-Dinitrotoluene	990	U
84-66-2	Diethylphthalate	990	U
7005-72-3	4-Chlorophenyl-phenylether	990	U
86-73-7	Fluorene	990	U
100-01-6	4-Nitroaniline	2500	U
534-52-1	4,6-Dinitro-2-methylphenol	2500	U
86-30-6	N-Nitrosodiphenylamine (1)	990	U
101-55-3	4-Bromophenyl-phenylether	990	U
118-74-1	Hexachlorobenzene	990	U
87-86-5	Pentachlorophenol	2500	U
85-01-8	Phenanthrene	580	J
120-12-7	Anthracene	97	J
86-74-8	Carbazole	55	J
84-74-2	Di-n-butylphthalate	990	U
206-44-0	Fluoranthene	870	J
129-00-0	Pyrene	720	J
85-68-7	Butylbenzylphthalate	990	U
91-94-1	3,3'-Dichlorobenzidine	990	U
56-55-3	Benzo(a)anthracene	510	J
218-01-9	Chrysene	920	J
117-81-7	bis(2-Ethylhexyl)phthalate	440	JB
117-84-0	Di-n-octyl phthalate	990	U
205-99-2	Benzo(b)fluoranthene	690	J
207-08-9	Benzo(k)fluoranthene	560	J
50-32-8	Benzo(a)pyrene	520	J
193-39-5	Indeno(1,2,3-cd)pyrene	380	J
53-70-3	Dibenz(a,h)anthracene	130	J
191-24-2	Benzo(g,h,i)perylene	460	J

(1) - Cannot be separated from Diphenylamine

1F

EPA SAMPLE NO.

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

SH899-12206-B70610

Lab Name: Recra.LabNet Contract: 01667600001

Lab Code: Recra Case No.: _____ SAS No.: _____ SDG No.: _____

Matrix: (soil/water) SOIL Lab Sample ID: 9912L959-008

Sample wt/vol: 30.1 (g/mL) G Lab File ID: D011214

Level: (low/med) LOW Date Received: 12/08/99

% Moisture: 33 decanted: (Y/N)__ Date Extracted: 12/18/99

Concentrated Extract Volume: 500(uL) Date Analyzed: 01/12/00

Injection Volume: 2.0(uL) Dilution Factor: 2.00

GPC Cleanup: (Y/N) Y pH: 8.0

Number TICs found: 32 CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.		19 TO 29 MINUTES			
2.		UNRESOLVED HYDRCCARBONS			
3.		UNKNOWN	6.07	1000	J
4.		UNKNOWN	6.33	500	J
5.		UNKNOWN	7.15	700	J
6.		UNKNOWN	7.26	500	J
7.		C3-ALKYLBENZENE	7.42	1000	J
8.		C3-ALKYLBENZENE	7.55	900	J
9.		C3-ALKYLBENZENE	8.03	2000	J
10.		C3-ALKYLBENZENE	8.59	600	J
11.		UNKNOWN	11.26	500	J
12.		UNKNOWN	14.91	500	J
13.		ALKANE	16.62	400	J
14.		UNKNOWN	17.78	400	J
15.		ALKANE	17.85	600	J
16.		ALKANE	18.82	500	J
17.		ALKANE	19.66	500	J
18.		UNKNOWN	20.12	300	J
19.		PAH	20.23	300	J
20.		UNKNOWN	20.36	700	J
21.		UNKNOWN	20.98	500	J
22.		ALKANE	21.53	300	J
23.		ALKANE	22.03	400	J
24.		PAH	22.20	300	J
25.		UNKNOWN	22.50	400	J
26.		UNKNOWN	23.01	800	J
27.		UNKNOWN	23.20	300	J
28.		ALKANE	23.56	200	J
29.		ALKANE	24.21	200	J
30.		PAH	24.47	300	J

1F

EPA SAMPLE NO.

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

SH899-12206-B70610

Lab Name: Recra.LabNet Contract: 01667600001

Lab Code: Recra Case No.: _____ SAS No.: _____ SDG No.: _____

Matrix: (soil/water) SOIL Lab Sample ID: 9912L959-008

Sample wt/vol: 30.1 (g/mL) G Lab File ID: D011214

Level: (low/med) LOW Date Received: 12/08/99

% Moisture: 33 decanted: (Y/N)__ Date Extracted: 12/18/99

Concentrated Extract Volume: 500(uL) Date Analyzed: 01/12/00

Injection Volume: 2.0(uL) Dilution Factor: 2.00

GPC Cleanup: (Y/N) Y pH: 8.0

Number TICs found: 32 CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
31.	UNKNOWN	24.96	400	J
32.	ALKANE	25.84	600	J
33.	PAH	27.18	700	J
34.	UNKNOWN	29.44	1000	J

FORM 1 SV-TIC RFW (v3.3)

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

SH899-12207-B70611

Lab Name: Recra.LabNet Contract: 01667600001

Lab Code: Recra Case No.: _____ SAS No.: _____ SDG No.: _____

Matrix: (soil/water) SOIL Lab Sample ID: 9912L959-009

Sample wt/vol: 30.7 (g/mL) G Lab File ID: D011209

Level: (low/med) LOW Date Received: 12/08/99

% Moisture: 13 decanted: (Y/N)__ Date Extracted: 12/18/99

Concentrated Extract Volume: 500(uL) Date Analyzed: 01/12/00

Injection Volume: 2.0(uL) Dilution Factor: 5.00

GPC Cleanup: (Y/N) Y pH: 8.1

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
108-95-2	Phenol	1900	U
111-44-4	bis(2-Chloroethyl)ether	1900	U
95-57-8	2-Chlorophenol	1900	U
541-73-1	1,3-Dichlorobenzene	1900	U
106-46-7	1,4-Dichlorobenzene	1900	U
95-50-1	1,2-Dichlorobenzene	1900	U
95-48-7	2-Methylphenol	1900	U
108-60-1	2,2'-oxybis(1-Chloropropane)	1900	U
106-44-5	4-Methylphenol	1900	U
621-64-7	N-Nitroso-di-n-propylamine	1900	U
67-72-1	Hexachloroethane	1900	U
98-95-3	Nitrobenzene	1900	U
78-59-1	Isophorone	1900	U
88-75-5	2-Nitrophenol	1900	U
105-67-9	2,4-Dimethylphenol	1900	U
111-91-1	bis(2-Chloroethoxy)methane	1900	U
120-83-2	2,4-Dichlorophenol	1900	U
120-82-1	1,2,4-Trichlorobenzene	1900	U
91-20-3	Naphthalene	260	J
106-47-8	4-Chloroaniline	1900	U
87-68-3	Hexachlorobutadiene	1900	U
59-50-7	4-Chloro-3-methylphenol	1900	U
91-57-6	2-Methylnaphthalene	98	J
77-47-4	Hexachlorocyclopentadiene	1900	U
88-06-2	2,4,6-Trichlorophenol	1900	U
95-95-4	2,4,5-Trichlorophenol	4700	U
91-58-7	2-Chloronaphthalene	1900	U
88-74-4	2-Nitroaniline	4700	U
131-11-3	Dimethylphthalate	1900	U
208-96-8	Acenaphthylene	1900	U
606-20-2	2,6-Dinitrotoluene	1900	U
99-09-2	3-Nitroaniline	4700	U
83-32-9	Acenaphthene	780	J

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

SH899-12207-B70611

Lab Name: Recra.LabNet Contract: 01667600001

Lab Code: Recra Case No.: _____ SAS No.: _____ SDG No.: _____

Matrix: (soil/water) SOIL Lab Sample ID: 9912L959-009

Sample wt/vol: 30.7 (g/mL) G Lab File ID: D011209

Level: (low/med) LOW Date Received: 12/08/99

% Moisture: 13 decanted: (Y/N)__ Date Extracted: 12/18/99

Concentrated Extract Volume: 500(uL) Date Analyzed: 01/12/00

Injection Volume: 2.0(uL) Dilution Factor: 5.00

GPC Cleanup: (Y/N) Y pH: 8.1

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
51-28-5	2,4-Dinitrophenol	4700	U
100-02-7	4-Nitrophenol	4700	U
132-64-9	Dibenzofuran	420	J
121-14-2	2,4-Dinitrotoluene	1900	U
84-66-2	Diethylphthalate	1900	U
7005-72-3	4-Chlorophenyl-phenylether	1900	U
86-73-7	Fluorene	730	J
100-01-6	4-Nitroaniline	4700	U
534-52-1	4,6-Dinitro-2-methylphenol	4700	U
86-30-6	N-Nitrosodiphenylamine (1)	1900	U
101-55-3	4-Bromophenyl-phenylether	1900	U
118-74-1	Hexachlorobenzene	1900	U
87-86-5	Pentachlorophenol	4700	U
85-01-8	Phenanthrene	7300	
120-12-7	Anthracene	1600	J
86-74-8	Carbazole	850	J
84-74-2	Di-n-butylphthalate	1900	U
206-44-0	Fluoranthene	9700	
129-00-0	Pyrene	7200	
85-68-7	Butylbenzylphthalate	1900	U
91-94-1	3,3'-Dichlorobenzidine	1900	U
56-55-3	Benzo(a)anthracene	3200	
218-01-9	Chrysene	3300	
117-81-7	bis(2-Ethylhexyl)phthalate	1900	U
117-84-0	Di-n-octyl phthalate	1900	U
205-99-2	Benzo(b)fluoranthene	2700	
207-08-9	Benzo(k)fluoranthene	2600	
50-32-8	Benzo(a)pyrene	3100	
193-39-5	Indeno(1,2,3-cd)pyrene	1700	J
53-70-3	Dibenz(a,h)anthracene	510	J
191-24-2	Benzo(g,h,i)perylene	1900	

(1) - Cannot be separated from Diphenylamine

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

SH899-12207-B70611

Lab Name: Recra.LabNet Contract: 01667600001

Lab Code: Recra Case No.: _____ SAS No.: _____ SDG No.: _____

Matrix: (soil/water) SOIL Lab Sample ID: 9912L959-009

Sample wt/vol: 30.7 (g/mL) G Lab File ID: D011209

Level: (low/med) LOW Date Received: 12/08/99

% Moisture: 13 decanted: (Y/N)__ Date Extracted: 12/18/99

Concentrated Extract Volume: 500(uL) Date Analyzed: 01/12/00

Injection Volume: 2.0(uL) Dilution Factor: 5.00

GPC Cleanup: (Y/N) Y pH: 8.1

Number TICs found: 22 CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.		UNKNOWN	6.48	2000	J
2.		PAH	20.17	500	J
3.		PAH	20.22	600	J
4.		PAH	20.40	1000	J
5.		PAH	20.67	600	J
6.	84-65-1	ANTHRACENEDIONE	20.75	600	JN
7.		PAH	22.03	500	J
8.		PAH	22.20	800	J
9.		PAH	22.29	700	J
10.		PAH	22.36	500	J
11.		PAH	23.00	400	J
12.	243-46-9	BENZONAPHTHOTHIOPHENE	23.19	500	JN
13.		PAH	23.30	600	J
14.		UNKNOWN	23.36	400	J
15.		PAH	23.89	600	J
16.		UNKNOWN	24.01	500	J
17.		UNKNOWN	24.13	500	J
18.		UNKNOWN	25.85	500	J
19.		PAH	26.60	600	J
20.	207-93-2	DINAPHTHOFURAN	26.85	500	JN
21.		PAH	27.17	2000	J
22.		PAH	27.63	900	J

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

SH899-12207-B70612

Lab Name: Recra.LabNet Contract: 01667600001

Lab Code: Recra Case No.: _____ SAS No.: _____ SDG No.: _____

Matrix: (soil/water) SOIL Lab Sample ID: 9912L959-010

Sample wt/vol: 32.8 (g/mL) G Lab File ID: D011211

Level: (low/med) LOW Date Received: 12/08/99

% Moisture: 75 decanted: (Y/N)__ Date Extracted: 12/18/99

Concentrated Extract Volume: 500(uL) Date Analyzed: 01/12/00

Injection Volume: 2.0(uL) Dilution Factor: 1.00

GPC Cleanup: (Y/N) Y pH: 8.7

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
108-95-2	Phenol	1200	U
111-44-4	bis(2-Chloroethyl)ether	1200	U
95-57-8	2-Chlorophenol	1200	U
541-73-1	1,3-Dichlorobenzene	1200	U
106-46-7	1,4-Dichlorobenzene	1200	U
95-50-1	1,2-Dichlorobenzene	1200	U
95-48-7	2-Methylphenol	1200	U
108-60-1	2,2'-oxybis(1-Chloropropane)	1200	U
106-44-5	4-Methylphenol	1200	U
621-64-7	N-Nitroso-di-n-propylamine	1200	U
67-72-1	Hexachloroethane	1200	U
98-95-3	Nitrobenzene	1200	U
78-59-1	Isophorone	1200	U
88-75-5	2-Nitrophenol	1200	U
105-67-9	2,4-Dimethylphenol	1200	U
111-91-1	bis(2-Chloroethoxy)methane	1200	U
120-83-2	2,4-Dichlorophenol	1200	U
120-82-1	1,2,4-Trichlorobenzene	1200	U
91-20-3	Naphthalene	1200	U
106-47-8	4-Chloroaniline	1200	U
87-68-3	Hexachlorobutadiene	1200	U
59-50-7	4-Chloro-3-methylphenol	1200	U
91-57-6	2-Methylnaphthalene	1200	U
77-47-4	Hexachlorocyclopentadiene	1200	U
88-06-2	2,4,6-Trichlorophenol	1200	U
95-95-4	2,4,5-Trichlorophenol	3000	U
91-58-7	2-Chloronaphthalene	1200	U
88-74-4	2-Nitroaniline	3000	U
131-11-3	Dimethylphthalate	1200	U
208-96-8	Acenaphthylene	1200	U
606-20-2	2,6-Dinitrotoluene	1200	U
99-09-2	3-Nitroaniline	3000	U
83-32-9	Acenaphthene	1200	U

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

SH899-12207-B70612

Lab Name: Recra.LabNet Contract: 01667600001

Lab Code: Recra Case No.: _____ SAS No.: _____ SDG No.: _____

Matrix: (soil/water) SOIL Lab Sample ID: 9912L959-010

Sample wt/vol: 32.8 (g/mL) G Lab File ID: D011211

Level: (low/med) LOW Date Received: 12/08/99

% Moisture: 75 decanted: (Y/N)__ Date Extracted: 12/18/99

Concentrated Extract Volume: 500(uL) Date Analyzed: 01/12/00

Injection Volume: 2.0(uL) Dilution Factor: 1.00

GPC Cleanup: (Y/N) Y pH: 8.7

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
51-28-5	2,4-Dinitrophenol	3000	U
100-02-7	4-Nitrophenol	3000	U
132-64-9	Dibenzofuran	1200	U
121-14-2	2,4-Dinitrotoluene	1200	U
84-66-2	Diethylphthalate	1200	U
7005-72-3	4-Chlorophenyl-phenylether	1200	U
86-73-7	Fluorene	1200	U
100-01-6	4-Nitroaniline	3000	U
534-52-1	4,6-Dinitro-2-methylphenol	3000	U
86-30-6	N-Nitrosodiphenylamine (1)	1200	U
101-55-3	4-Bromophenyl-phenylether	1200	U
118-74-1	Hexachlorobenzene	1200	U
87-86-5	Pentachlorophenol	3000	U
85-01-8	Phenanthrene	270	J
120-12-7	Anthracene	1200	U
86-74-8	Carbazole	1200	U
84-74-2	Di-n-butylphthalate	1200	U
206-44-0	Fluoranthene	700	J
129-00-0	Pyrene	570	J
85-68-7	Butylbenzylphthalate	1200	U
91-94-1	3,3'-Dichlorobenzidine	1200	U
56-55-3	Benzo(a)anthracene	330	J
218-01-9	Chrysene	480	J
117-81-7	bis(2-Ethylhexyl)phthalate	160	JB
117-84-0	Di-n-octyl phthalate	1200	U
205-99-2	Benzo(b)fluoranthene	470	J
207-08-9	Benzo(k)fluoranthene	420	J
50-32-8	Benzo(a)pyrene	440	J
193-39-5	Indeno(1,2,3-cd)pyrene	310	J
53-70-3	Dibenz(a,h)anthracene	85	J
191-24-2	Benzo(g,h,i)perylene	350	J

(1) - Cannot be separated from Diphenylamine

1F

EPA SAMPLE NO.

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

SH899-12207-B70612

Lab Name: Recra.LabNet Contract: 01667600001

Lab Code: Recra Case No.: _____ SAS No.: _____ SDG No.: _____

Matrix: (soil/water) SOIL Lab Sample ID: 9912L959-010

Sample wt/vol: 32.8 (g/mL) G Lab File ID: D011211

Level: (low/med) LOW Date Received: 12/08/99

% Moisture: 75 decanted: (Y/N)__ Date Extracted: 12/18/99

Concentrated Extract Volume: 500(uL) Date Analyzed: 01/12/00

Injection Volume: 2.0(uL) Dilution Factor: 1.00

GPC Cleanup: (Y/N) Y pH: 8.7

Number TICs found: 34 CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.		ALDOL CONDENSATE	7.11	800	JA
2.		UNKNOWN	13.33	2000	J
3.		UNKNOWN	19.07	700	J
4.		UNKNOWN	20.03	1000	J
5.		UNKNOWN	20.08	800	J
6.		ORGANIC ACID	20.14	4000	J
7.		UNKNOWN	20.86	1000	J
8.		UNKNOWN	21.28	1000	J
9.		ALKANE	23.00	1000	J
10.		UNKNOWN	23.03	1000	J
11.		UNKNOWN	23.87	500	J
12.		ALKANE	24.21	4000	J
13.		UNKNOWN	24.27	1000	J
14.		ALKANE	24.95	500	J
15.		UNKNOWN	25.41	2000	J
16.		ALKANE	25.85	6000	J
17.		UNKNOWN	25.98	2000	J
18.		ALKANE	28.18	4000	J
19.		UNKNOWN	29.33	500	J
20.		UNKNOWN	29.46	1000	J
21.		UNKNOWN	29.68	700	J
22.		UNKNOWN	30.11	10000	J
23.		UNKNOWN	30.93	900	J
24.		UNKNOWN	32.10	2000	J
25.		UNKNOWN	32.76	4000	J
26.		UNKNOWN	34.13	20000	J
27.		UNKNOWN	34.42	700	J
28.		UNKNOWN	34.55	700	J
29.		UNKNOWN	34.82	1000	J
30.		UNKNOWN	34.93	1000	J

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

SH899-12207-B70612

Lab Name: Recra.LabNet Contract: 01667600001

Lab Code: Recra Case No.: _____ SAS No.: _____ SDG No.: _____

Matrix: (soil/water) SOIL Lab Sample ID: 9912L959-010

Sample wt/vol: 32.8 (g/mL) G Lab File ID: D011211

Level: (low/med) LOW Date Received: 12/08/99

% Moisture: 75 decanted: (Y/N) __ Date Extracted: 12/18/99

Concentrated Extract Volume: 500(uL) Date Analyzed: 01/12/00

Injection Volume: 2.0(uL) Dilution Factor: 1.00

GPC Cleanup: (Y/N) Y pH: 8.7

Number TICs found: 34 CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
31.	UNKNOWN	35.23	4000	J
32.	UNKNOWN	35.62	7000	J
33.	UNKNOWN	36.02	8000	J
34.	UNKNOWN	36.29	2000	J

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

SH899-12207-B70613

Lab Name: Recra.LabNet Contract: 01667600001

Lab Code: Recra Case No.: _____ SAS No.: _____ SDG No.: _____

Matrix: (soil/water) SOIL Lab Sample ID: 9912L959-011

Sample wt/vol: 30.6 (g/mL) G Lab File ID: D011115

Level: (low/med) LOW Date Received: 12/08/99

% Moisture: 28 decanted: (Y/N)__ Date Extracted: 12/18/99

Concentrated Extract Volume: 500(uL) Date Analyzed: 01/11/00

Injection Volume: 2.0(uL) Dilution Factor: 50.0

GPC Cleanup: (Y/N) Y pH: 8.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
108-95-2	Phenol	23000	U
111-44-4	bis(2-Chloroethyl)ether	23000	U
95-57-8	2-Chlorophenol	23000	U
541-73-1	1,3-Dichlorobenzene	23000	U
106-46-7	1,4-Dichlorobenzene	23000	U
95-50-1	1,2-Dichlorobenzene	23000	U
95-48-7	2-Methylphenol	23000	U
108-60-1	2,2'-oxybis(1-Chloropropane)	23000	U
106-44-5	4-Methylphenol	23000	U
621-64-7	N-Nitroso-di-n-propylamine	23000	U
67-72-1	Hexachloroethane	23000	U
98-95-3	Nitrobenzene	23000	U
78-59-1	Isophorone	23000	U
88-75-5	2-Nitrophenol	23000	U
105-67-9	2,4-Dimethylphenol	23000	U
111-91-1	bis(2-Chloroethoxy)methane	23000	U
120-83-2	2,4-Dichlorophenol	23000	U
120-82-1	1,2,4-Trichlorobenzene	23000	U
91-20-3	Naphthalene	2400	J
106-47-8	4-Chloroaniline	23000	U
87-68-3	Hexachlorobutadiene	23000	U
59-50-7	4-Chloro-3-methylphenol	23000	U
91-57-6	2-Methylnaphthalene	23000	U
77-47-4	Hexachlorocyclopentadiene	23000	U
88-06-2	2,4,6-Trichlorophenol	23000	U
95-95-4	2,4,5-Trichlorophenol	57000	U
91-58-7	2-Chloronaphthalene	23000	U
88-74-4	2-Nitroaniline	57000	U
131-11-3	Dimethylphthalate	23000	U
208-96-8	Acenaphthylene	23000	U
606-20-2	2,6-Dinitrotoluene	23000	U
99-09-2	3-Nitroaniline	57000	U
83-32-9	Acenaphthene	3700	J

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

SH899-12207-B70613

Lab Name: Recra.LabNet Contract: 01667600001

Lab Code: Recra Case No.: _____ SAS No.: _____ SDG No.: _____

Matrix: (soil/water) SOIL Lab Sample ID: 9912L959-011

Sample wt/vol: 30.6 (g/mL) G Lab File ID: D011115

Level: (low/med) LOW Date Received: 12/08/99

% Moisture: 28 decanted: (Y/N)__ Date Extracted: 12/18/99

Concentrated Extract Volume: 500(uL) Date Analyzed: 01/11/00

Injection Volume: 2.0(uL) Dilution Factor: 50.0

GPC Cleanup: (Y/N) Y pH: 8.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
51-28-5	2,4-Dinitrophenol	57000	U
100-02-7	4-Nitrophenol	57000	U
132-64-9	Dibenzofuran	2300	J
121-14-2	2,4-Dinitrotoluene	23000	U
84-66-2	Diethylphthalate	23000	U
7005-72-3	4-Chlorophenyl-phenylether	23000	U
86-73-7	Fluorene	3900	J
100-01-6	4-Nitroaniline	57000	U
534-52-1	4,6-Dinitro-2-methylphenol	57000	U
86-30-6	N-Nitrosodiphenylamine (1)	23000	U
101-55-3	4-Bromophenyl-phenylether	23000	U
118-74-1	Hexachlorobenzene	23000	U
87-86-5	Pentachlorophenol	57000	U
85-01-8	Phenanthrene	46000	
120-12-7	Anthracene	12000	J
86-74-8	Carbazole	4000	J
84-74-2	Di-n-butylphthalate	23000	U
206-44-0	Fluoranthene	63000	
129-00-0	Pyrene	47000	
85-68-7	Butylbenzylphthalate	23000	U
91-94-1	3,3'-Dichlorobenzidine	23000	U
56-55-3	Benzo(a)anthracene	28000	
218-01-9	Chrysene	30000	
117-81-7	bis(2-Ethylhexyl)phthalate	23000	U
117-84-0	Di-n-octyl phthalate	23000	U
205-99-2	Benzo(b)fluoranthene	20000	J
207-08-9	Benzo(k)fluoranthene	22000	J
50-32-8	Benzo(a)pyrene	23000	
193-39-5	Indeno(1,2,3-cd)pyrene	14000	J
53-70-3	Dibenz(a,h)anthracene	5700	J
191-24-2	Benzo(g,h,i)perylene	15000	J

(1) - Cannot be separated from Diphenylamine

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

SH899-12207-B70613

Lab Name: Recra.LabNet Contract: 01667600001

Lab Code: Recra Case No.: _____ SAS No.: _____ SDG No.: _____

Matrix: (soil/water) SOIL Lab Sample ID: 9912L959-011

Sample wt/vol: 30.6 (g/mL) G Lab File ID: D011115

Level: (low/med) LOW Date Received: 12/08/99

% Moisture: 28 decanted: (Y/N)__ Date Extracted: 12/18/99

Concentrated Extract Volume: 500(uL) Date Analyzed: 01/11/00

Injection Volume: 2.0(uL) Dilution Factor: 50.0

GPC Cleanup: (Y/N) Y pH: 8.0

Number TICs found: 14 CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.		PAH	20.41	7000	J
2.		PAH	20.46	9000	J
3.		UNKNOWN	20.62	20000	J
4.		PAH	21.32	6000	J
5.	239-30-5	BENZONAPHTHOFURAN	21.90	6000	JN
6.		UNKNOWN	22.09	5000	J
7.		PAH	22.42	8000	J
8.		PAH	22.58	6000	J
9.	239-35-0	BENZONAPHTHOTHIOPHENE	23.47	6000	JN
10.		UNKNOWN	23.64	5000	J
11.		PAH	24.84	5000	J
12.		PAH	27.12	6000	J
13.	207-93-2	DINAPHTHOFURAN	27.41	5000	JN
14.		PAH	27.75	20000	J

1B
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

SH899-12207-B70614

Lab Name: Recra.LabNet Contract: 01667600001

Lab Code: Recra Case No.: _____ SAS No.: _____ SDG No.: _____

Matrix: (soil/water) SOIL Lab Sample ID: 9912L959-012

Sample wt/vol: 30.4 (g/mL) G Lab File ID: D011215

Level: (low/med) LOW Date Received: 12/08/99

% Moisture: 78 decanted: (Y/N)__ Date Extracted: 12/18/99

Concentrated Extract Volume: 500(uL) Date Analyzed: 01/12/00

Injection Volume: 2.0(uL) Dilution Factor: 2.00

GPC Cleanup: (Y/N) Y pH: 8.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
108-95-2	Phenol	3000	U
111-44-4	bis(2-Chloroethyl)ether	3000	U
95-57-8	2-Chlorophenol	3000	U
541-73-1	1,3-Dichlorobenzene	3000	U
106-46-7	1,4-Dichlorobenzene	3000	U
95-50-1	1,2-Dichlorobenzene	3000	U
95-48-7	2-Methylphenol	3000	U
108-60-1	2,2'-oxybis(1-Chloropropane)	3000	U
106-44-5	4-Methylphenol	3000	U
621-64-7	N-Nitroso-di-n-propylamine	3000	U
67-72-1	Hexachloroethane	3000	U
98-95-3	Nitrobenzene	3000	U
78-59-1	Isophorone	3000	U
88-75-5	2-Nitrophenol	3000	U
105-67-9	2,4-Dimethylphenol	3000	U
111-91-1	bis(2-Chloroethoxy)methane	3000	U
120-83-2	2,4-Dichlorophenol	3000	U
120-82-1	1,2,4-Trichlorobenzene	3000	U
91-20-3	Naphthalene	3000	U
106-47-8	4-Chloroaniline	3000	U
87-68-3	Hexachlorobutadiene	3000	U
59-50-7	4-Chloro-3-methylphenol	3000	U
91-57-6	2-Methylnaphthalene	3000	U
77-47-4	Hexachlorocyclopentadiene	3000	U
88-06-2	2,4,6-Trichlorophenol	3000	U
95-95-4	2,4,5-Trichlorophenol	7600	U
91-58-7	2-Chloronaphthalene	3000	U
88-74-4	2-Nitroaniline	7600	U
131-11-3	Dimethylphthalate	3000	U
208-96-8	Acenaphthylene	190	J
606-20-2	2,6-Dinitrotoluene	3000	U
99-09-2	3-Nitroaniline	7600	U
83-32-9	Acenaphthene	180	J

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

SH899-12207-B70614

Lab Name: Recra.LabNet Contract: 01667600001

Lab Code: Recra Case No.: _____ SAS No.: _____ SDG No.: _____

Matrix: (soil/water) SOIL Lab Sample ID: 9912L959-012

Sample wt/vol: 30.4 (g/mL) G Lab File ID: D011215

Level: (low/med) LOW Date Received: 12/08/99

% Moisture: 78 decanted: (Y/N)__ Date Extracted: 12/18/99

Concentrated Extract Volume: 500(uL) Date Analyzed: 01/12/00

Injection Volume: 2.0(uL) Dilution Factor: 2.00

GPC Cleanup: (Y/N) Y pH: 8.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
51-28-5	2,4-Dinitrophenol	7600	U
100-02-7	4-Nitrophenol	7600	U
132-64-9	Dibenzofuran	3000	U
121-14-2	2,4-Dinitrotoluene	3000	U
84-66-2	Diethylphthalate	3000	U
7005-72-3	4-Chlorophenyl-phenylether	3000	U
86-73-7	Fluorene	240	J
100-01-6	4-Nitroaniline	7600	U
534-52-1	4,6-Dinitro-2-methylphenol	7600	U
86-30-6	N-Nitrosodiphenylamine (1)	3000	U
101-55-3	4-Bromophenyl-phenylether	3000	U
118-74-1	Hexachlorobenzene	3000	U
87-86-5	Pentachlorophenol	7600	U
85-01-8	Phenanthrene	3300	
120-12-7	Anthracene	920	J
86-74-8	Carbazole	580	J
84-74-2	Di-n-butylphthalate	3000	U
206-44-0	Fluoranthene	8100	
129-00-0	Pyrene	7100	
85-68-7	Butylbenzylphthalate	3000	U
91-94-1	3,3'-Dichlorobenzidine	3000	U
56-55-3	Benzo(a)anthracene	4400	
218-01-9	Chrysene	4900	
117-81-7	bis(2-Ethylhexyl)phthalate	230	JB
117-84-0	Di-n-octyl phthalate	3000	U
205-99-2	Benzo(b)fluoranthene	4100	
207-08-9	Benzo(k)fluoranthene	4000	
50-32-8	Benzo(a)pyrene	4400	
193-39-5	Indeno(1,2,3-cd)pyrene	2500	J
53-70-3	Dibenz(a,h)anthracene	750	J
191-24-2	Benzo(g,h,i)perylene	2600	J

(1) - Cannot be separated from Diphenylamine

1F

EPA SAMPLE NO.

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

SH899-12207-B70614

Lab Name: Recra.LabNet Contract: 01667600001

Lab Code: Recra Case No.: _____ SAS No.: _____ SDG No.: _____

Matrix: (soil/water) SOIL Lab Sample ID: 9912L959-012

Sample wt/vol: 30.4 (g/mL) G Lab File ID: D011215

Level: (low/med) LOW Date Received: 12/08/99

% Moisture: 78 decanted: (Y/N)__ Date Extracted: 12/18/99

Concentrated Extract Volume: 500(uL) Date Analyzed: 01/12/00

Injection Volume: 2.0(uL) Dilution Factor: 2.00

GPC Cleanup: (Y/N) Y pH: 8.0

Number TICs found: 32 CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.		UNKNOWN	6.48	4000	J
2.		UNKNOWN	20.13	2000	J
3.		PAH	20.40	1000	J
4.		UNKNOWN	22.03	900	J
5.		PAH	22.20	1000	J
6.		PAH	22.29	800	J
7.		UNKNOWN	23.02	3000	J
8.	243-46-9	BENZONAPHTHOTHIOPHENE	23.19	900	JN
9.		UNKNOWN	23.24	800	J
10.		UNKNOWN	23.30	900	J
11.		UNKNOWN	23.36	1000	J
12.		PAH	23.89	900	J
13.		UNKNOWN	24.13	800	J
14.		ALKANE	24.20	2000	J
15.		UNKNOWN	24.27	1000	J
16.		PAH	24.48	800	J
17.		UNKNOWN	25.42	2000	J
18.		ALKANE	25.84	10000	J
19.		UNKNOWN	25.97	2000	J
20.		UNKNOWN	26.85	1000	J
21.		PAH	27.17	3000	J
22.		PAH	27.63	1000	J
23.		ALKANE	28.17	10000	J
24.		UNKNOWN	29.44	2000	J
25.		UNKNOWN	30.08	5000	J
26.		UNKNOWN	32.75	2000	J
27.		UNKNOWN	34.07	20000	J
28.		UNKNOWN	34.81	1000	J
29.		UNKNOWN	35.21	5000	J
30.		UNKNOWN	35.59	4000	J

1F

EPA SAMPLE NO.

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

SH899-12207-B70614

Lab Name: Recra.LabNet Contract: 01667600001

Lab Code: Recra Case No.: _____ SAS No.: _____ SDG No.: _____

Matrix: (soil/water) SOIL Lab Sample ID: 9912L959-012

Sample wt/vol: 30.4 (g/mL) G Lab File ID: D011215

Level: (low/med) LOW Date Received: 12/08/99

% Moisture: 78 decanted: (Y/N)__ Date Extracted: 12/18/99

Concentrated Extract Volume: 500(uL) Date Analyzed: 01/12/00

Injection Volume: 2.0(uL) Dilution Factor: 2.00

GPC Cleanup: (Y/N) Y pH: 8.0

Number TICs found: 32 CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
31.	UNKNOWN	36.00	1000	J
32.	UNKNOWN	36.26	4000	J

FORM 1 SV-TIC RFW (v3.3)

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

SH899-12207-B70615

Lab Name: Recra.LabNet Contract: 01667600001

Lab Code: Recra Case No.: _____ SAS No.: _____ SDG No.: _____

Matrix: (soil/water) SOIL Lab Sample ID: 9912L959-013

Sample wt/vol: 30.4 (g/mL) G Lab File ID: D011206

Level: (low/med) LOW Date Received: 12/08/99

% Moisture: 37 decanted: (Y/N)__ Date Extracted: 12/18/99

Concentrated Extract Volume: 500(uL) Date Analyzed: 01/12/00

Injection Volume: 2.0(uL) Dilution Factor: 5.00

GPC Cleanup: (Y/N) Y pH: 9.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
108-95-2	Phenol	2600	U
111-44-4	bis(2-Chloroethyl)ether	2600	U
95-57-8	2-Chlorophenol	2600	U
541-73-1	1,3-Dichlorobenzene	2600	U
106-46-7	1,4-Dichlorobenzene	2600	U
95-50-1	1,2-Dichlorobenzene	2600	U
95-48-7	2-Methylphenol	2600	U
108-60-1	2,2'-oxybis(1-Chloropropane)	2600	U
106-44-5	4-Methylphenol	2600	U
621-64-7	N-Nitroso-di-n-propylamine	2600	U
67-72-1	Hexachloroethane	2600	U
98-95-3	Nitrobenzene	2600	U
78-59-1	Isophorone	2600	U
88-75-5	2-Nitrophenol	2600	U
105-67-9	2,4-Dimethylphenol	2600	U
111-91-1	bis(2-Chloroethoxy)methane	2600	U
120-83-2	2,4-Dichlorophenol	2600	U
120-82-1	1,2,4-Trichlorobenzene	2600	U
91-20-3	Naphthalene	150	J
106-47-8	4-Chloroaniline	2600	U
87-68-3	Hexachlorobutadiene	2600	U
59-50-7	4-Chloro-3-methylphenol	2600	U
91-57-6	2-Methylnaphthalene	140	J
77-47-4	Hexachlorocyclopentadiene	2600	U
88-06-2	2,4,6-Trichlorophenol	2600	U
95-95-4	2,4,5-Trichlorophenol	6500	U
91-58-7	2-Chloronaphthalene	2600	U
88-74-4	2-Nitroaniline	6500	U
131-11-3	Dimethylphthalate	2600	U
208-96-8	Acenaphthylene	2600	U
606-20-2	2,6-Dinitrotoluene	2600	U
99-09-2	3-Nitroaniline	6500	U
83-32-9	Acenaphthene	310	J

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

SH899-12207-B70615

Lab Name: Recra.LabNet Contract: 01667600001

Lab Code: Recra Case No.: _____ SAS No.: _____ SDG No.: _____

Matrix: (soil/water) SOIL Lab Sample ID: 9912L959-013

Sample wt/vol: 30.4 (g/mL) G Lab File ID: D011206

Level: (low/med) LOW Date Received: 12/08/99

% Moisture: 37 decanted: (Y/N)__ Date Extracted: 12/18/99

Concentrated Extract Volume: 500(uL) Date Analyzed: 01/12/00

Injection Volume: 2.0(uL) Dilution Factor: 5.00

GPC Cleanup: (Y/N) Y pH: 9.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
51-28-5	2,4-Dinitrophenol	6500	U
100-02-7	4-Nitrophenol	6500	U
132-64-9	Dibenzofuran	210	J
121-14-2	2,4-Dinitrotoluene	2600	U
84-66-2	Diethylphthalate	2600	U
7005-72-3	4-Chlorophenyl-phenylether	2600	U
86-73-7	Fluorene	320	J
100-01-6	4-Nitroaniline	6500	U
534-52-1	4,6-Dinitro-2-methylphenol	6500	U
86-30-6	N-Nitroscdiphenylamine (1)	2600	U
101-55-3	4-Bromophenyl-phenylether	2600	U
118-74-1	Hexachlorobenzene	2600	U
87-86-5	Pentachlorophenol	6500	U
85-01-8	Phenanthrene	4100	
120-12-7	Anthracene	740	J
86-74-8	Carbazole	400	J
84-74-2	Di-n-butylphthalate	2600	U
206-44-0	Fluoranthene	4800	
129-00-0	Pyrene	3700	
85-68-7	Butylbenzylphthalate	2600	U
91-94-1	3,3'-Dichlorobenzidine	2600	U
56-55-3	Benzo(a)anthracene	2000	J
218-01-9	Chrysene	2300	J
117-81-7	bis(2-Ethylhexyl)phthalate	2600	U
117-84-0	Di-n-octyl phthalate	2600	U
205-99-2	Benzo(b)fluoranthene	1700	J
207-08-9	Benzo(k)fluoranthene	1600	J
50-32-8	Benzo(a)pyrene	1900	J
193-39-5	Indeno(1,2,3-cd)pyrene	1100	J
53-70-3	Dibenz(a,h)anthracene	340	J
191-24-2	Benzo(g,h,i)perylene	1200	J

(1) - Cannot be separated from Diphenylamine

1F

EPA SAMPLE NO.

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

SH899-12207-B70615

Lab Name: Recra.LabNet Contract: 01667600001

Lab Code: Recra Case No.: _____ SAS No.: _____ SDG No.: _____

Matrix: (soil/water) SOIL Lab Sample ID: 9912L959-013

Sample wt/vol: 30.4 (g/mL) G Lab File ID: D011206

Level: (low/med) LOW Date Received: 12/08/99

% Moisture: 37 decanted: (Y/N)__ Date Extracted: 12/18/99

Concentrated Extract Volume: 500(uL) Date Analyzed: 01/12/00

Injection Volume: 2.0(uL) Dilution Factor: 5.00

GPC Cleanup: (Y/N) Y pH: 9.0

Number TICs found: 18 CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.		UNKNOWN	13.33	900	J
2.		PAH	20.17	500	J
3.		PAH	20.22	800	J
4.		PAH	20.39	1000	J
5.		PAH	21.11	800	J
6.		PAH	22.04	600	J
7.		PAH	22.21	1000	J
8.		UNKNOWN	23.01	500	J
9.	243-46-9	BENZONAPHTHOTHIOPHENE	23.19	600	JN
10.		ALKANE	24.20	800	J
11.		ALKANE	25.84	3000	J
12.		ALKANE	25.98	900	J
13.		PAH	27.16	1000	J
14.		ALKANE	28.18	1000	J
15.		UNKNOWN	32.78	900	J
16.		UNKNOWN	34.08	6000	J
17.		UNKNOWN	35.22	1000	J
18.		UNKNOWN	35.64	1000	J

Recra LabNet Philadelphia
METHOD REFERENCES AND DATA QUALIFIERS

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.

ABBREVIATIONS

MB = Method or Preparation Blank.
MS = Matrix Spike.
MSD = Matrix Spike Duplicate.
REP = Sample Replicate
LC = Laboratory Control Sample.
NC = Not calculated.

A suffix of -R, -S, or -T following these codes indicate a replicate, spike or sample duplicate analysis respectively.

ANALYTICAL WET CHEMISTRY METHODS

1. ASTM Standard Methods.

2. USEPA Methods for Chemical Analysis of Water and Wastes (USEPA 600/4-79-020).

3. Test Methods for Evaluating Solid Waste (USEPA SW-846).

a. Standard Methods for the Examination of Water and Waste, 16 ed, (1983).

b. Standard Methods for the Examination of Water and Waste, 17 ed, (1989)/18ed (1992).

c. Method of Soil Analysis, Part 1, Physical and Mineralogical Methods, 2nd ed, (1986).

d. Method of Soil Analysis, Part 2, Chemical and Microbiological Properties, Am. Soc. Agron., Madison, WI (1965).

e. USEPA Contract Laboratory Program, Statement of Work for Inorganic Analysis.

f. Code of Federal Regulations.

Recra LabNet Philadelphia
Inorganics Data Summary Report
Physical Testing Observations

Client : NYSDEC
RFW# : 0002L425

W.O. #: 01667-600-001-9999-00
Date Received: 02-11-00

Analyte:

Ignitability

Observation:

Sample SH800-02208-B70621 did not ignite and the test flame extinguished at 155°F.

The sample was heated to 220°F.

p-Xylene was used to determine the accuracy of the flash point apparatus. The p-Xylene will flash at 81°F +/-1°F. For this test, the Xylene flashed at 81°F.

njp\pt425.p2

Recra LabNet - Lionville

INORGANICS DATA SUMMARY REPORT 03/09/00

CLIENT: NYSDEC

RECRA LOT #: 0002L425

WORK ORDER: 01667-600-001-9999-00

SAMPLE	SITE ID	ANALYTE	RESULT	UNITS	REPORTING LIMIT	DILUTION FACTOR
-001	SH800-02208-B70616	% Solids	81.4	%	0.01	1.0
		Petroleum Hydrocarbons	474	MG/KG	20.4	5.0
-002	SH800-02208-B70617	% Solids	83.2	%	0.01	1.0
		Petroleum Hydrocarbons	22.3	MG/KG	4.0	1.0
-003	SH800-02208-B70618	% Solids	83.9	%	0.01	1.0
		Petroleum Hydrocarbons	1140	MG/KG	39.7	10.0
-004	SH800-02208-B70619	% Solids	66.5	%	0.01	1.0
		Petroleum Hydrocarbons	336	MG/KG	5.0	1.0
-005	SH800-02208-B70620	% Solids	75.3	%	0.01	1.0
		Petroleum Hydrocarbons	166	MG/KG	4.4	1.0
-006	SH800-02208-B70621	% Solids	77.7	%	0.01	1.0
		Cyanide, Reactive	0.50 u	MG/KG	0.50	1.0
		Corrosivity by pH	7.6	PH UNIT	0.01	1.0
		Sulfide, Reactive	24.0 u	MG/KG	24.0	1.0

Recra LabNet - Lionville

INORGANICS METHOD BLANK DATA SUMMARY PAGE 03/09/00

CLIENT: NYSDEC

RECRA LOT #: 0002L425

WORK ORDER: 01667-600-001-9999-00

SAMPLE	SITE ID	ANALYTE	RESULT	UNITS	REPORTING LIMIT	DILUTION FACTOR
BLANK10	00LHC005-MB1	Petroleum Hydrocarbons	22.0	MG/KG	3.3	1.0
BLANK10	00LRC004-MB1	Cyanide, Reactive	0.50 u	MG/KG	0.50	1.0
BLANK10	00LRS008-MB1	Sulfide, Reactive	24.0 u	MG/KG	24.0	1.0

Recra LabNet - Lionville

INORGANICS ACCURACY REPORT 03/09/00

CLIENT: NYSDEC

RECRA LOT #: 0002L425

WORK ORDER: 01667-600-001-9999-00

SAMPLE	SITE ID	ANALYTE	SPIKED SAMPLE	INITIAL RESULT	SPIKED AMOUNT	%RECOV	DILUTION FACTOR(SPK)
-003	SH800-02208-B70618	Petroleum Hydrocarbons	670	1140	83.2	-570. *	10.0
LCS10	00LHC005-LC1	Petroleum Hydrocarbons	125	3.3 u	140	89.6	1.0
BLANK10	00LRC004-MB1	Cyanide, Reactive	1.1	0.50u	10	10.7	1.0
		Cyanide, Reactive MSD	2.5	0.50u	10	25.2	1.0
BLANK10	00LFP004-MB1	Flash Point	81.0	0.0	81.0	100	1.0
BLANK10	00LRS008-MB1	Sulfide, Reactive	132	24.0 u	400	33.1	1.0
		Sulfide, Reactive MSD	100	24.0 u	400	25.0	1.0

07

Recra LabNet - Lionville

INORGANICS DUPLICATE SPIKE REPORT 03/09/00

CLIENT: NYSDEC

RECRA LOT #: 0002L425

WORK ORDER: 01667-600-001-9999-00

SAMPLE	SITE ID	ANALYTE	SPIKE#1 %RECOV	SPIKE#2 %RECOV	%DIFF
BLANK10	00LRC004-MB1	Cyanide, Reactive	10.7	25.2	80.5
BLANK10	00LRS008-MB1	Sulfide, Reactive	33.1	25.0	27.6

Recra LabNet - Lionville

INORGANICS PRECISION REPORT 03/09/00

CLIENT: NYSDEC RECRA LOT #: 0002L425

WORK ORDER: 01667-600-001-9999-00

SAMPLE	SITE ID	ANALYTE	INITIAL RESULT	REPLICATE	RPD	DILUTION FACTOR(REP)
-003REP	SH800-02208-B70618	% Solids	83.9	83.4	0.56	1.0
		Petroleum Hydrocarbons	1140	1460	24.8	10.0

09

RECRA LabNet Use Only

0002C 425

Custody Transfer Record/Lab Work Request

Page 1 of 1

FIELD PERSONNEL: COMPLETE ONLY SHADED AREAS

(8) GCMS BNA P/PCB Met Dig Percent

RECRA LabNet

Client NYSDEC

Est. Final Proj. Sampling Date 2/17/00

Project # 011007-1000-001-9999-00

Project Contact/Phone # Frank Sowers 716 2265357

RECRA Project Manager JS

QC CtpSpec Del CLP TAT 30day

Date Rec'd 2-11-00 Date Due 3-12-00

Account #

Refrigerator #		1							4						
#/Type Container	Liquid														
	Solid	1AG							1AG		1AG	2AG			
Volume	Liquid														
	Solid	250							250		250	500			
Preservatives									-		-				
ANALYSES REQUESTED		ORGANIC: VOA	BNA	Pest/PCB	Herb		leachate		INORG: Metal	CN	TPH	TCLP	CORR	IGN	REAC/SULFIDE	leachate

MATRIX CODES: S - Soil; SE - Sediment; SO - Solid; SL - Sludge; W - Water; O - Oil; A - Air; DS - Drum Solids; DL - Drum Liquids; L - EP/TCLP Leachate; WI - Wipe; X - Other; F - Fish

Lab ID	Client ID/Description SH800-02208-	MS	MSD	Matrix	Date Collected	Time Collected	VOA	BNA	8081	8151	8082	8270	1311	METAL		TPH	TCLP	CORROS.	IGNIT.	REACT.	PERATION
001	B70616			Soil	2/8/00	1233								✓1		✓1					
002	" 17			"	2/8/00	1250	✓	✓								✓					
003	" 18	✓	✓	"	2/8/00	1600								✓3		✓3					
004	" 19			"	2/8/00	1605								✓1		✓1					
005	" 20			"	2/9/00	0952										✓1					
006	" 21			"	2/9/00	1000							✓				✓	✓	✓	✓	
007	NYSDEC Refrig Blank				2-11-00	-	2														
008	B70621 tclp of 006 (TK2400)				**	-			✓	✓	✓										✓
009	B70621 tclv of 006											✓									

Special Instructions:

DATE/REVISIONS:
Metal = 1. HSL
** 2. See lab chron
3.
4.
5.
6.

RECRA LabNet Use Only

Samples were:
1) Shipped ✓ or Hand Delivered
Airbill # See Below
2) Ambient or (Chilled)
3) Received in Good Condition (Y) or N
4) Labels Indicate Properly Preserved (Y) or N
5) Received Within Holding Times (N)

COC Tape was:
1) Present on Outer Package (Y) or N
2) Unbroken on Outer Package (Y) or N
3) Present on Sample Y or (N)
4) Unbroken on Sample Y or N
COC Record Present Upon Sample Rec't (Y) or N
Cooler Temp. 6.2 °C

Discrepancies Between Samples Labels and COC Record? Y or (N)

Relinquished by	Received by	Date	Time
R Lono		2/10/00	1400
UPS	V. Heard	2-11-00	0945

Relinquished by	Received by	Date	Time
ORIGINAL REWRITTEN			

J092 870 674 3

Case Narrative

RECRA
ENVIRONMENTAL
INC.

Chemical and Environmental Measurement Information

Recra LabNet Philadelphia

Analytical Report

Client: NYSDEC
RFW #: 0002L425
ELAP #: 10752

W.O.#: 01667-600-001-9999-00
Date Received: 02-11-2000

GC/MS VOLATILE

One (1) water and one (1) solid samples were collected on 02-08,11-2000.

The samples and their associated QC samples were analyzed according to criteria set forth in NYSDEC ASP (Rev. 10-95) for TCL Volatile target compounds on 02-16-2000.

The following is a summary of the QC results accompanying these sample results and a description of any problems encountered during their analyses:

1. The cooler temperature upon receipt has been recorded on the chain-of-custody.

2. The required holding time for analysis was met.

3. Non-target compounds were detected in sample SH800-02208-B70617.

4. Sample SH800-02208-B70617 required a medium level analysis due to high levels of target compounds.

5. All surrogate recoveries were within EPA QC limits.

6. The method blanks contained the common laboratory contaminants Methylene Chloride and Acetone at levels less than the CRQL.

7. All internal standard area and retention time criteria were met.

8. The water analyses were performed with the method enhancement of a 40°C heated purge to standardize the purge temperature and improve overall purging efficiency.

9. Manual integrations are performed according to OP L-QA-125 to produce quality data with the utmost integrity. All manual integrations are required to be technically valid and properly documented. Appropriate technical flags are defined in Section III ("Technical Flags For Manual Integration"); hard copies of the integrations have been included with the quantitation data.

10. 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 hard copy 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.

J. Michael Taylor
Vice President
Philadelphia Analytical Laboratory

03-13-00
Date

som:group\data\voa\nysdec-02-425.doc

208 Welsh Pool Road • Lionville, PA 19341-1333 • (610) 280-3000 • Fax (610) 280-3041

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 under the following circumstances: 1) when estimating a concentration for tentatively identified compounds (TICs) where a 1:1 response is assumed; or 2) 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.

D = Identifies all compounds identified in an analysis at a secondary dilution factor.

I = Interference.

NQ = Result qualitatively confirmed but not able to quantify.

N = Indicates presumptive evidence of a compound. This flag is only used for tentatively identified compounds (TICs), where the identification is based on a mass spectral library search. It is applied to all TIC results. For generic characterization of a TIC, such as chlorinated hydrocarbon, the N code is not used.

X = This flag is used for a TIC compound which is quantified relative to a response factor generated from a daily calibration standard (rather than quantified relative to the closest internal standard).

Y = Additional qualifiers used as required are explained in the case narrative.

GLOSSARY OF VOA DATA

ABBREVIATIONS

BS	=	Indicates blank spike in which reagent grade water is spiked with the CLP matrix spike 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	=	Suffix added to sample number to indicate that results are from a diluted analysis.
NA	=	Not Applicable.
DF	=	Dilution Factor.
NR	=	Not Required.
SP, Z	=	Indicates Spiked Compound.

TECHNICAL FLAGS FOR MANUAL INTEGRATION

Manual quan modifications or integrations are performed routinely to improve the data quality for a variety of technical reasons. Documentation of these modifications should be clear and concise. The following "flags" are used to indicate the technical reasons for quan modifications:

MP - Missed Peak: manually added peak not found by automatic quan program.

PA - Peak Assignment: quan report was changed to reflect correct peak assignment.

RI - Routine Integration: routine integrations are performed for some analytes that are consistently integrated improperly by the automatic integration programs. Examples are the dichlorobenzene isomers on the VOA packed column and benzo(b)fluoranthene/benzo(k)fluoranthene which are poorly resolved on the BNA column.

SP - Split Peak: the automatic integration improperly split the peak; a manual integration was performed to get the correct area.

CB - Coelution/Background: peak was manually integrated to eliminate contribution from coeluting compounds, background signal, or other interference.

PI - Proper Integration: a peak with poor or inconsistent integration (e.g., excessive tail) was properly integrated manually.

RECRA LabNet Use Only
00021425

Custody Transfer Record/Lab Work Request

Page 1 of 1

FIELD PERSONNEL: COMPLETE ONLY SHADED AREAS

(8) Gcms BSA PIPC3 Met Dig Perrone

RECRA LabNet

Client NYSDEC

Est. Final Proj. Sampling Date 2/17/00

Project # C11067-4000-001-9999-00

Project Contact/Phone # FRANK SOWERS 716 2265357

RECRA Project Manager SS

QC CLPSpec Del CIP TAT 30day

Date Rec'd 2-11-00 Date Due 3-12-00

Account #

Refrigerator #		1							H	—	—	—	—	1									
#/Type Container	Liquid																						
	Solid	1AG	1						1AG		1AG	2AG	—	1									
Volume	Liquid																						
	Solid	250	1						250		250	500	—	1									
Preservatives		—	1						-		1	1	—	1									
ANALYSES REQUESTED →		ORGANIC							INORG														
		VOA	BNA	Pest/ PCB	Herb				Metal	CN													

MATRIX CODES:	Lab ID	Client ID/Description	Matrix QC Chosen (✓)		Matrix	Date Collected	Time Collected	RECRA LabNet Use Only															
			MS	MSD																			
S - Soil SE - Sediment SO - Solid SL - Sludge W - Water O - Oil A - Air DS - Drum Solids DL - Drum Liquids L - EP/TCLP Leachate WI - Wipe X - Other F - Fish		SH800-02208-																				
	001	B7061G			Soil	2/8/00	1233																
	002	" 17			"	2/8/00	1250	✓	✓														
	003	" 18	✓	✓	"	2/8/00	1600																
	004	" 19			"	2/8/00	1605																
	005	" 20			"	2/9/00	0952																
	006	" 21			"	2/9/00	1000																
	007	NYSDEC Reagg Blank				2-11-00	-	2															
	008	B7061721 TR2400 tclp of 006				**	-			✓	✓	✓											✓
	009	B7061721 tclw of 006											✓										

Special Instructions:

DATE/REVISIONS:

Metal = 1. HSL

** 2. See lab chron

3.

4.

5.

6.

RECRA LabNet Use Only

Samples were: 1) Shipped ✓ or Hand Delivered ___

Airbill # See Below

2) Ambient or (Chilled)

3) Received in Good Condition (Y) or N

4) Labels Indicate Properly Preserved (Y) or N

5) Received Within Holding Times (Y)

COC Tape was: 1) Present on Outer Package (Y) or N; 2) Unbroken on Outer Package (Y) or N; 3) Present on Sample Y or (N); 4) Unbroken on Sample Y or N

COC Record Present Upon Sample Rec't (Y) or N

Discrepancies Between Samples Labels and COC Record? Y or (N)

Cooler Temp. 6.7 °C

Relinquished by	Received by	Date	Time
RLong		2/10/00	1400
UPS	V. Newell	2-11-00	0945

Relinquished by	Received by	Date	Time
ORIGINAL REWRITTEN			

J092 870 674 3

Sample Data, for each Sample

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

SH800-02208-B70617

Lab Name: Recra.LabNet Contract: 01667600001

Lab Code: Recra Case No.: _____ SAS No.: _____ SDG No.: _____

Matrix: (soil/water) SOIL Lab Sample ID: 0002L425-002

Sample wt/vol: 4.00 (g/mL) G Lab File ID: h021618

Level: (low/med) MED Date Received: 02/11/00

% Moisture: not dec. 17 Date Analyzed: 02/16/00

GC Column: ID: _____(mm) Dilution Factor: 1.00

Soil Extract Volume: 10000 (uL) Soil Aliquot Volume: 100 (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
74-87-3	Chloromethane	1500	U
74-83-9	Bromomethane	1500	U
75-01-4	Vinyl Chloride	1500	U
75-00-3	Chloroethane	1500	U
75-09-2	Methylene Chloride	750	JB
67-64-1	Acetone	1500	U
75-15-0	Carbon Disulfide	1500	U
75-35-4	1,1-Dichloroethene	1500	U
75-34-3	1,1-Dichloroethane	1500	U
540-59-0	1,2-Dichloroethene (total)	1500	U
67-66-3	Chloroform	1500	U
107-06-2	1,2-Dichloroethane	1500	U
78-93-3	2-Butanone	1500	U
71-55-6	1,1,1-Trichloroethane	1500	U
56-23-5	Carbon Tetrachloride	1500	U
75-27-4	Bromodichloromethane	1500	U
78-87-5	1,2-Dichloropropane	1500	U
10061-01-5	cis-1,3-Dichloropropene	1500	U
79-01-6	Trichloroethene	1500	U
124-48-1	Dibromochloromethane	1500	U
79-00-5	1,1,2-Trichloroethane	1500	U
71-43-2	Benzene	1500	U
10061-02-6	Trans-1,3-Dichloropropene	1500	U
75-25-2	Bromoform	1500	U
108-10-1	4-Methyl-2-pentanone	1500	U
591-78-6	2-Hexanone	1500	U
127-18-4	Tetrachloroethene	1500	U
79-34-5	1,1,2,2-Tetrachloroethane	1500	U
108-88-3	Toluene	1500	U
108-90-7	Chlorobenzene	1500	U
100-41-4	Ethylbenzene	1500	U
100-42-5	Styrene	1500	U
1330-20-7	Xylene (total)	1500	U

1E

EPA SAMPLE NO.

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

SH800-02208-B70617

Lab Name: Recra.LabNet Contract: 01667600001

Lab Code: Recra Case No.: _____ SAS No.: _____ SDG No.: _____

Matrix: (soil/water) SOIL Lab Sample ID: 0002L425-002

Sample wt/vol: 4.00 (g/mL) G Lab File ID: h021618

Level: (low/med) MED Date Received: 02/11/00

% Moisture: not dec. 17 Date Analyzed: 02/16/00

GC Column: ID: ____(mm) Dilution Factor: 1.00

Soil Extract Volume: 10000 (uL) Soil Aliquot Volume: 100 (uL)

Number TICs found: 12 CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.		CYCLOALKANE	17.956	10	J
2.		CYCLOALKANE	19.956	8	J
3.		CYCLOALKANE	20.841	20	J
4.		CYCLOALKANE	21.398	9	J
5.		UNKNOWN	21.450	10	J
6.		ALKANE	21.693	10	J
7.		CYCLOALKANE	21.929	20	J
8.		UNKNOWN	22.230	10	J
9.		CYCLOALKANE	23.109	10	J
10.		CYCLOALKANE	24.243	10	J
11.		UNKNOWN	25.115	7	J
12.		UNKNOWN	26.859	6	J

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

REFRIG BLANK

Lab Name: Recra.LabNet Contract: 01667600001

Lab Code: Recra Case No.: _____ SAS No.: _____ SDG No.: _____

Matrix: (soil/water) WATER Lab Sample ID: 0002L425-007

Sample wt/vol: 5.00 (g/mL) ML Lab File ID: h021619

Level: (low/med) LOW Date Received: 02/11/00

% Moisture: not dec. _____ Date Analyzed: 02/16/00

GC Column: ID: _____(mm) Dilution Factor: 1.00

Soil Extract Volume: _____(uL) Soil Aliquot Volume: _____(uL)

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

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

REFRIG BLANK

Lab Name: Recra.LabNet Contract: 01667600001

Lab Code: Recra Case No.: _____ SAS No.: _____ SDG No.: _____

Matrix: (soil/water) WATER Lab Sample ID: 0002L425-007

Sample wt/vol: 5.00 (g/mL) ML Lab File ID: h021619

Level: (low/med) LOW Date Received: 02/11/00

% Moisture: not dec. _____ Date Analyzed: 02/16/00

GC Column: ID: ____(mm) Dilution Factor: 1.00

Soil Extract Volume: _____(uL) Soil Aliquot Volume: _____(uL)

Number TICs found: 0

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.				

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

VBLKPI

Lab Name: Recra.LabNet Contract: 01667600001

Lab Code: Recra Case No.: _____ SAS No.: _____ SDG No.: _____

Matrix: (soil/water) SOIL Lab Sample ID: 00LVH052-MB1

Sample wt/vol: 4.00 (g/mL) G Lab File ID: h021617

Level: (low/med) MED Date Received: 02/16/00

% Moisture: not dec. _____ Date Analyzed: 02/16/00

GC Column: ID: _____(mm) Dilution Factor: 1.00

Soil Extract Volume: _____(uL) Soil Aliquot Volume: _____(uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
74-87-3	Chloromethane	1200	U
74-83-9	Bromomethane	1200	U
75-01-4	Vinyl Chloride	1200	U
75-00-3	Chloroethane	1200	U
75-09-2	Methylene Chloride	530	J
67-64-1	Acetone	380	J
75-15-0	Carbon Disulfide	1200	U
75-35-4	1,1-Dichloroethene	1200	U
75-34-3	1,1-Dichloroethane	1200	U
540-59-0	1,2-Dichloroethene (total)	1200	U
67-66-3	Chloroform	1200	U
107-06-2	1,2-Dichloroethane	1200	U
78-93-3	2-Butanone	1200	U
71-55-6	1,1,1-Trichloroethane	1200	U
56-23-5	Carbon Tetrachloride	1200	U
75-27-4	Bromodichloromethane	1200	U
78-87-5	1,2-Dichloropropane	1200	U
10061-01-5	cis-1,3-Dichloropropene	1200	U
79-01-6	Trichloroethene	1200	U
124-48-1	Dibromochloromethane	1200	U
79-00-5	1,1,2-Trichloroethane	1200	U
71-43-2	Benzene	1200	U
10061-02-6	Trans-1,3-Dichloropropene	1200	U
75-25-2	Bromoform	1200	U
108-10-1	4-Methyl-2-pentanone	1200	U
591-78-6	2-Hexanone	1200	U
127-18-4	Tetrachloroethene	1200	U
79-34-5	1,1,2,2-Tetrachloroethane	1200	U
108-88-3	Toluene	1200	U
108-90-7	Chlorobenzene	1200	U
100-41-4	Ethylbenzene	1200	U
100-42-5	Styrene	1200	U
1330-20-7	Xylene (total)	1200	U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

VBLKPI

Lab Name: Recra.LabNet Contract: 01667600001

Lab Code: Recra Case No.: _____ SAS No.: _____ SDG No.: _____

Matrix: (soil/water) SOIL Lab Sample ID: 00LVH052-MB1

Sample wt/vol: 4.00 (g/mL) G Lab File ID: h021617

Level: (low/med) MED Date Received: 02/16/00

% Moisture: not dec. _____ Date Analyzed: 02/16/00

GC Column: ID: ____(mm) Dilution Factor: 1.00

Soil Extract Volume: _____(uL) Soil Aliquot Volume: _____(uL)

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 DATA SHEET

EPA SAMPLE NO.

VBLKLM

Lab Name: Recra.LabNet Contract: 01667600001

Lab Code: Recra Case No.: _____ SAS No.: _____ SDG No.: _____

Matrix: (soil/water) WATER Lab Sample ID: 00LVH051-MB1

Sample wt/vol: 5.00 (g/mL) ML Lab File ID: h021608

Level: (low/med) LOW Date Received: 02/16/00

% Moisture: not dec. _____ Date Analyzed: 02/16/00

GC Column: ID: ____(mm) Dilution Factor: 1.00

Soil Extract Volume: _____(uL) Soil Aliquot Volume: _____(uL)

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

1E

EPA SAMPLE NO.

VBLKLM

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

Lab Name: Recra.LabNet Contract: 01667600001

Lab Code: Recra Case No.: _____ SAS No.: _____ SDG No.: _____

Matrix: (soil/water) WATER Lab Sample ID: 00LVH051-MB1

Sample wt/vol: 5.00 (g/mL) ML Lab File ID: h021608

Level: (low/med) LOW Date Received: 02/16/00

% Moisture: not dec. _____ Date Analyzed: 02/16/00

GC Column: ID: ____(mm) Dilution Factor: 1.00

Soil Extract Volume: _____(uL) Soil Aliquot Volume: _____(uL)

Number TICs found: 0

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.				

Case Narrative

RECRA ENVIRONMENTAL INC.

Chemical and Environmental Measurement Information

Recra LabNet Philadelphia
Analytical Report

Client: NYSDEC
RFW #: 0002L425
ELAP #: 10752

W.O.#: 01667-600-001-9999-00
Date Received: 02-11-2000

SEMIVOLATILE

One (1) soil sample was collected on 02-08-2000.

The sample and its associated QC samples were extracted on 02-21-2000 and analyzed according to criteria set forth in NYSDEC ASP (Rev. 10-95) for TCL Semivolatile target compounds on 03-01,07-2000.

The following is a summary of the QC results accompanying the sample results and a description of any problems encountered during their analyses:

1. The cooler temperature upon receipt has been recorded on the chain-of-custody.

2. The samples were extracted and analyzed within required holding times.

3. Non-target compounds were detected in the sample.

4. Due to a suspected GPC malfunction, a reserve pre-GPC aliquot was analyzed and reported. A copy of the Sample Discrepancy Report (SDR) has been enclosed.

5. All surrogate recoveries were within EPA QC limits.

6. All matrix spike recoveries were within EPA QC limits.

7. Two (2) of eleven (11) blank spike recoveries were outside EPA QC limits.

8. The method blank contained the common laboratory contaminant Bis(2-Ethylhexyl)phthalate at a level less than the CRQL.

9. Internal standard area and retention time criteria were met.

10. 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 hard copy 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.

by _____ 03-10-00

J. Michael Taylor
Vice President
Philadelphia Analytical Laboratory

Date

208 Welsh Pool Road • Lionville, PA 19341-1333 • (610) 280-3000 • Fax (610) 280-3041

GLOSSARY OF BNA 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 under the following circumstances: 1) when estimating a concentration for tentatively identified compounds (TICs) where a 1:1 response is assumed; or 2) 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.

D = Identifies all compounds identified in an analysis at a secondary dilution factor.

I = Interference.

NQ = Result qualitatively confirmed but not able to quantify.

A = Indicates that a TIC is a suspected aldol-condensation product.

N = Indicates presumptive evidence of a compound. This flag is only used for tentatively identified compounds (TICs), where the identification is based on a mass spectral library search. It is applied to all TIC results. For generic characterization of a TIC, such as chlorinated hydrocarbon, the N code is not used.

X = This flag is used for a TIC compound which is quantified relative to a response factor generated from a daily calibration standard (rather than quantified relative to the closest internal standard).

Y = Additional qualifiers used as required are explained in the case narrative.

GLOSSARY OF BNA DATA

ABBREVIATIONS

BS	=	Indicates blank spike in which reagent grade water is spiked with the CLP matrix spike 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	=	Suffix added to sample number to indicate that results are from a diluted analysis.
NA	=	Not Applicable.
DF	=	Dilution Factor.
NR	=	Not Required.
SP, Z	=	Indicates Spiked Compound.

TECHNICAL FLAGS FOR MANUAL INTEGRATION

Manual quan modifications or integrations are performed routinely to improve the data quality for a variety of technical reasons. Documentation of these modifications should be clear and concise. The following "flags" are used to indicate the technical reasons for quan modifications:

MP - Missed Peak: manually added peak not found by automatic quan program.

PA - Peak Assignment: quan report was changed to reflect correct peak assignment.

RI - Routine Integration: routine integrations are performed for some analytes that are consistently integrated improperly by the automatic integration programs. Examples are the dichlorobenzene isomers on the VOA packed column and benzo(b)fluoranthene/benzo(k)fluoranthene which are poorly resolved on the BNA column.

SP - Split Peak: the automatic integration improperly split the peak; a manual integration was performed to get the correct area.

CB - Coelution/Background: peak was manually integrated to eliminate contribution from coeluting compounds, background signal, or other interference.

PI - Proper Integration: a peak with poor or inconsistent integration (e.g., excessive tail) was properly integrated manually.

Recra LabNet Philadelphia Sample Discrepancy Report (SDR) SDR #: 00MS035

Initiator: MPetry | RFW Batch: 0002L425 | Parameter: BNA
Date: 3-7-00 | Samples: 002MS | Matrix: Soil
Client: NYSDEC | Method: SW846/MCAWW/CLP/ | Prep Batch: 00LE0164

1. Reason for SDR

a. COC Discrepancy __ Tech Profile Error __ Client Request __ Sampler Error on C-O-C __ Transcription Error __ Wrong Test Code __ Other _____

b. General Discrepancy

__ Missing Sample/Extract __ Container Broken __ Wrong Sample Pulled __ Label ID's Illegible
__ Hold Time Exceeded __ Insufficient Sample __ Preservation Wrong __ Received Past Hold
__ Improper Bottle Type __ Not Amenable to Analysis

Note: Verified by [Log-In] or [Prep Group] (circle)...signature/date: _____

c. QC Problem (Include all relevant specific results; attach data if necessary)

002MS low surrogates and spike
5 surrogates out low
9 spikes out low

2. Known or Probable Causes(s) loss of extract prior to analysis

3. Discussion and Proposed Action

__ Re-log
__ Entire Batch
__ Following Samples: _____
__ Re-leach
__ Re-extract
__ Re-digest
__ Revise EDD
__ Change Test Code to _____
__ Place On/Take Off Hold (circle)

Other Description:

Re-ran → similar results
002MSD yielded acceptable results for surrogate recovery
- Ran 002, MS + MSD PRE-GPC → all surrogates within limits
- will report PRE-GPC only → narrate

4. Project Manager Instructions...signature/date: JLi 3/9/00

✓ Concur with Proposed Action
__ Disagree with Proposed Action; See Instruction
✓ Include in Case Narrative
__ Client Contacted:
Date/Person _____
__ Add
__ Cancel

5. Final Action...signature/date: CST 3/9/00 Other Explanation:

__ Verified re-[log][leach][extract][digest][analysis] (circle)
X Included in Case Narrative
__ Hard Copy COC Revised
__ Electronic COC Revised
__ EDD Corrections Completed

When Final Action has been recorded, forward original to QA Specialist for distribution and filing.

Route	Distribution of Completed SDR	Route	Distribution of Completed SDR
__	X Initiator	__	__ Metals: Doughty
__	X Lab Manager: M. Taylor	__	__ Inorganic: Perrone
1	X Project Mgr: Stone/Carey/Schrenkel/Johnson	__	__ GC/LC: Schnell
__	X Section Mgr: Wesson/Daniels	__	__ MS: LeMin/Taylor
3	X QA (file): Racioppi	__	__ Log-in: Toder
__	__ Data Management: Feldman	__	__ Admin: Soos
__	__ Sample Prep: Schnell/Doughty/Kauffman	2	__ Other: BNA - Sue Dun

RECRA LabNet Use Only
00026425

Custody Transfer Record/Lab Work Request

Page 1 of 1

FIELD PERSONNEL: COMPLETE ONLY SHADED AREAS

(8) GCMS BNA P/PCB Met Dig Perrone

RECRA LabNet

Client: NYSDEC

Est. Final Proj. Sampling Date: 2/17/00

Project #: 011667-1000-001-9999-00

Project Contact/Phone #: Frank Sowers 716 2265357

RECRA Project Manager: JS

QC: ~~CTP~~ Spec Del: CLP TAT: 30day

Date Rec'd: 2-11-00 Date Due: 3-12-00

Account #:

		VOA	BNA	Pest/PCB	Herb		leachate		Metal	CN	IAHC	ITCLP	ICORP	IIGN	ICNRE ISFRE	leachate
Refrigerator #		1							4		———	———	———	———	———I	
#/Type Container	Liquid															
	Solid	1AG	———I						1AG		1AG	2AG	———	———	———I	
Volume	Liquid															
	Solid	250	———I						250		250	500	———	———	———I	
Preservatives		———	———I						-		—	———	———	———	———I	

ORGANIC: VOA, BNA, Pest/PCB, Herb — INORG: Metal, CN — ANALYSES REQUESTED →

MATRIX CODES:
- S - Soil
- SE - Sediment
- SO - Solid
- SL - Sludge
- W - Water
- O - Oil
- A - Air
- DS - Drum Solids
- DL - Drum Liquids
- L - EP/TCLP Leachate
- WI - Wipe
- X - Other
- F - Fish

RECRA LabNet Use Only

Lab ID	Client ID/Description SH800-02208-	MS	MSD	Matrix	Date Collected	Time Collected	VOA OLO2HC	BNA OLO2SC	OLO8T	OHGBT	OLOEST	OLO2HT	ITCLV	METAL		TPH	TCLP	CORROS.	IGNIT.	REACT.	RCRATCLV
001	B706 16			Soil	2/8/00	1233								✓1		✓1					
002	" 17			"	2/8/00	1250	✓	✓								✓					
003	" 18	✓	✓	"	2/8/00	1600								✓3		✓3					
004	" 19			"	2/8/00	1605								✓1		✓1					
005	" 20			"	2/9/00	0952										✓1					
006	" 21			"	2/9/00	1000							✓				✓	✓	✓	✓	
007	NYSDEC Refrig Blank				2-11-00	-	2														
008	B7060~~T21~~ TK2400 tclp of 006				**	-			✓	✓	✓										✓
009	B70621 tclv of 006											✓									

Special Instructions:

DATE/REVISIONS:
1. Metal = HSL
2. ** See lab chron.
3.
4.
5.
6.

Relinquished by	Received by	Date	Time
R Lore		2/10/00	1400
UPS	V. Hernandez	2-11-00	0945

Relinquished by	Received by	Date	Time
ORIGINAL REWRITTEN			

Discrepancies Between Samples Labels and COC Record? Y or (N)

J092 870 674 3

RECRA LabNet Use Only

Samples were:
1) Shipped ✓ or Hand Delivered ____
Airbill # See Below
2) Ambient or (Chilled)
3) Received in Good Condition (Y) or N
4) Labels Indicate Properly Preserved (Y) or N
5) Received Within Holding Times (N)

COC Tape was:
1) Present on Outer Package (Y) or N
2) Unbroken on Outer Package (Y) or N
3) Present on Sample Y or (N)
4) Unbroken on Sample Y or N
COC Record Present Upon Sample Rec't (Y) or N
Cooler Temp. 6.2 °C

3D

SOIL SEMIVOLATILE MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

Lab Name: Recra.LabNet Contract: 1667-00-01

Case No.: NYSDEC RFW Lot No.: 0002L425-002

MATRIX Spike - Sample No.: SH800-02208-B70617 Level (low/med): LOW

COMPOUND	SPIKE ADDED UG/KG	SAMPLE CONCENTRATION UG/KG	MS CONCENTRATION UG/KG	MS % REC #	QC LIMITS REC.
Phenol	3000	0	1970	66	26 - 90
2-Chlorophenol	3000	0	1920	64	25 -102
1,4-Dichlorobenzene	2000	0	1110	56	28 -104
N-Nitroso-di-n-prop.(1)	2000	0	1390	70	41 -126
1,2,4-Trichlorobenzene	2000	0	1210	61	38 -107
4-Chloro-3-methylphenol	3000	0	2300	77	26 -103
Acenaphthene	2000	0	1300	65	31 -137
4-Nitrophenol	3000	0	2590	86	11 -114
2,4-Dinitrotoluene	2000	0	1410	70	28 - 89
Pentachlorophenol	3000	0	2360	79	17 -109
Pyrene	2000	0	1410	70	35 -142

COMPOUND	SPIKE ADDED UG/KG	MSD CONCENTRATION UG/KG	MSD % REC #	% RPD #	QC LIMITS RPD	QC LIMITS REC
Phenol	3000	1500	50	27	35	26 - 90
2-Chlorophenol	3000	1470	49	26	50	25 -102
1,4-Dichlorobenzene	2000	921	46	19	27	28 -104
N-Nitroso-di-n-prop.(1)	2000	1160	58	18	38	41 -126
1,2,4-Trichlorobenzene	2000	1000	50	20	23	38 -107
4-Chloro-3-methylphenol	3000	1650	55	33	33	26 -103
Acenaphthene	2000	1040	52	22 *	19	31 -137
4-Nitrophenol	3000	1710	57	40	50	11 -114
2,4-Dinitrotoluene	2000	1070	54	25	47	28 - 89
Pentachlorophenol	3000	1740	58	30	47	17 -109
Pyrene	2000	1200	60	15	36	35 -142

(1) N-Nitroso-di-n-propylamine

Column to be used to flag recovery and RPD values with an asterisk
* Values outside of QC limits

RPD: 1 out of 11 outside limits
Spike Recovery: 0 out of 22 outside limits

COMMENTS: _____

3D

SOIL SEMIVOLATILE BLANK SPIKE RECOVERY

Lab Name: Recra.LabNet Contract: ONE

Case No.: NYSDEC RFW Lot No.: 0002L425

BLANK Spike - Sample No.: SBLKLSLE0164-MB1 Level (low/med): LOW

COMPOUND	SPIKE ADDED UG/KG	SAMPLE CONCENTRATION UG/KG	BS CONCENTRATION UG/KG	BS % REC #	QC LIMITS REC.
Phenol	2500	0	893	36	26 - 90
2-Chlorophenol	2500	0	908	36	25 -102
1,4-Dichlorobenzene	1670	0	580	35	28 -104
N-Nitroso-di-n-prop.(1)	1670	0	608	36 *	41 -126
1,2,4-Trichlorobenzene	1670	0	608	36 *	38 -107
4-Chloro-3-methylphenol	2500	0	871	35	26 -103
Acenaphthene	1670	0	594	36	31 -137
4-Nitrophenol	2500	0	739	30	11 -114
2,4-Dinitrotoluene	1670	0	530	32	28 - 89
Pentachlorophenol	2500	0	790	32	17 -109
Pyrene	1670	0	667	40	35 -142

(1) N-Nitroso-di-n-propylamine

Column to be used to flag recovery value with an asterisk
* Values outside of QC limits

Spike Recovery: 2 out of 11 outside limits

COMMENTS: _____

Sample Data, for each Sample

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

SH800-02208-B70617

Lab Name: Recra.LabNet Work Order: 01667600001

Client: NYSDEC

Matrix: (soil/water) SOIL Lab Sample ID: 0002L425-002

Sample wt/vol: 30.0 (g/mL) G Lab File ID: D030707

Level: (low/med) LOW Date Received: 02/11/00

% Moisture: 17 decanted: (Y/N) Date Extracted: 02/21/00

Concentrated Extract Volume: 1000(uL) Date Analyzed: 03/07/00

Injection Volume: 2.0(uL) Dilution Factor: 1.00

GPC Cleanup: (Y/N) N pH: 9.2

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
108-95-2	Phenol	400	U
111-44-4	bis(2-Chloroethyl)ether	400	U
95-57-8	2-Chlorophenol	400	U
541-73-1	1,3-Dichlorobenzene	400	U
106-46-7	1,4-Dichlorobenzene	400	U
95-50-1	1,2-Dichlorobenzene	400	U
95-48-7	2-Methylphenol	400	U
108-60-1	2,2'-oxybis(1-Chloropropane)	400	U
106-44-5	4-Methylphenol	400	U
621-64-7	N-Nitroso-di-n-propylamine	400	U
67-72-1	Hexachloroethane	400	U
98-95-3	Nitrobenzene	400	U
78-59-1	Isophorone	400	U
88-75-5	2-Nitrophenol	400	U
105-67-9	2,4-Dimethylphenol	400	U
111-91-1	bis(2-Chloroethoxy)methane	400	U
120-83-2	2,4-Dichlorophenol	400	U
120-82-1	1,2,4-Trichlorobenzene	400	U
91-20-3	Naphthalene	400	U
106-47-8	4-Chloroaniline	400	U
87-68-3	Hexachlorobutadiene	400	U
59-50-7	4-Chloro-3-methylphenol	400	U
91-57-6	2-Methylnaphthalene	400	U
77-47-4	Hexachlorocyclopentadiene	400	U
88-06-2	2,4,6-Trichlorophenol	400	U
95-95-4	2,4,5-Trichlorophenol	1000	U
91-58-7	2-Chloronaphthalene	400	U
88-74-4	2-Nitroaniline	1000	U
131-11-3	Dimethylphthalate	400	U
208-96-8	Acenaphthylene	400	U
606-20-2	2,6-Dinitrotoluene	400	U
99-09-2	3-Nitroaniline	1000	U
83-32-9	Acenaphthene	400	U

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

SH800-02208-B70617

Lab Name: Recra.LabNet Work Order: 01667600001

Client: NYSDEC

Matrix: (soil/water) SOIL Lab Sample ID: 0002L425-002

Sample wt/vol: 30.0 (g/mL) G Lab File ID: D030707

Level: (low/med) LOW Date Received: 02/11/00

% Moisture: 17 decanted: (Y/N) Date Extracted: 02/21/00

Concentrated Extract Volume: 1000(uL) Date Analyzed: 03/07/00

Injection Volume: 2.0(uL) Dilution Factor: 1.00

GPC Cleanup: (Y/N) N pH: 9.2

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
51-28-5	2,4-Dinitrophenol	1000	U
100-02-7	4-Nitrophenol	1000	U
132-64-9	Dibenzofuran	400	U
121-14-2	2,4-Dinitrotoluene	400	U
84-66-2	Diethylphthalate	400	U
7005-72-3	4-Chlorophenyl-phenylether	400	U
86-73-7	Fluorene	400	U
100-01-6	4-Nitroaniline	1000	U
534-52-1	4,6-Dinitro-2-methylphenol	1000	U
86-30-6	N-Nitrosodiphenylamine (1)	400	U
101-55-3	4-Bromophenyl-phenylether	400	U
118-74-1	Hexachlorobenzene	400	U
87-86-5	Pentachlorophenol	1000	U
85-01-8	Phenanthrene	29	J
120-12-7	Anthracene	400	U
86-74-8	Carbazole	400	U
84-74-2	Di-n-butylphthalate	400	U
206-44-0	Fluoranthene	400	U
129-00-0	Pyrene	400	U
85-68-7	Butylbenzylphthalate	400	U
91-94-1	3,3'-Dichlorobenzidine	400	U
56-55-3	Benzo(a)anthracene	400	U
218-01-9	Chrysene	400	U
117-81-7	bis(2-Ethylhexyl)phthalate	400	U
117-84-0	Di-n-octyl phthalate	400	U
205-99-2	Benzo(b)fluoranthene	400	U
207-08-9	Benzo(k)fluoranthene	400	U
50-32-8	Benzo(a)pyrene	400	U
193-39-5	Indeno(1,2,3-cd)pyrene	400	U
53-70-3	Dibenz(a,h)anthracene	400	U
191-24-2	Benzo(g,h,i)perylene	400	U

(1) - Cannot be separated from Diphenylamine

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

CLIENT SAMPLE NO.

SH800-02208-B70617

Lab Name: Recra.LabNet Work Order: 01667600001

Client: NYSDEC

Matrix: (soil/water) SOIL Lab Sample ID: 0002L425-002

Sample wt/vol: 30.0 (g/mL) G Lab File ID: D030707

Level: (low/med) LOW Date Received: 02/11/00

% Moisture: 17 decanted: (Y/N) Date Extracted: 02/21/00

Concentrated Extract Volume: 1000(uL) Date Analyzed: 03/07/00

Injection Volume: 2.0(uL) Dilution Factor: 1.00

GPC Cleanup: (Y/N) N pH: 9.2

Number TICs found: 10 CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.		UNKNOWN	8.50	80	J
2.		ALDOL CONDENSATE	8.67	200	JAB
3.		ALDOL CONDENSATE	9.46	100	JAB
4.		ALKANE	16.61	100	J
5.		TRIMETHYLNAPHTHALENE	18.31	80	J
6.		ALKANE	18.85	100	J
7.		UNKNOWN	19.56	100	JB
8.		ALKANE	20.28	100	J
9.		ORGANIC ACID	21.34	300	J
10.		UNKNOWN	24.65	200	J

Raw QC Data: Tune, Blank and Spike Data

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

SBLKLS

Lab Name: Recra.LabNet Work Order: 01667600001

Client: NYSDEC

Matrix: (soil/water) SOIL Lab Sample ID: 00LE0164-MB1

Sample wt/vol: 30.0 (g/mL) G Lab File ID: D030104

Level: (low/med) LOW Date Received: 02/21/00

% Moisture: _____ decanted: (Y/N)__ Date Extracted: 02/21/00

Concentrated Extract Volume: 500(uL) Date Analyzed: 03/01/00

Injection Volume: 2.0(uL) Dilution Factor: 1.00

GPC Cleanup: (Y/N) Y pH: 7.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
51-28-5	2,4-Dinitrophenol	840	U
100-02-7	4-Nitrophenol	840	U
132-64-9	Dibenzofuran	330	U
121-14-2	2,4-Dinitrotoluene	330	U
84-66-2	Diethylphthalate	330	U
7005-72-3	4-Chlorophenyl-phenylether	330	U
86-73-7	Fluorene	330	U
100-01-6	4-Nitroaniline	840	U
534-52-1	4,6-Dinitro-2-methylphenol	840	U
86-30-6	N-Nitrosodiphenylamine (1)	330	U
101-55-3	4-Bromophenyl-phenylether	330	U
118-74-1	Hexachlorobenzene	330	U
87-86-5	Pentachlorophenol	840	U
85-01-8	Phenanthrene	330	U
120-12-7	Anthracene	330	U
86-74-8	Carbazole	330	U
84-74-2	Di-n-butylphthalate	330	U
206-44-0	Fluoranthene	330	U
129-00-0	Pyrene	330	U
85-68-7	Butylbenzylphthalate	330	U
91-94-1	3,3'-Dichlorobenzidine	330	U
56-55-3	Benzo(a)anthracene	330	U
218-01-9	Chrysene	330	U
117-81-7	bis(2-Ethylhexyl)phthalate	36	J
117-84-0	Di-n-octyl phthalate	330	U
205-99-2	Benzo(b)fluoranthene	330	U
207-08-9	Benzo(k)fluoranthene	330	U
50-32-8	Benzo(a)pyrene	330	U
193-39-5	Indeno(1,2,3-cd)pyrene	330	U
53-70-3	Dibenz(a,h)anthracene	330	U
191-24-2	Benzo(g,h,i)perylene	330	U

(1) - Cannot be separated from Diphenylamine

1F

CLIENT SAMPLE NO.

SBLKLS

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

Lab Name: Recra.LabNet Work Order: 01667600001

Client: NYSDEC

Matrix: (soil/water) SOIL Lab Sample ID: 00LE0164-MB1

Sample wt/vol: 30.0 (g/mL) G Lab File ID: D030104

Level: (low/med) LOW Date Received: 02/21/00

% Moisture: _____ decanted: (Y/N)__ Date Extracted: 02/21/00

Concentrated Extract Volume: 500(uL) Date Analyzed: 03/01/00

Injection Volume: 2.0(uL) Dilution Factor: 1.00

GPC Cleanup: (Y/N) Y pH: 7.0

Number TICs found: 6 CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.		UNKNOWN	8.10	100	J
2.		ALDOL CONDENSATE	8.24	80	JA
3.		UNKNOWN	8.36	300	J
4.		ALDOL CONDENSATE	8.90	200	JA
5.		UNKNOWN	17.66	400	J
6.		UNKNOWN	19.78	2000	J

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

SBLKLSMS

Lab Name: Recra.LabNet Work Order: 01667600001

Client: NYSDEC

Matrix: (soil/water) SOIL Lab Sample ID: 00LE0164-MB1 BS

Sample wt/vol: 30.0 (g/mL) G Lab File ID: D030105

Level: (low/med) LOW Date Received: 02/21/00

% Moisture: _____ decanted: (Y/N)__ Date Extracted: 02/21/00

Concentrated Extract Volume: 500(uL) Date Analyzed: 03/01/00

Injection Volume: 2.0(uL) Dilution Factor: 1.00

GPC Cleanup: (Y/N) Y pH: 7.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
108-95-2	Phenol	890	Z
111-44-4	bis(2-Chloroethyl)ether	330	U
95-57-8	2-Chlorophenol	910	Z
541-73-1	1,3-Dichlorobenzene	330	U
106-46-7	1,4-Dichlorobenzene	580	Z
95-50-1	1,2-Dichlorobenzene	330	U
95-48-7	2-Methylphenol	330	U
108-60-1	2,2'-oxybis(1-Chloropropane)	330	U
106-44-5	4-Methylphenol	330	U
621-64-7	N-Nitroso-di-n-propylamine	610	Z
67-72-1	Hexachloroethane	330	U
98-95-3	Nitrobenzene	330	U
78-59-1	Isophorone	330	U
88-75-5	2-Nitrophenol	330	U
105-67-9	2,4-Dimethylphenol	330	U
111-91-1	bis(2-Chloroethoxy)methane	330	U
120-83-2	2,4-Dichlorophenol	330	U
120-82-1	1,2,4-Trichlorobenzene	610	Z
91-20-3	Naphthalene	330	U
106-47-8	4-Chloroaniline	330	U
87-68-3	Hexachlorobutadiene	330	U
59-50-7	4-Chloro-3-methylphenol	870	Z
91-57-6	2-Methylnaphthalene	330	U
77-47-4	Hexachlorocyclopentadiene	330	U
88-06-2	2,4,6-Trichlorophenol	330	U
95-95-4	2,4,5-Trichlorophenol	840	U
91-58-7	2-Chloronaphthalene	330	U
88-74-4	2-Nitroaniline	840	U
131-11-3	Dimethylphthalate	330	U
208-96-8	Acenaphthylene	330	U
606-20-2	2,6-Dinitrotoluene	330	U
99-09-2	3-Nitroaniline	840	U
83-32-9	Acenaphthene	590	Z

Z: SPIKE COMPOUND

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

SBLKLSMS

Lab Name: Recra.LabNet Work Order: 01667600001

Client: NYSDEC

Matrix: (soil/water) SOIL Lab Sample ID: 00LE0164-MB1 BS

Sample wt/vol: 30.0 (g/mL) G Lab File ID: D030105

Level: (low/med) LOW Date Received: 02/21/00

% Moisture: _____ decanted: (Y/N)__ Date Extracted: 02/21/00

Concentrated Extract Volume: 500(uL) Date Analyzed: 03/01/00

Injection Volume: 2.0(uL) Dilution Factor: 1.00

GPC Cleanup: (Y/N) Y pH: 7.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
51-28-5	2,4-Dinitrophenol	840	U
100-02-7	4-Nitrophenol	740	Z
132-64-9	Dibenzofuran	330	U
121-14-2	2,4-Dinitrotoluene	530	Z
84-66-2	Diethylphthalate	330	U
7005-72-3	4-Chlorophenyl-phenylether	330	U
86-73-7	Fluorene	330	U
100-01-6	4-Nitroaniline	840	U
534-52-1	4,6-Dinitro-2-methylphenol	840	U
86-30-6	N-Nitrosodiphenylamine (1)	330	U
101-55-3	4-Bromophenyl-phenylether	330	U
118-74-1	Hexachlorobenzene	330	U
87-86-5	Pentachlorophenol	790	Z
85-01-8	Phenanthrene	330	U
120-12-7	Anthracene	330	U
86-74-8	Carbazole	330	U
84-74-2	Di-n-butylphthalate	330	U
206-44-0	Fluoranthene	330	U
129-00-0	Pyrene	670	Z
85-68-7	Butylbenzylphthalate	330	U
91-94-1	3,3'-Dichlorobenzidine	330	U
56-55-3	Benzo(a)anthracene	330	U
218-01-9	Chrysene	330	U
117-81-7	bis(2-Ethylhexyl)phthalate	98	JB
117-84-0	Di-n-octyl phthalate	330	U
205-99-2	Benzo(b)fluoranthene	330	U
207-08-9	Benzo(k)fluoranthene	330	U
50-32-8	Benzo(a)pyrene	330	U
193-39-5	Indeno(1,2,3-cd)pyrene	330	U
53-70-3	Dibenz(a,h)anthracene	330	U
191-24-2	Benzo(g,h,i)perylene	330	U

(1) - Cannot be separated from Diphenylamine

Z: SPIKE COMPOUND

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

SH800-02208-B70617MS

Lab Name: Recra.LabNet Work Order: 01667600001

Client: NYSDEC

Matrix: (soil/water) SOIL Lab Sample ID: 0002L425-002 MS

Sample wt/vol: 30.1 (g/mL) G Lab File ID: D030708

Level: (low/med) LOW Date Received: 02/11/00

% Moisture: 17 decanted: (Y/N) Date Extracted: 02/21/00

Concentrated Extract Volume: 1000(uL) Date Analyzed: 03/07/00

Injection Volume: 2.0(uL) Dilution Factor: 1.00

GPC Cleanup: (Y/N) N pH: 9.2

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
108-95-2	Phenol	2000	Z
111-44-4	bis(2-Chloroethyl)ether	400	U
95-57-8	2-Chlorophenol	1900	Z
541-73-1	1,3-Dichlorobenzene	400	U
106-46-7	1,4-Dichlorobenzene	1100	Z
95-50-1	1,2-Dichlorobenzene	400	U
95-48-7	2-Methylphenol	400	U
108-60-1	2,2'-oxybis(1-Chloropropane)	400	U
106-44-5	4-Methylphenol	400	U
621-64-7	N-Nitroso-di-n-propylamine	1400	Z
67-72-1	Hexachloroethane	400	U
98-95-3	Nitrobenzene	400	U
78-59-1	Isophorone	400	U
88-75-5	2-Nitrophenol	400	U
105-67-9	2,4-Dimethylphenol	400	U
111-91-1	bis(2-Chloroethoxy)methane	400	U
120-83-2	2,4-Dichlorophenol	400	U
120-82-1	1,2,4-Trichlorobenzene	1200	Z
91-20-3	Naphthalene	400	U
106-47-8	4-Chloroaniline	400	U
87-68-3	Hexachlorobutadiene	400	U
59-50-7	4-Chloro-3-methylphenol	2300	Z
91-57-6	2-Methylnaphthalene	400	U
77-47-4	Hexachlorocyclopentadiene	400	U
88-06-2	2,4,6-Trichlorophenol	400	U
95-95-4	2,4,5-Trichlorophenol	1000	U
91-58-7	2-Chloronaphthalene	400	U
88-74-4	2-Nitroaniline	1000	U
131-11-3	Dimethylphthalate	400	U
208-96-8	Acenaphthylene	400	U
606-20-2	2,6-Dinitrotoluene	400	U
99-09-2	3-Nitroaniline	1000	U
83-32-9	Acenaphthene	1300	Z

Z: SPIKE COMPOUND

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

SH800-02208-B70617MS

Lab Name: Recra.LabNet Work Order: 01667600001

Client: NYSDEC

Matrix: (soil/water) SOIL Lab Sample ID: 0002L425-002 MS

Sample wt/vol: 30.1 (g/mL) G Lab File ID: D030708

Level: (low/med) LOW Date Received: 02/11/00

% Moisture: 17 decanted: (Y/N) Date Extracted: 02/21/00

Concentrated Extract Volume: 1000(uL) Date Analyzed: 03/07/00

Injection Volume: 2.0(uL) Dilution Factor: 1.00

GPC Cleanup: (Y/N) N pH: 9.2

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
51-28-5	2,4-Dinitrophenol	1000	U
100-02-7	4-Nitrophenol	2600	Z
132-64-9	Dibenzofuran	400	U
121-14-2	2,4-Dinitrotoluene	1400	Z
84-66-2	Diethylphthalate	400	U
7005-72-3	4-Chlorophenyl-phenylether	400	U
86-73-7	Fluorene	400	U
100-01-6	4-Nitroaniline	1000	U
534-52-1	4,6-Dinitro-2-methylphenol	1000	U
86-30-6	N-Nitrosodiphenylamine (1)	400	U
101-55-3	4-Bromophenyl-phenylether	400	U
118-74-1	Hexachlorobenzene	400	U
87-86-5	Pentachlorophenol	2400	Z
85-01-8	Phenanthrene	29	J
120-12-7	Anthracene	400	U
86-74-8	Carbazole	400	U
84-74-2	Di-n-butylphthalate	400	U
206-44-0	Fluoranthene	400	U
129-00-0	Pyrene	1400	Z
85-68-7	Butylbenzylphthalate	400	U
91-94-1	3,3'-Dichlorobenzidine	400	U
56-55-3	Benzo(a)anthracene	400	U
218-01-9	Chrysene	400	U
117-81-7	bis(2-Ethylhexyl)phthalate	35	JB
117-84-0	Di-n-octyl phthalate	400	U
205-99-2	Benzo(b)fluoranthene	400	U
207-08-9	Benzo(k)fluoranthene	400	U
50-32-8	Benzo(a)pyrene	400	U
193-39-5	Indeno(1,2,3-cd)pyrene	400	U
53-70-3	Dibenz(a,h)anthracene	400	U
191-24-2	Benzo(g,h,i)perylene	400	U

(1) - Cannot be separated from Diphenylamine

Z: SPIKE COMPOUND

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

SH800-02208-B70617MSD

Lab Name: Recra.LabNet Work Order: 01667600001

Client: NYSDEC

Matrix: (soil/water) SOIL Lab Sample ID: 0002L425-002 MSD

Sample wt/vol: 30.0 (g/mL) G Lab File ID: D030709

Level: (low/med) LOW Date Received: 02/11/00

% Moisture: 17 decanted: (Y/N) Date Extracted: 02/21/00

Concentrated Extract Volume: 1000(uL) Date Analyzed: 03/07/00

Injection Volume: 2.0(uL) Dilution Factor: 1.00

GPC Cleanup: (Y/N) N pH: 9.2

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
108-95-2	Phenol	1500	Z
111-44-4	bis(2-Chloroethyl)ether	400	U
95-57-8	2-Chlorophenol	1500	Z
541-73-1	1,3-Dichlorobenzene	400	U
106-46-7	1,4-Dichlorobenzene	920	Z
95-50-1	1,2-Dichlorobenzene	400	U
95-48-7	2-Methylphenol	400	U
108-60-1	2,2'-oxybis(1-Chloropropane)	400	U
106-44-5	4-Methylphenol	400	U
621-64-7	N-Nitroso-di-n-propylamine	1200	Z
67-72-1	Hexachloroethane	400	U
98-95-3	Nitrobenzene	400	U
78-59-1	Isophorone	400	U
88-75-5	2-Nitrophenol	400	U
105-67-9	2,4-Dimethylphenol	400	U
111-91-1	bis(2-Chloroethoxy)methane	400	U
120-83-2	2,4-Dichlorophenol	400	U
120-82-1	1,2,4-Trichlorobenzene	1000	Z
91-20-3	Naphthalene	400	U
106-47-8	4-Chloroaniline	400	U
87-68-3	Hexachlorobutadiene	400	U
59-50-7	4-Chloro-3-methylphenol	1600	Z
91-57-6	2-Methylnaphthalene	400	U
77-47-4	Hexachlorocyclopentadiene	400	U
88-06-2	2,4,6-Trichlorophenol	400	U
95-95-4	2,4,5-Trichlorophenol	1000	U
91-58-7	2-Chloronaphthalene	400	U
88-74-4	2-Nitroaniline	1000	U
131-11-3	Dimethylphthalate	400	U
208-96-8	Acenaphthylene	400	U
606-20-2	2,6-Dinitrotoluene	400	U
99-09-2	3-Nitroaniline	1000	U
83-32-9	Acenaphthene	1000	Z

Z: SPIKE COMPOUND

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

SH800-02208-B70617MSD

Lab Name: Recra.LabNet Work Order: 01667600001

Client: NYSDEC

Matrix: (soil/water) SOIL Lab Sample ID: 0002L425-002 MSD

Sample wt/vol: 30.0 (g/mL) G Lab File ID: D030709

Level: (low/med) LOW Date Received: 02/11/00

% Moisture: 17 decanted: (Y/N) Date Extracted: 02/21/00

Concentrated Extract Volume: 1000(uL) Date Analyzed: 03/07/00

Injection Volume: 2.0(uL) Dilution Factor: 1.00

GPC Cleanup: (Y/N) N pH: 9.2

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
51-28-5	2,4-Dinitrophenol	1000	U
100-02-7	4-Nitrophenol	1700	Z
132-64-9	Dibenzofuran	400	U
121-14-2	2,4-Dinitrotoluene	1100	Z
84-66-2	Diethylphthalate	400	U
7005-72-3	4-Chlorophenyl-phenylether	400	U
86-73-7	Fluorene	400	U
100-01-6	4-Nitroaniline	1000	U
534-52-1	4,6-Dinitro-2-methylphenol	1000	U
86-30-6	N-Nitrosodiphenylamine (1)	400	U
101-55-3	4-Bromophenyl-phenylether	400	U
118-74-1	Hexachlorobenzene	400	U
87-86-5	Pentachlorophenol	1700	Z
85-01-8	Phenanthrene	400	U
120-12-7	Anthracene	400	U
86-74-8	Carbazole	400	U
84-74-2	Di-n-butylphthalate	400	U
206-44-0	Fluoranthene	400	U
129-00-0	Pyrene	1200	Z
85-68-7	Butylbenzylphthalate	400	U
91-94-1	3,3'-Dichlorobenzidine	400	U
56-55-3	Benzo(a)anthracene	400	U
218-01-9	Chrysene	400	U
117-81-7	bis(2-Ethylhexyl)phthalate	23	JB
117-84-0	Di-n-octyl phthalate	400	U
205-99-2	Benzo(b)fluoranthene	400	U
207-08-9	Benzo(k)fluoranthene	400	U
50-32-8	Benzo(a)pyrene	400	U
193-39-5	Indeno(1,2,3-cd)pyrene	400	U
53-70-3	Dibenz(a,h)anthracene	400	U
191-24-2	Benzo(g,h,i)perylene	400	U

(1) - Cannot be separated from Diphenylamine

Z: SPIKE COMPOUND

Chain of Custody

RECRA LabNet Use Only
0002C 425

Custody Transfer Record/Lab Work Request

Page 1 of 1

FIELD PERSONNEL: COMPLETE ONLY SHADED AREAS

(8) GCMS BNA P/PCB Met Dig Pennone

RECRA LabNet

Client: NYSDEC
Est. Final Proj. Sampling Date: 2/17/00
Project #: 011067-600-001-9999-00
Project Contact/Phone #: FRANK SOWERS 716 2265357
RECRA Project Manager: JS
QC: EPSPEC Del: CLP TAT: 30day
Date Rec'd: 2-11-00 Date Due: 3-12-00
Account #:

		VOA	BNA	Pest/PCB	Herb		leachate		Metal	CN	IAHC	ITCLP	ICORP	IIGN	ICNRE ISFRE	leachate
Refrigerator #		1							4							
#/Type Container	Liquid															
	Solid	1AG							1AG		1AG	2AG				
Volume	Liquid															
	Solid	250							250		250	500				
Preservatives		—							-		—	—				

ORGANIC: VOA, BNA, Pest/PCB, Herb. INORG: Metal, CN. ANALYSES REQUESTED →

MATRIX CODES:
S - Soil
SE - Sediment
SO - Solid
SL - Sludge
W - Water
O - Oil
A - Air
DS - Drum Solids
DL - Drum Liquids
L - EP/TCLP Leachate
WI - Wipe
X - Other
F - Fish

RECRA LabNet Use Only

Lab ID	Client ID/Description SH800-02208-	MS	MSD	Matrix	Date Collected	Time Collected	VOA 0024C	BNA 0025C	0008T	0H6BT	0025T	0024T	ITCLV	METAL		TPH	TCLP	CORROS.	IGNIT.	REACT.	REACTCW
001	B706 16			SOIL	2/8/00	1233								✓1		✓1					
002	" 17			"	2/8/00	1250	✓	✓								✓					
003	" 18	✓	✓	"	2/8/00	1600								✓3		✓3					
004	" 19			"	2/8/00	1605								✓1		✓1					
005	" 20			"	2/9/00	0952										✓1					
006	" 21			"	2/9/00	1000							✓				✓	✓	✓	✓	
007	NYSDEC Refrig Blank				2-11-00	-	2														
008	B706T21 tclp of 006 (TK2400)				**	-			✓	✓	✓										✓
009	B70621 tclv of 006											✓									

Special Instructions:

DATE/REVISIONS:
Metal = 1. HSL
** 2. See lab chron
3.
4.
5.
6.

RECRA LabNet Use Only

Samples were:
1) Shipped ✓ or Hand Delivered
Airbill # See Below
2) Ambient or (Chilled)
3) Received in Good Condition (Y) or N
4) Labels Indicate Properly Preserved (Y) or N
5) Received Within Holding Times (N)

COC Tape was:
1) Present on Outer Package (Y) or N
2) Unbroken on Outer Package (Y) or N
3) Present on Sample Y or (N)
4) Unbroken on Sample Y or N
COC Record Present Upon Sample Rec't (Y) or N
Cooler Temp. 6.7 °C

Relinquished by	Received by	Date	Time	Relinquished by	Received by	Date	Time
R Lowe		2/10/00	1400				
[redacted]							

ORIGINAL
REWRITTEN

Discrepancies Between Samples Labels and COC Record? Y or (N)

J092 870 674 3

000

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

SBLKJD

Lab Name: Recra.LabNet Contract: 01667600001

Lab Code: Recra Case No.: _____ SAS No.: _____ SDG No.: _____

Matrix: (soil/water) SOIL Lab Sample ID: 99LE1535-MB1

Sample wt/vol: 30.0 (g/mL) G Lab File ID: D011013

Level: (low/med) LOW Date Received: 12/18/99

% Moisture: _____ decanted: (Y/N)__ Date Extracted: 12/18/99

Concentrated Extract Volume: 500(uL) Date Analyzed: 01/10/00

Injection Volume: 2.0(uL) Dilution Factor: 1.00

GPC Cleanup: (Y/N) Y pH: 7.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
108-95-2	Phenol	330	U
111-44-4	bis(2-Chloroethyl)ether	330	U
95-57-8	2-Chlorophenol	330	U
541-73-1	1,3-Dichlorobenzene	330	U
106-46-7	1,4-Dichlorobenzene	330	U
95-50-1	1,2-Dichlorobenzene	330	U
95-48-7	2-Methylphenol	330	U
108-60-1	2,2'-oxybis(1-Chloropropane)	330	U
106-44-5	4-Methylphenol	330	U
621-64-7	N-Nitroso-di-n-propylamine	330	U
67-72-1	Hexachloroethane	330	U
98-95-3	Nitrobenzene	330	U
78-59-1	Isophorone	330	U
88-75-5	2-Nitrophenol	330	U
105-67-9	2,4-Dimethylphenol	330	U
111-91-1	bis(2-Chloroethoxy)methane	330	U
120-83-2	2,4-Dichlorophenol	330	U
120-82-1	1,2,4-Trichlorobenzene	330	U
91-20-3	Naphthalene	330	U
106-47-8	4-Chloroaniline	330	U
87-68-3	Hexachlorobutadiene	330	U
59-50-7	4-Chloro-3-methylphenol	330	U
91-57-6	2-Methylnaphthalene	330	U
77-47-4	Hexachlorocyclopentadiene	330	U
88-06-2	2,4,6-Trichlorophenol	330	U
95-95-4	2,4,5-Trichlorophenol	840	U
91-58-7	2-Chloronaphthalene	330	U
88-74-4	2-Nitroaniline	840	U
131-11-3	Dimethylphthalate	330	U
208-96-8	Acenaphthylene	330	U
606-20-2	2,6-Dinitrotoluene	330	U
99-09-2	3-Nitroaniline	840	U
83-32-9	Acenaphthene	330	U

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

SBLKJD

Lab Name: Recra.LabNet Contract: 01667600001

Lab Code: Recra Case No.: _____ SAS No.: _____ SDG No.: _____

Matrix: (soil/water) SOIL Lab Sample ID: 99LE1535-MB1

Sample wt/vol: 30.0 (g/mL) G Lab File ID: D011013

Level: (low/med) LOW Date Received: 12/18/99

% Moisture: _____ decanted: (Y/N)__ Date Extracted: 12/18/99

Concentrated Extract Volume: 500(uL) Date Analyzed: 01/10/00

Injection Volume: 2.0(uL) Dilution Factor: 1.00

GPC Cleanup: (Y/N) Y pH: 7.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
51-28-5	2,4-Dinitrophenol	840	U
100-02-7	4-Nitrophenol	840	U
132-64-9	Dibenzofuran	330	U
121-14-2	2,4-Dinitrotoluene	330	U
84-66-2	Diethylphthalate	330	U
7005-72-3	4-Chlorophenyl-phenylether	330	U
86-73-7	Fluorene	330	U
100-01-6	4-Nitroaniline	840	U
534-52-1	4,6-Dinitro-2-methylphenol	840	U
86-30-6	N-Nitrosodiphenylamine (1)	330	U
101-55-3	4-Bromophenyl-phenylether	330	U
118-74-1	Hexachlorobenzene	330	U
87-86-5	Pentachlorophenol	840	U
85-01-8	Phenanthrene	330	U
120-12-7	Anthracene	330	U
86-74-8	Carbazole	330	U
84-74-2	Di-n-butylphthalate	69	J
206-44-0	Fluoranthene	330	U
129-00-0	Pyrene	330	U
85-68-7	Butylbenzylphthalate	330	U
91-94-1	3,3'-Dichlorobenzidine	330	U
56-55-3	Benzo(a)anthracene	330	U
218-01-9	Chrysene	330	U
117-81-7	bis(2-Ethylhexyl)phthalate	28	J
117-84-0	Di-n-octyl phthalate	330	U
205-99-2	Benzo(b)fluoranthene	330	U
207-08-9	Benzo(k)fluoranthene	330	U
50-32-8	Benzo(a)pyrene	330	U
193-39-5	Indeno(1,2,3-cd)pyrene	330	U
53-70-3	Dibenz(a,h)anthracene	330	U
191-24-2	Benzo(g,h,i)perylene	330	U

(1) - Cannot be separated from Diphenylamine

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

SBLKJD

Lab Name: Recra.LabNet Contract: 01667600001

Lab Code: Recra Case No.: _____ SAS No.: _____ SDG No.: _____

Matrix: (soil/water) SOIL Lab Sample ID: 99LE1535-MB1

Sample wt/vol: 30.0 (g/mL) G Lab File ID: D011013

Level: (low/med) LOW Date Received: 12/18/99

% Moisture: _____ decanted: (Y/N)__ Date Extracted: 12/18/99

Concentrated Extract Volume: 500(uL) Date Analyzed: 01/10/00

Injection Volume: 2.0(uL) Dilution Factor: 1.00

GPC Cleanup: (Y/N) Y pH: 7.0

Number TICs found: 5 CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.		UNKNOWN	20.29	100	J
2.		UNKNOWN	20.34	200	J
3.		UNKNOWN	21.69	80	J
4.		UNKNOWN	22.86	80	J
5.		UNKNOWN	23.27	100	J

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

SBLKJDMS

Lab Name: Recra.LabNet Contract: 01667600001

Lab Code: Recra Case No.: _____ SAS No.: _____ SDG No.: _____

Matrix: (soil/water) SOIL Lab Sample ID: 99LE1535-MB1 BS

Sample wt/vol: 30.0 (g/mL) G Lab File ID: D011014

Level: (low/med) LOW Date Received: 12/18/99

% Moisture: _____ decanted: (Y/N)__ Date Extracted: 12/18/99

Concentrated Extract Volume: 500(uL) Date Analyzed: 01/10/00

Injection Volume: 2.0(uL) Dilution Factor: 1.00

GPC Cleanup: (Y/N) Y pH: 7.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
108-95-2	Phenol	2800	Z
111-44-4	bis(2-Chloroethyl)ether	330	U
95-57-8	2-Chlorophenol	2600	Z
541-73-1	1,3-Dichlorobenzene	330	U
106-46-7	1,4-Dichlorobenzene	1600	Z
95-50-1	1,2-Dichlorobenzene	330	U
95-48-7	2-Methylphenol	330	U
108-60-1	2,2'-oxybis(1-Chloropropane)	330	U
106-44-5	4-Methylphenol	330	U
621-64-7	N-Nitroso-di-n-propylamine	1600	Z
67-72-1	Hexachloroethane	330	U
98-95-3	Nitrobenzene	330	U
78-59-1	Isophorone	330	U
88-75-5	2-Nitrophenol	330	U
105-67-9	2,4-Dimethylphenol	330	U
111-91-1	bis(2-Chloroethoxy)methane	330	U
120-83-2	2,4-Dichlorophenol	330	U
120-82-1	1,2,4-Trichlorobenzene	1700	Z
91-20-3	Naphthalene	330	U
106-47-8	4-Chloroaniline	330	U
87-68-3	Hexachlorobutadiene	330	U
59-50-7	4-Chloro-3-methylphenol	2600	Z
91-57-6	2-Methylnaphthalene	330	U
77-47-4	Hexachlorocyclopentadiene	330	U
88-06-2	2,4,6-Trichlorophenol	330	U
95-95-4	2,4,5-Trichlorophenol	840	U
91-58-7	2-Chloronaphthalene	330	U
88-74-4	2-Nitroaniline	840	U
131-11-3	Dimethylphthalate	330	U
208-96-8	Acenaphthylene	330	U
606-20-2	2,6-Dinitrotoluene	330	U
99-09-2	3-Nitroaniline	840	U
83-32-9	Acenaphthene	1700	Z

Z: SPIKE COMPOUND

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

SBLKJDMS

Lab Name: Recra.LabNet Contract: 01667600001

Lab Code: Recra Case No.: _____ SAS No.: _____ SDG No.: _____

Matrix: (soil/water) SOIL Lab Sample ID: 99LE1535-MB1 BS

Sample wt/vol: 30.0 (g/mL) G Lab File ID: D011014

Level: (low/med) LOW Date Received: 12/18/99

% Moisture: _____ decanted: (Y/N)__ Date Extracted: 12/18/99

Concentrated Extract Volume: 500(uL) Date Analyzed: 01/10/00

Injection Volume: 2.0(uL) Dilution Factor: 1.00

GPC Cleanup: (Y/N) Y pH: 7.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
51-28-5	2,4-Dinitrophenol	840	U
100-02-7	4-Nitrophenol	2700	Z
132-64-9	Dibenzofuran	330	U
121-14-2	2,4-Dinitrotoluene	1700	Z
84-66-2	Diethylphthalate	330	U
7005-72-3	4-Chlorophenyl-phenylether	330	U
86-73-7	Fluorene	330	U
100-01-6	4-Nitroaniline	840	U
534-52-1	4,6-Dinitro-2-methylphenol	840	U
86-30-6	N-Nitrosodiphenylamine (1)	330	U
101-55-3	4-Bromophenyl-phenylether	330	U
118-74-1	Hexachlorobenzene	330	U
87-86-5	Pentachlorophenol	3600	Z
85-01-8	Phenanthrene	330	U
120-12-7	Anthracene	330	U
86-74-8	Carbazole	330	U
84-74-2	Di-n-butylphthalate	18	JB
206-44-0	Fluoranthene	330	U
129-00-0	Pyrene	2200	Z
85-68-7	Butylbenzylphthalate	330	U
91-94-1	3,3'-Dichlorobenzidine	330	U
56-55-3	Benzo(a)anthracene	330	U
218-01-9	Chrysene	330	U
117-81-7	bis(2-Ethylhexyl)phthalate	110	JB
117-84-0	Di-n-octyl phthalate	330	U
205-99-2	Benzo(b)fluoranthene	330	U
207-08-9	Benzo(k)fluoranthene	330	U
50-32-8	Benzo(a)pyrene	330	U
193-39-5	Indeno(1,2,3-cd)pyrene	330	U
53-70-3	Dibenz(a,h)anthracene	330	U
191-24-2	Benzo(g,h,i)perylene	330	U

(1) - Cannot be separated from Diphenylamine

Z: SPIKE COMPOUND

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

SH899-12206-B70607MS

Lab Name: Recra.LabNet Contract: 01667600001

Lab Code: Recra Case No.: _____ SAS No.: _____ SDG No.: _____

Matrix: (soil/water) SOIL Lab Sample ID: 9912L959-007 MS

Sample wt/vol: 30.7 (g/mL) G Lab File ID: D011212

Level: (low/med) LOW Date Received: 12/08/99

% Moisture: 33 decanted: (Y/N)__ Date Extracted: 12/18/99

Concentrated Extract Volume: 500(uL) Date Analyzed: 01/12/00

Injection Volume: 2.0(uL) Dilution Factor: 10.0

GPC Cleanup: (Y/N) Y pH: 8.3

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
108-95-2	Phenol	3300	Z
111-44-4	bis(2-Chloroethyl)ether	4900	U
95-57-8	2-Chlorophenol	3300	Z
541-73-1	1,3-Dichlorobenzene	4900	U
106-46-7	1,4-Dichlorobenzene	2100	Z
95-50-1	1,2-Dichlorobenzene	4900	U
95-48-7	2-Methylphenol	4900	U
108-60-1	2,2'-oxybis(1-Chloropropane)	4900	U
106-44-5	4-Methylphenol	4900	U
621-64-7	N-Nitroso-di-n-propylamine	2200	Z
67-72-1	Hexachloroethane	4900	U
98-95-3	Nitrobenzene	4900	U
78-59-1	Isophorone	4900	U
88-75-5	2-Nitrophenol	4900	U
105-67-9	2,4-Dimethylphenol	4900	U
111-91-1	bis(2-Chloroethoxy)methane	4900	U
120-83-2	2,4-Dichlorophenol	4900	U
120-82-1	1,2,4-Trichlorobenzene	2100	Z
91-20-3	Naphthalene	330	J
106-47-8	4-Chloroaniline	4900	U
87-68-3	Hexachlorobutadiene	4900	U
59-50-7	4-Chloro-3-methylphenol	3400	Z
91-57-6	2-Methylnaphthalene	310	J
77-47-4	Hexachlorocyclopentadiene	4900	U
88-06-2	2,4,6-Trichlorophenol	4900	U
95-95-4	2,4,5-Trichlorophenol	12000	U
91-58-7	2-Chloronaphthalene	4900	U
88-74-4	2-Nitroaniline	12000	U
131-11-3	Dimethylphthalate	4900	U
208-96-8	Acenaphthylene	370	J
606-20-2	2,6-Dinitrotoluene	4900	U
99-09-2	3-Nitroaniline	12000	U
83-32-9	Acenaphthene	2600	Z

Z: SPIKE COMPOUND

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

SH899-12206-B70607MS

Lab Name: Recra.LabNet Contract: 01667600001

Lab Code: Recra Case No.: _____ SAS No.: _____ SDG No.: _____

Matrix: (soil/water) SOIL Lab Sample ID: 9912L959-007 MS

Sample wt/vol: 30.7 (g/mL) G Lab File ID: D011212

Level: (low/med) LOW Date Received: 12/08/99

% Moisture: 33 decanted: (Y/N)__ Date Extracted: 12/18/99

Concentrated Extract Volume: 500(uL) Date Analyzed: 01/12/00

Injection Volume: 2.0(uL) Dilution Factor: 10.0

GPC Cleanup: (Y/N) Y pH: 8.3

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
51-28-5	2,4-Dinitrophenol	12000	U
100-02-7	4-Nitrophenol	2200	Z
132-64-9	Dibenzofuran	320	J
121-14-2	2,4-Dinitrotoluene	1900	Z
84-66-2	Diethylphthalate	4900	U
7005-72-3	4-Chlorophenyl-phenylether	4900	U
86-73-7	Fluorene	4900	U
100-01-6	4-Nitroaniline	12000	U
534-52-1	4,6-Dinitro-2-methylphenol	12000	U
86-30-6	N-Nitrosodiphenylamine (1)	4900	U
101-55-3	4-Bromophenyl-phenylether	4900	U
118-74-1	Hexachlorobenzene	4900	U
87-86-5	Pentachlorophenol	2600	Z
85-01-8	Phenanthrene	6800	
120-12-7	Anthracene	820	J
86-74-8	Carbazole	470	J
84-74-2	Di-n-butylphthalate	4900	U
206-44-0	Fluoranthene	12000	
129-00-0	Pyrene	14000	Z
85-68-7	Butylbenzylphthalate	4900	U
91-94-1	3,3'-Dichlorobenzidine	4900	U
56-55-3	Benzo(a)anthracene	4700	J
218-01-9	Chrysene	6500	
117-81-7	bis(2-Ethylhexyl)phthalate	4900	U
117-84-0	Di-n-octyl phthalate	4900	U
205-99-2	Benzo(b)fluoranthene	4500	J
207-08-9	Benzo(k)fluoranthene	4100	J
50-32-8	Benzo(a)pyrene	4700	J
193-39-5	Indeno(1,2,3-cd)pyrene	2700	J
53-70-3	Dibenz(a,h)anthracene	910	J
191-24-2	Benzo(g,h,i)perylene	3200	J

(1) - Cannot be separated from Diphenylamine

Z: SPIKE COMPOUND

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

SH899-12206-B70607MSD

Lab Name: Recra.LabNet Contract: 01667600001

Lab Code: Recra Case No.: _____ SAS No.: _____ SDG No.: _____

Matrix: (soil/water) SOIL Lab Sample ID: 9912L959-007 MSD

Sample wt/vol: 30.0 (g/mL) G Lab File ID: D011213

Level: (low/med) LOW Date Received: 12/08/99

% Moisture: 33 decanted: (Y/N)__ Date Extracted: 12/18/99

Concentrated Extract Volume: 500(uL) Date Analyzed: 01/12/00

Injection Volume: 2.0(uL) Dilution Factor: 10.0

GPC Cleanup: (Y/N) Y pH: 8.3

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
108-95-2	Phenol	3200	Z
111-44-4	bis(2-Chloroethyl)ether	5000	U
95-57-8	2-Chlorophenol	3400	Z
541-73-1	1,3-Dichlorobenzene	5000	U
106-46-7	1,4-Dichlorobenzene	2100	Z
95-50-1	1,2-Dichlorobenzene	5000	U
95-48-7	2-Methylphenol	5000	U
108-60-1	2,2'-oxybis(1-Chloropropane)	5000	U
106-44-5	4-Methylphenol	5000	U
621-64-7	N-Nitroso-di-n-propylamine	2000	Z
67-72-1	Hexachloroethane	5000	U
98-95-3	Nitrobenzene	5000	U
78-59-1	Isophorone	5000	U
88-75-5	2-Nitrophenol	5000	U
105-67-9	2,4-Dimethylphenol	5000	U
111-91-1	bis(2-Chloroethoxy)methane	5000	U
120-83-2	2,4-Dichlorophenol	5000	U
120-82-1	1,2,4-Trichlorobenzene	2300	Z
91-20-3	Naphthalene	460	J
106-47-8	4-Chloroaniline	5000	U
87-68-3	Hexachlorobutadiene	5000	U
59-50-7	4-Chloro-3-methylphenol	3100	Z
91-57-6	2-Methylnaphthalene	480	J
77-47-4	Hexachlorocyclopentadiene	5000	U
88-06-2	2,4,6-Trichlorophenol	5000	U
95-95-4	2,4,5-Trichlorophenol	12000	U
91-58-7	2-Chloronaphthalene	5000	U
88-74-4	2-Nitroaniline	12000	U
131-11-3	Dimethylphthalate	5000	U
208-96-8	Acenaphthylene	970	J
606-20-2	2,6-Dinitrotoluene	5000	U
99-09-2	3-Nitroaniline	12000	U
83-32-9	Acenaphthene	2800	Z

Z: SPIKE COMPOUND

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

SH899-12206-B70607MSD

Lab Name: Recra.LabNet Contract: 01667600001

Lab Code: Recra Case No.: _____ SAS No.: _____ SDG No.: _____

Matrix: (soil/water) SOIL Lab Sample ID: 9912L959-007 MSD

Sample wt/vol: 30.0 (g/mL) G Lab File ID: D011213

Level: (low/med) LOW Date Received: 12/08/99

% Moisture: 33 decanted: (Y/N)__ Date Extracted: 12/18/99

Concentrated Extract Volume: 500(uL) Date Analyzed: 01/12/00

Injection Volume: 2.0(uL) Dilution Factor: 10.0

GPC Cleanup: (Y/N) Y pH: 8.3

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
51-28-5	2,4-Dinitrophenol	12000	U
100-02-7	4-Nitrophenol	2500	Z
132-64-9	Dibenzofuran	770	J
121-14-2	2,4-Dinitrotoluene	2100	Z
84-66-2	Diethylphthalate	5000	U
7005-72-3	4-Chlorophenyl-phenylether	5000	U
86-73-7	Fluorene	800	J
100-01-6	4-Nitroaniline	12000	U
534-52-1	4,6-Dinitro-2-methylphenol	12000	U
86-30-6	N-Nitrosodiphenylamine (1)	5000	U
101-55-3	4-Bromophenyl-phenylether	5000	U
118-74-1	Hexachlorobenzene	5000	U
87-86-5	Pentachlorophenol	2500	Z
85-01-8	Phenanthrene	25000	
120-12-7	Anthracene	3000	J
86-74-8	Carbazole	1200	J
84-74-2	Di-n-butylphthalate	5000	U
206-44-0	Fluoranthene	42000	E
129-00-0	Pyrene	39000	Z
85-68-7	Butylbenzylphthalate	5000	U
91-94-1	3,3'-Dichlorobenzidine	5000	U
56-55-3	Benzo(a)anthracene	12000	
218-01-9	Chrysene	16000	
117-81-7	bis(2-Ethylhexyl)phthalate	5000	U
117-84-0	Di-n-octyl phthalate	5000	U
205-99-2	Benzo(b)fluoranthene	10000	
207-08-9	Benzo(k)fluoranthene	10000	
50-32-8	Benzo(a)pyrene	12000	
193-39-5	Indeno(1,2,3-cd)pyrene	6400	
53-70-3	Dibenz(a,h)anthracene	2300	J
191-24-2	Benzo(g,h,i)perylene	7000	

(1) - Cannot be separated from Diphenylamine

Z: SPIKE COMPOUND FORM 1 SV-2 RFW (v3.3)

CASE NARRATIVE

Recra LabNet Philadelphia
Analytical Report

Client: NYSDEC
RFW#: 9912L959
ELAP#: 10752

W.O.#: 01667-600-001-9999-00
Date Received: 12-08-99

PESTICIDE/PCB

The set of samples consisted of eleven (11) soil samples collected on 12-06-99.

The samples and their associated QC samples were extracted on 12-18-99 and analyzed on 01-15,19,20-00 according to criteria set forth in NYSDEC 1995 ASP for Pesticide and PCB target compounds.

The following is a summary of the QC results accompanying the sample results and a description of any problems encountered during their analyses:

1. Linearity and breakdown criteria were met for each of the analytical columns.

2. Retention time criteria were met for all compounds on both analytical columns.

3. Resolution of all pesticides in the Resolution Check Standard were within EPA QC limits.

4. The RPDs of the pesticides in the Individual Mixes analyzed for calibration verification were within 25% for both analytical columns.

5. The RPDs of the pesticides in the Performance Evaluation Mixes analyzed for calibration verification were within 25% for both analytical columns.

6. All obtainable surrogate recoveries were within the advisory EPA QC limits.

7. All blank spike recoveries were within EPA QC limits.

8. Matrix spike recoveries were unobtainable due to the dilution required for analysis.

9. Recoveries of pesticides for the Florisil Cartridge Check were within EPA QC limits.

10. Recoveries of pesticides for the GPC Calibration Check were within EPA QC limits.

by _____ 02-07-02

J. Michael Taylor
Vice President
Philadelphia Analytical Laboratory

Date

pet\r:\group\data\pest\12L-959.pes

GLOSSARY OF PESTICIDE/PCB DATA

DATA QUALIFIERS

U = Indicates that the compound was analyzed for but not detected. The minimum detection limit for the sample (not the method detection limit) is reported with the U (e.g., 10U).

J = Indicates an estimated value. This flag is used in cases where a target analyte is detected at a level less than the lower quantification level. If the limit of quantification 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.

E = Indicates that the compound was detected beyond the calibration range and was subsequently analyzed at a dilution.

I = Interference.

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 recoveries were not obtained because the extract had to be diluted for analysis.

NA = Not Applicable.

DF = Dilution Factor.

NR = Not Required.

SP = Indicates Spiked Compound.

GLOSSARY OF PESTICIDE/PCB DATA

P = This flag is used for a pesticide/Aroclor target analyte when there is greater than 25% difference for detected concentrations between the two GC columns (see Form X). The lower of the two values is reported on Form I and flagged with a "P".

D = This flag identifies all compounds identified in an analysis at a secondary dilution factor.

C = This flag applies to a compound that has been confirmed by GC/MS.

RECRA LabNet Use Only
99120959

Custody Transfer Record/Lab Work Request

FIELD PERSONNEL: COMPLETE ONLY SHADED AREAS

(8) ALL

RECRA LabNet

Client: Nysdec
Est. Final Proj. Sampling Date:
Project #: 01667-600-001-9999-00
Project Contact/Phone #:
RECRA Project Manager: JS
QC: Clp Del: Clp TAT: 30 day
Date Rec'd: 12/8/99 Date Due: 1/7/99
Account #:

	VOA	BNA	Pest/PCB	Herb				Metal	CN						
Refrigerator #	1	3	3					3	3	3					
#/Type Container – Liquid															
#/Type Container – Solid	1g	1g	→					1g	→	→					
Volume – Liquid															
Volume – Solid	125	250	→					125	→	→					
Preservatives															
RECRA LabNet Use Only	OLM4C	OLM5C	OLM8C					MHSLTO	1CNTO	1TCLV					

MATRIX CODES: S - Soil; SE - Sediment; SO - Solid; SL - Sludge; W - Water; O - Oil; A - Air; DS - Drum Solids; DL - Drum Liquids; L - EP/TCLP Leachate; WI - Wipe; X - Other; F - Fish

Lab ID	Client ID/Description	MS	MSD	Matrix	Date Collected	Time Collected	VOA	BNA	Pest/PCB	Metal	CN		Notes
~~001~~	12206 ~~SH899-10707-B706~~ 01	12/8/99		S	12/10/99	1000	✓	✓	✓	✓	✓	✓	JS 12/8/99
2	02					1007						✓	
3	03					1110							
4	04					1150							
5	05					1220							
6	06					1325							
7	07	X	X			1430							(3X volume)
8	10					1620							
9	12207 11					0915							
010	12207 12					1016							

Special Instructions:

DATE/REVISIONS:
1. 12/10/99 1&2 relogged to batch
2. 99120973 - 99PM292
3.
4.
5.
6.

Relinquished by	Received by	Date	Time
UPS	Jameson	12/8/99	0930

Relinquished by	Received by	Date	Time
	ORIGINAL		
	REWRITTEN		

Discrepancies Between Samples Labels and COC Record? Y or (N)
NOTES:
*N216347795 6

RECRA LabNet Use Only
Samples were:
1) Shipped ✓ or Hand Delivered
Airbill # *
2) Ambient or (Chilled)
3) Received in Good Condition (Y) or N
4) Labels Indicate Properly Preserved (Y) or N
5) Received Within Holding Times (Y) or N

COC Tape was:
1) Present on Outer Package (Y) or N
2) Unbroken on Outer Package (Y) or N
3) Present on Sample Y or (N)
4) Unbroken on Sample Y or (N)
COC Record Present Upon Sample Rec't (Y) or N
Cooler Temp. 5.4 °C

RECRA LabNet Use Only
9912L959

Custody Transfer Record/Lab Work Request

Page 2 of 2

RECRA LabNet

FIELD PERSONNEL: COMPLETE ONLY SHADED AREAS

Client: Nysdec
Est. Final Proj. Sampling Date:
Project #:
Project Contact/Phone #:
RECRA Project Manager:
QC: Del: TAT:
Date Rec'd: Date Due:
Account #:

Refrigerator #		1	3	3					3	3													
#/Type Container	Liquid																						
	Solid	1g	1g	1					1g	1													
Volume	Liquid																						
	Solid	125	250	1					125	1													
Preservatives																							
ANALYSES REQUESTED →		ORGANIC							INORG														
		VOA	BNA	Pest/PCB	Herb				Metal	CN													
		↓ RECRA LabNet Use Only ↓																					

MATRIX CODES: S - Soil, SE - Sediment, SO - Solid, SL - Sludge, W - Water, O - Oil, A - Air, DS - Drum Solids, DL - Drum Liquids, L - EP/TCLP Leachate, WI - Wipe, X - Other, F - Fish	Lab ID	Client ID/Description (12207)	Matrix QC Chosen (✓) MS	MSD	Matrix	Date Collected	Time Collected																	
								8124C	8260C	8270C		8082A			MHSL70	10N70								
	11	SH899-~~12707~~-B70613			S	12/6/99	0930	✓	✓	✓					✓	✓								
	12	↓ 14			↓	↓	0940	✓	✓	✓					✓	✓								
	13	↓ 15			↓	↓	1020	✓	✓	✓					✓	✓								
	14	Nysdec-fridge blank			W	12/8/99	1300	✓																
	15	SH899-12707-B70601 telvlar001			L	*	-					✓												
	16	↓ 02	↓	2	L	↓	-					✓												

12/9/99

Special Instructions:

DATE/REVISIONS:

1. * See labchron
2.
3.
4.
5.
6.

RECRA LabNet Use Only

Samples were: 1) Shipped ___ or Hand Delivered ___
Airbill # ___
2) Ambient or Chilled
3) Received In Good Condition Y or N
4) Labels Indicate Properly Preserved Y or N
5) Received Within Holding Times Y or N

COC Tape was: 1) Present on Outer Package Y or N
2) Unbroken on Outer Package Y or N
3) Present on Sample Y or N (1)
4) Unbroken on Sample Y or N
COC Record Present Upon Sample Rec't Y or N
Cooler Temp. ___ °C

Discrepancies Between Samples Labels and COC Record? Y or N
NOTES:

Relinquished by	Received by	Date	Time
UPS	Johnson	12/8/99	0930

Relinquished by	Received by	Date	Time

RECRA LabNet Use Only

9712L959

Custody Transfer Record/Lab Work Request

Page 1 of 2

FIELD PERSONNEL: COMPLETE ONLY SHADED AREAS

RECRA LabNet

Client: NYSDEC

Est. Final Proj. Sampling Date:

Project #: Vacuum Oil B706

Project Contact/Phone #: FRANK SOWERS 716 226-5357

RECRA Project Manager:

QC: Del: TAT:

Date Rec'd: Date Due:

Account #:

Refrigerator #:

#/Type Container: Liquid / Solid

Volume: Liquid / Solid

Preservatives:

ANALYSES REQUESTED → ORGANIC: VOA, BNA, Pest/PCB, Herb; INORG: Metal, CN

MATRIX CODES: S - Soil; SE - Sediment; SO - Solid; SL - Sludge; W - Water; O - Oil; A - Air; DS - Drum Solids; DL - Drum Liquids; L - EP/TCLP Leachate; WI - Wipe; X - Other; F - Fish

RECRA LabNet Use Only

Lab ID	Client ID/Description	Matrix QC Chosen (✓) MS	MSD	Matrix	Date Collected	Time Collected	95-1	95-2	95-3	[illegible]	TCLP	TAL metals	
	01			S	12/6/92	1000	X	X	X		X	X	X
	02			S	"	1007	X	X	X		X	X	X
	03			S	"	1110	X	X	X			X	X
	04			S	"	1150	X	X	X			X	X
	05			S	"	1224	X	X	X			X	X
	06			S	"	1325	X	X	X			X	X
	07			S	"	1430	X	X	X			X	X
	08	X		S	"	1430	X	X	X			X	X
	09		X	S	"	1430	X	X	X			X	X
	10			S	"	1620	X	X	X			X	X

Special Instructions:

TCLP - Please do TCLP analysis for VOAs only if there is enough sample.

(2) Please Fax results for 01 & 02 within 5 days. Fax # 716.226.8696

DATE/REVISIONS:

1.
2. 2SD
3. 2/125
4.
5.
6.

original

Relinquished by	Received by	Date	Time
		12/7/92	1411

Relinquished	Received	Date	Time

N216 347 795 6

Discrepancies Between Samples Labels and COC Record? Y or N

NOTES:

RECRA LabNet Use Only

Samples were: 1) Shipped ___ or Hand Delivered ___

Airbill # ___

2) Ambient or Chilled

3) Received in Good Condition Y or N

4) Labels Indicate Properly Preserved Y or N

5) Received Within Holding Times Y or N

COC Tape was: 1) Present on Outer Package Y or N

2) Unbroken on Outer Package Y or N

3) Present on Sample Y or N

4) Unbroken on Sample Y or N

COC Record Present Upon Sample Rec't Y or N

Cooler Temp. 5.4 °C

RECRA LabNet Use Only

Custody Transfer Record/Lab Work Request

RECRA LabNet

FIELD PERSONNEL: COMPLETE ONLY SHADED AREAS

C2

Client NYSDEC

Est. Final Proj. Sampling Date

Project # Vacuum Oil B706

Project Contact/Phone # Frank Sowers 716.226.5357

RECRA Project Manager

QC Del TAT

Date Rec'd Date Due

Account #

Refrigerator #																							
#/Type Container	Liquid																						
	Solid																						
Volume	Liquid																						
	Solid																						
Preservatives																							
ANALYSES REQUESTED →		ORGANIC										INORG											
		VOA	BNA	Pest/ PCB	Herb							Metal	CN										
		↓ RECRA LabNet Use Only ↓																					
		95-1	95-2	95-3								TAL											

MATRIX CODES:
S - Soil
SE - Sediment
SO - Solid
SL - Sludge
W - Water
O - Oil
A - Air
DS - Drum Solids
DL - Drum Liquids
L - EP/TCLP Leachate
WI - Wipe
X - Other
F - Fish

Lab ID	Client ID/Description	Matrix QC Chosen (✓) MS	MSD	Matrix	Date Collected	Time Collected																	
	11	9		S	12/1/99	0915	X	X	X					X									
	12	10		S	12/1/99	1010	X	X	X					X									
	13	11		S	12/1/99	0930	X	X	X					X									
	14	12		S	12/1/99	0940	X	X	X					X									
	15	13		S	12/1/99	1020	X	X	X					X									
	~~16~~	14		W																			
		15																					

Special Instructions:

DATE/REVISIONS:

1. _____
2. _____
3. _____
4. _____
5. _____
6. _____

original

RECRA LabNet Use Only

Samples were:
1) Shipped ____ or Hand Delivered ____
Airbill # _____
2) Ambient or Chilled
3) Received in Good Condition Y or N
4) Labels Indicate Properly Preserved Y or N
5) Received Within Holding Times Y or N

COC Tape was:
1) Present on Outer Package Y or N
2) Unbroken on Outer Package Y or N
3) Present on Sample Y or N
4) Unbroken on Sample Y or N
COC Record Present Upon Sample Rec't Y or N
Cooler Temp. _____ °C

Discrepancies Between Samples Labels and COC Record? Y or N
NOTES:

Relinquished by	Received by	Date	Time
		12/1/99	1411

Relinquished by	Received by	Date	Time

3F

SOIL ORGANICS MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

Lab Name: Recra.LabNet Contract: 1667-00-01

Client : NYSDEC RFW Lot No.: 9912L959-007

MATRIX Spike - Sample No.: SH899-12206-B70607

COMPOUND	SPIKE ADDED UG/KG	SAMPLE CONCENTRATION UG/KG	MS CONCENTRATION UG/KG	MS % REC #	QC LIMITS REC.
gamma-BHC (Lindane)	24.9	0	14	D	46-127
Heptachlor	24.9	0	19	D	35-130
Aldrin	24.9	0	18	D	34-132
Dieldrin	49.8	0	37	D	31-134
Endrin	49.8	0	34	D	42-139
4,4'-DDT	49.8	0	36	D	23-134

COMPOUND	SPIKE ADDED UG/KG	MSD CONCENTRATION UG/KG	MSD % REC #	% RPD #	QC LIMITS RPD	QC LIMITS REC
gamma-BHC (Lindane)	24.0	12	D	0	50	46-127
Heptachlor	24.0	17	D	0	31	35-130
Aldrin	24.0	16	D	0	43	34-132
Dieldrin	48.0	34	D	0	38	31-134
Endrin	48.0	25	D	0	45	42-139
4,4'-DDT	48.0	32	D	0	50	23-134

Column to be used to flag recovery and RPD values with an asterisk

* Values outside of QC limits

RPD: 0 out of 6 outside limits
Spike Recovery: 0 out of 12 outside limits

COMMENTS:

3F

SOIL ORGANICS BLANK SPIKE RECOVERY

Lab Name: Recra.LabNet Contract: 1667-00-01

Client : NYSDEC RFW Lot No.: 99LE1534-MB1

BLANK Spike - Sample No.: PBLKCV

COMPOUND	SPIKE ADDED UG/KG	SAMPLE CONCENTRATION UG/KG	BS CONCENTRATION UG/KG	BS % REC #	QC LIMITS REC.
gamma-BHC (Lindane)	16.7	0	10	62	46-127
Heptachlor	16.7	0	11	64	35-130
Aldrin	16.7	0	11	66	34-132
Dieldrin	33.3	0	22	65	31-134
Endrin	33.3	0	24	72	42-139
4,4'-DDT	33.3	0	24	72	23-134

Column to be used to flag recovery value with an asterisk

* Values outside of QC limits

Spike Recovery: 0 out of 6 outside limits

COMMENTS:

1D

ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

SH899-12206-B70603

Lab Name: Recra.LabNet Work Order: 01667-600-001-9999-00

Client: NYSDEC

Matrix: (soil/water) SOIL Lab Sample ID: 9912L959-003

Sample wt/vol: 30.7 (g/mL) G Lab File ID: 01140011.50

% Moisture: 34 decanted: (Y/N) N Date Received: 12/08/99

Extraction: (SepF/Cont/Sonc) SONC Date Extracted: 12/18/99

Concentrated Extract Volume: 2000(uL) Date Analyzed: 01/19/00

Injection Volume: 0.5(uL) Dilution Factor: 20.0

GPC Cleanup: (Y/N) Y pH: 8.1 Sulfur Cleanup: (Y/N) N

CAS NO.	COMPOUND	CONCENTRATION UNITS: UG/KG	Q
319-84-6	Alpha-BHC	49	U
319-85-7	Beta-BHC	49	U
319-86-8	Delta-BHC	49	U
58-89-9	gamma-BHC (Lindane)	49	U
76-44-8	Heptachlor	49	U
309-00-2	Aldrin	49	U
1024-57-3	Heptachlor epoxide	49	U
959-98-8	Endosulfan I	49	U
60-57-1	Dieldrin	99	U
72-55-9	4,4'-DDE	99	U
72-20-8	Endrin	99	U
33213-65-9	Endosulfan II	99	U
72-54-8	4,4'-DDD	99	U
1031-07-8	Endosulfan sulfate	99	U
50-29-3	4,4'-DDT	99	U
72-43-5	Methoxychlor	490	U
53494-70-5	Endrin ketone	99	U
7421-93-4	Endrin aldehyde	99	U
5103-71-9	alpha-Chlordane	49	U
5103-74-2	gamma-Chlordane	49	U
8001-35-2	Toxaphene	4900	U
12674-11-2	Aroclor-1016	990	U
11104-28-2	Aroclor-1221	2000	U
11141-16-5	Aroclor-1232	990	U
53469-21-9	Aroclor-1242	990	U
12672-29-6	Aroclor-1248	990	U
11097-69-1	Aroclor-1254	990	U
11096-82-5	Aroclor-1260	990	U

FORM 1 ORG V4.3

1D

ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

SH899-12206-B70604

Lab Name: Recra.LabNet Work Order: 01667-600-001-9999-00

Client: NYSDEC

Matrix: (soil/water) SOIL Lab Sample ID: 9912L959-004

Sample wt/vol: 30.1 (g/mL) G Lab File ID: 01140011.51

% Moisture: 33 decanted: (Y/N) N Date Received: 12/08/99

Extraction: (SepF/Cont/Sonc) SONC Date Extracted: 12/18/99

Concentrated Extract Volume: 2000(uL) Date Analyzed: 01/19/00

Injection Volume: 0.5(uL) Dilution Factor: 2.00

GPC Cleanup: (Y/N) Y pH: 8.3 Sulfur Cleanup: (Y/N) N

CAS NO.	COMPOUND	CONCENTRATION UNITS: UG/KG	Q
319-84-6	Alpha-BHC	5.0	U
319-85-7	Beta-BHC	5.0	U
319-86-8	Delta-BHC	5.0	U
58-89-9	gamma-BHC (Lindane)	5.0	U
76-44-8	Heptachlor	5.0	U
309-00-2	Aldrin	5.0	U
1024-57-3	Heptachlor epoxide	5.0	U
959-98-8	Endosulfan I	5.0	U
60-57-1	Dieldrin	9.9	U
72-55-9	4,4'-DDE	9.9	U
72-20-8	Endrin	9.9	U
33213-65-9	Endosulfan II	9.9	U
72-54-8	4,4'-DDD	9.9	U
1031-07-8	Endosulfan sulfate	9.9	U
50-29-3	4,4'-DDT	9.9	U
72-43-5	Methoxychlor	50	U
53494-70-5	Endrin ketone	9.9	U
7421-93-4	Endrin aldehyde	9.9	U
5103-71-9	alpha-Chlordane	5.0	U
5103-74-2	gamma-Chlordane	5.0	U
8001-35-2	Toxaphene	500	U
12674-11-2	Aroclor-1016	99	U
11104-28-2	Aroclor-1221	200	U
11141-16-5	Aroclor-1232	99	U
53469-21-9	Aroclor-1242	99	U
12672-29-6	Aroclor-1248	99	U
11097-69-1	Aroclor-1254	99	U
11096-82-5	Aroclor-1260	99	U

1D

ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

SH899-12206-B70605

Lab Name: Recra.LabNet Work Order: 01667-600-001-9999-00

Client: NYSDEC

Matrix: (soil/water) SOIL Lab Sample ID: 9912L959-005

Sample wt/vol: 30.1 (g/mL) G Lab File ID: 01140011.63

% Moisture: 11 decanted: (Y/N) N Date Received: 12/08/99

Extraction: (SepF/Cont/Sonc) SONC Date Extracted: 12/18/99

Concentrated Extract Volume: 2000(uL) Date Analyzed: 01/20/00

Injection Volume: 0.5(uL) Dilution Factor: 1.00

GPC Cleanup: (Y/N) Y pH: 8.4 Sulfur Cleanup: (Y/N) N

CAS NO.	COMPOUND	CONCENTRATION UNITS: UG/KG	Q
319-84-6	Alpha-BHC	1.9	U
319-85-7	Beta-BHC	1.9	U
319-86-8	Delta-BHC	1.9	U
58-89-9	gamma-BHC (Lindane)	1.9	U
76-44-8	Heptachlor	1.9	U
309-00-2	Aldrin	1.9	U
1024-57-3	Heptachlor epoxide	1.9	U
959-98-8	Endosulfan I	1.9	U
60-57-1	Dieldrin	3.7	U
72-55-9	4,4'-DDE	3.7	U
72-20-8	Endrin	3.7	U
33213-65-9	Endosulfan II	3.7	U
72-54-8	4,4'-DDD	3.7	U
1031-07-8	Endosulfan sulfate	3.7	U
50-29-3	4,4'-DDT	3.7	U
72-43-5	Methoxychlor	19	U
53494-70-5	Endrin ketone	3.7	U
7421-93-4	Endrin aldehyde	3.7	U
5103-71-9	alpha-Chlordane	1.9	U
5103-74-2	gamma-Chlordane	1.9	U
8001-35-2	Toxaphene	190	U
12674-11-2	Aroclor-1016	37	U
11104-28-2	Aroclor-1221	75	U
11141-16-5	Aroclor-1232	37	U
53469-21-9	Aroclor-1242	37	U
12672-29-6	Aroclor-1248	37	U
11097-69-1	Aroclor-1254	37	U
11096-82-5	Aroclor-1260	37	U

1D

ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

SH899-12206-B70606

Lab Name: Recra.LabNet Work Order: 01667-600-001-9999-00

Client: NYSDEC

Matrix: (soil/water) SOIL Lab Sample ID: 9912L959-006

Sample wt/vol: 30.1 (g/mL) G Lab File ID: 01140011.52

% Moisture: 28 decanted: (Y/N) N Date Received: 12/08/99

Extraction: (SepF/Cont/Sonc) SONC Date Extracted: 12/18/99

Concentrated Extract Volume: 2000(uL) Date Analyzed: 01/19/00

Injection Volume: 0.5(uL) Dilution Factor: 5.00

GPC Cleanup: (Y/N) Y pH: 7.9 Sulfur Cleanup: (Y/N) N

CAS NO.	COMPOUND	CONCENTRATION UNITS: UG/KG	Q
319-84-6	Alpha-BHC	12	U
319-85-7	Beta-BHC	12	U
319-86-8	Delta-BHC	12	U
58-89-9	gamma-BHC (Lindane)	12	U
76-44-8	Heptachlor	12	U
309-00-2	Aldrin	12	U
1024-57-3	Heptachlor epoxide	12	U
959-98-8	Endosulfan I	12	U
60-57-1	Dieldrin	23	U
72-55-9	4,4'-DDE	23	U
72-20-8	Endrin	23	U
33213-65-9	Endosulfan II	23	U
72-54-8	4,4'-DDD	23	U
1031-07-8	Endosulfan sulfate	23	U
50-29-3	4,4'-DDT	23	U
72-43-5	Methoxychlor	120	U
53494-70-5	Endrin ketone	23	U
7421-93-4	Endrin aldehyde	23	U
5103-71-9	alpha-Chlordane	12	U
5103-74-2	gamma-Chlordane	12	U
8001-35-2	Toxaphene	1200	U
12674-11-2	Aroclor-1016	230	U
11104-28-2	Aroclor-1221	460	U
11141-16-5	Aroclor-1232	230	U
53469-21-9	Aroclor-1242	230	U
12672-29-6	Aroclor-1248	230	U
11097-69-1	Aroclor-1254	230	U
11096-82-5	Aroclor-1260	230	U

ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

SH899-12206-B70607

Lab Name: Recra.LabNet Work Order: 01667-600-001-9999-00

Client: NYSDEC

Matrix: (soil/water) SOIL Lab Sample ID: 9912L959-007

Sample wt/vol: 30.0 (g/mL) G Lab File ID: 01140011.53

% Moisture: 33 decanted: (Y/N) N Date Received: 12/08/99

Extraction: (SepF/Cont/Sonc) SONC Date Extracted: 12/18/99

Concentrated Extract Volume: 2000 (uL) Date Analyzed: 01/19/00

Injection Volume: 0.5 (uL) Dilution Factor: 5.00

GPC Cleanup: (Y/N) Y pH: 8.3 Sulfur Cleanup: (Y/N) N

CAS NO.	COMPOUND	CONCENTRATION UNITS: UG/KG	Q
319-84-6	Alpha-BHC	12	U
319-85-7	Beta-BHC	12	U
319-86-8	Delta-BHC	12	U
58-89-9	gamma-BHC (Lindane)	12	U
76-44-8	Heptachlor	12	U
309-00-2	Aldrin	12	U
1024-57-3	Heptachlor epoxide	12	U
959-98-8	Endosulfan I	12	U
60-57-1	Dieldrin	25	U
72-55-9	4,4'-DDE	25	U
72-20-8	Endrin	25	U
33213-65-9	Endosulfan II	25	U
72-54-8	4,4'-DDD	25	U
1031-07-8	Endosulfan sulfate	25	U
50-29-3	4,4'-DDT	25	U
72-43-5	Methoxychlor	120	U
53494-70-5	Endrin ketone	25	U
7421-93-4	Endrin aldehyde	25	U
5103-71-9	alpha-Chlordane	12	U
5103-74-2	gamma-Chlordane	12	U
8001-35-2	Toxaphene	1200	U
12674-11-2	Aroclor-1016	250	U
11104-28-2	Aroclor-1221	500	U
11141-16-5	Aroclor-1232	250	U
53469-21-9	Aroclor-1242	250	U
12672-29-6	Aroclor-1248	250	U
11097-69-1	Aroclor-1254	250	U
11096-82-5	Aroclor-1260	250	U

02-02-00

1D

ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

SH899-12206-B70610

Lab Name: Recra.LabNet Work Order: 01667-600-001-9999-00

Client: NYSDEC

Matrix: (soil/water) SOIL Lab Sample ID: 9912L959-008

Sample wt/vol: 31.0 (g/mL) G Lab File ID: 01140011.56

% Moisture: 33 decanted: (Y/N) N Date Received: 12/08/99

Extraction: (SepF/Cont/Sonc) SONC Date Extracted: 12/18/99

Concentrated Extract Volume: 2000 (uL) Date Analyzed: 01/19/00

Injection Volume: 0.5 (uL) Dilution Factor: 2.00

GPC Cleanup: (Y/N) Y pH: 8.0 Sulfur Cleanup: (Y/N) N

CAS NO.	COMPOUND	CONCENTRATION UNITS: UG/KG	Q
319-84-6	Alpha-BHC	4.8	U
319-85-7	Beta-BHC	4.8	U
319-86-8	Delta-BHC	4.8	U
58-89-9	gamma-BHC (Lindane)	4.8	U
76-44-8	Heptachlor	4.8	U
309-00-2	Aldrin	4.8	U
1024-57-3	Heptachlor epoxide	4.8	U
959-98-8	Endosulfan I	4.8	U
60-57-1	Dieldrin	9.6	U
72-55-9	4,4'-DDE	9.6	U
72-20-8	Endrin	9.6	U
33213-65-9	Endosulfan II	9.6	U
72-54-8	4,4'-DDD	9.6	U
1031-07-8	Endosulfan sulfate	9.6	U
50-29-3	4,4'-DDT	9.6	U
72-43-5	Methoxychlor	48	U
53494-70-5	Endrin ketone	9.6	U
7421-93-4	Endrin aldehyde	9.6	U
5103-71-9	alpha-Chlordane	4.8	U
5103-74-2	gamma-Chlordane	4.8	U
8001-35-2	Toxaphene	480	U
12674-11-2	Aroclor-1016	96	U
11104-28-2	Aroclor-1221	190	U
11141-16-5	Aroclor-1232	96	U
53469-21-9	Aroclor-1242	96	U
12672-29-6	Aroclor-1248	96	U
11097-69-1	Aroclor-1254	96	U
11096-82-5	Aroclor-1260	96	U

1D

ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

SH899-12207-B70611

Lab Name: Recra.LabNet Work Order: 01667-600-001-9999-00

Client: NYSDEC

Matrix: (soil/water) SOIL Lab Sample ID: 9912L959-009

Sample wt/vol: 30.0 (g/mL) G Lab File ID: 01140011.61

% Moisture: 13 decanted: (Y/N) N Date Received: 12/08/99

Extraction: (SepF/Cont/Sonc) SONC Date Extracted: 12/18/99

Concentrated Extract Volume: 2000 (uL) Date Analyzed: 01/20/00

Injection Volume: 0.5 (uL) Dilution Factor: 10.0

GPC Cleanup: (Y/N) Y pH: 8.1 Sulfur Cleanup: (Y/N) N

CAS NO.	COMPOUND	CONCENTRATION UNITS: UG/KG	Q
319-84-6	Alpha-BHC	19	U
319-85-7	Beta-BHC	19	U
319-86-8	Delta-BHC	19	U
58-89-9	gamma-BHC (Lindane)	19	U
76-44-8	Heptachlor	19	U
309-00-2	Aldrin	19	U
1024-57-3	Heptachlor epoxide	30	
959-98-8	Endosulfan I	19	U
60-57-1	Dieldrin	74	
72-55-9	4,4'-DDE	38	U
72-20-8	Endrin	38	U
33213-65-9	Endosulfan II	38	U
72-54-8	4,4'-DDD	38	U
1031-07-8	Endosulfan sulfate	38	U
50-29-3	4,4'-DDT	38	U
72-43-5	Methoxychlor	190	U
53494-70-5	Endrin ketone	38	U
7421-93-4	Endrin aldehyde	38	U
5103-71-9	alpha-Chlordane	210	
5103-74-2	gamma-Chlordane	170	
8001-35-2	Toxaphene	1900	U
12674-11-2	Aroclor-1016	380	U
11104-28-2	Aroclor-1221	770	U
11141-16-5	Aroclor-1232	380	U
53469-21-9	Aroclor-1242	380	U
12672-29-6	Aroclor-1248	380	U
11097-69-1	Aroclor-1254	380	U
11096-82-5	Aroclor-1260	380	U

1D

ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

SH899-12207-B70612

Lab Name: Recra.LabNet Work Order: 01667-600-001-9999-00

Client: NYSDEC

Matrix: (soil/water) SOIL Lab Sample ID: 9912L959-010

Sample wt/vol: 31.4 (g/mL) G Lab File ID: 01140011.64

% Moisture: 75 decanted: (Y/N) N Date Received: 12/08/99

Extraction: (SepF/Cont/Sonc) SONC Date Extracted: 12/18/99

Concentrated Extract Volume: 2000 (uL) Date Analyzed: 01/20/00

Injection Volume: 0.5 (uL) Dilution Factor: 1.00

GPC Cleanup: (Y/N) Y pH: 8.7 Sulfur Cleanup: (Y/N) N

CAS NO.	COMPOUND	CONCENTRATION UNITS: UG/KG	Q
319-84-6	Alpha-BHC	6.3	U
319-85-7	Beta-BHC	6.3	U
319-86-8	Delta-BHC	6.3	U
58-89-9	gamma-BHC (Lindane)	6.3	U
76-44-8	Heptachlor	6.3	U
309-00-2	Aldrin	6.3	U
1024-57-3	Heptachlor epoxide	6.3	U
959-98-8	Endosulfan I	6.3	U
60-57-1	Dieldrin	13	U
72-55-9	4,4'-DDE	13	U
72-20-8	Endrin	13	U
33213-65-9	Endosulfan II	13	U
72-54-8	4,4'-DDD	13	U
1031-07-8	Endosulfan sulfate	13	U
50-29-3	4,4'-DDT	13	U
72-43-5	Methoxychlor	63	U
53494-70-5	Endrin ketone	13	U
7421-93-4	Endrin aldehyde	13	U
5103-71-9	alpha-Chlordane	6.3	U
5103-74-2	gamma-Chlordane	6.3	U
8001-35-2	Toxaphene	630	U
12674-11-2	Aroclor-1016	130	U
11104-28-2	Aroclor-1221	250	U
11141-16-5	Aroclor-1232	130	U
53469-21-9	Aroclor-1242	130	U
12672-29-6	Aroclor-1248	130	U
11097-69-1	Aroclor-1254	130	U
11096-82-5	Aroclor-1260	130	U

1D

ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

SH899-12207-B70613

Lab Name: Recra.LabNet Work Order: 01667-600-001-9999-00

Client: NYSDEC

Matrix: (soil/water) SOIL Lab Sample ID: 9912L959-011

Sample wt/vol: 30.5 (g/mL) G Lab File ID: 01140011.62

% Moisture: 28 decanted: (Y/N) N Date Received: 12/08/99

Extraction: (SepF/Cont/Sonc) SONC Date Extracted: 12/18/99

Concentrated Extract Volume: 2000 (uL) Date Analyzed: 01/20/00

Injection Volume: 0.5 (uL) Dilution Factor: 10.0

GPC Cleanup: (Y/N) Y pH: 8.0 Sulfur Cleanup: (Y/N) N

CAS NO.	COMPOUND	CONCENTRATION UNITS: UG/KG	Q
319-84-6	Alpha-BHC	23	U
319-85-7	Beta-BHC	23	U
319-86-8	Delta-BHC	23	U
58-89-9	gamma-BHC (Lindane)	23	U
76-44-8	Heptachlor	23	U
309-00-2	Aldrin	23	U
1024-57-3	Heptachlor epoxide	23	U
959-98-8	Endosulfan I	23	U
60-57-1	Dieldrin	46	U
72-55-9	4,4'-DDE	46	U
72-20-8	Endrin	46	U
33213-65-9	Endosulfan II	46	U
72-54-8	4,4'-DDD	46	U
1031-07-8	Endosulfan sulfate	46	U
50-29-3	4,4'-DDT	46	U
72-43-5	Methoxychlor	230	U
53494-70-5	Endrin ketone	46	U
7421-93-4	Endrin aldehyde	46	U
5103-71-9	alpha-Chlordane	23	U
5103-74-2	gamma-Chlordane	23	U
8001-35-2	Toxaphene	2300	U
12674-11-2	Aroclor-1016	460	U
11104-28-2	Aroclor-1221	910	U
11141-16-5	Aroclor-1232	460	U
53469-21-9	Aroclor-1242	460	U
12672-29-6	Aroclor-1248	460	U
11097-69-1	Aroclor-1254	460	U
11096-82-5	Aroclor-1260	460	U

1/20/00

1D

ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

SH899-12207-B70614

Lab Name: Recra.LabNet Work Order: 01667-600-001-9999-00

Client: NYSDEC

Matrix: (soil/water) SOIL Lab Sample ID: 9912L959-012

Sample wt/vol: 30.5 (g/mL) G Lab File ID: 01140011.65

% Moisture: 78 decanted: (Y/N) N Date Received: 12/08/99

Extraction: (SepF/Cont/Sonc) SONC Date Extracted: 12/18/99

Concentrated Extract Volume: 2000 (uL) Date Analyzed: 01/20/00

Injection Volume: 0.5 (uL) Dilution Factor: 1.00

GPC Cleanup: (Y/N) Y pH: 8.0 Sulfur Cleanup: (Y/N) N

CAS NO.	COMPOUND	CONCENTRATION UNITS: UG/KG	Q
319-84-6	Alpha-BHC	7.6	U
319-85-7	Beta-BHC	7.6	U
319-86-8	Delta-BHC	7.6	U
58-89-9	gamma-BHC (Lindane)	7.6	U
76-44-8	Heptachlor	7.6	U
309-00-2	Aldrin	7.6	U
1024-57-3	Heptachlor epoxide	7.6	U
959-98-8	Endosulfan I	7.6	U
60-57-1	Dieldrin	15	IP
72-55-9	4,4'-DDE	15	U
72-20-8	Endrin	15	U
33213-65-9	Endosulfan II	15	U
72-54-8	4,4'-DDD	15	U
1031-07-8	Endosulfan sulfate	15	U
50-29-3	4,4'-DDT	15	U
72-43-5	Methoxychlor	76	U
53494-70-5	Endrin ketone	15	U
7421-93-4	Endrin aldehyde	15	U
5103-71-9	alpha-Chlordane	7.6	U
5103-74-2	gamma-Chlordane	7.6	U
8001-35-2	Toxaphene	760	U
12674-11-2	Aroclor-1016	150	U
11104-28-2	Aroclor-1221	300	U
11141-16-5	Aroclor-1232	150	U
53469-21-9	Aroclor-1242	150	U
12672-29-6	Aroclor-1248	150	U
11097-69-1	Aroclor-1254	150	U
11096-82-5	Aroclor-1260	150	U

1D

ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

SH899-12207-B70615

Lab Name: Recra.LabNet Work Order: 01667-600-001-9999-00

Client: NYSDEC

Matrix: (soil/water) SOIL Lab Sample ID: 9912L959-013

Sample wt/vol: 30.1 (g/mL) G Lab File ID: 01140011.66

% Moisture: 37 decanted: (Y/N) N Date Received: 12/08/99

Extraction: (SepF/Cont/Sonc) SONC Date Extracted: 12/18/99

Concentrated Extract Volume: 2000(uL) Date Analyzed: 01/20/00

Injection Volume: 0.5(uL) Dilution Factor: 1.00

GPC Cleanup: (Y/N) Y pH: 9.0 Sulfur Cleanup: (Y/N) N

CAS NO.	COMPOUND	CONCENTRATION UNITS: UG/KG	Q
319-84-6	Alpha-BHC	2.6	U
319-85-7	Beta-BHC	2.6	U
319-86-8	Delta-BHC	2.6	U
58-89-9	gamma-BHC (Lindane)	2.6	U
76-44-8	Heptachlor	2.6	U
309-00-2	Aldrin	2.6	U
1024-57-3	Heptachlor epoxide	2.6	U
959-98-8	Endosulfan I	2.6	U
60-57-1	Dieldrin	5.3	U
72-55-9	4,4'-DDE	19	
72-20-8	Endrin	5.3	U
33213-65-9	Endosulfan II	5.3	U
72-54-8	4,4'-DDD	5.3	U
1031-07-8	Endosulfan sulfate	5.3	U
50-29-3	4,4'-DDT	21	
72-43-5	Methoxychlor	26	U
53494-70-5	Endrin ketone	5.3	U
7421-93-4	Endrin aldehyde	5.3	U
5103-71-9	alpha-Chlordane	2.6	U
5103-74-2	gamma-Chlordane	2.6	U
8001-35-2	Toxaphene	260	U
12674-11-2	Aroclor-1016	53	U
11104-28-2	Aroclor-1221	110	U
11141-16-5	Aroclor-1232	53	U
53469-21-9	Aroclor-1242	53	U
12672-29-6	Aroclor-1248	53	U
11097-69-1	Aroclor-1254	53	U
11096-82-5	Aroclor-1260	53	U

10A
PESTICIDE IDENTIFICATION SUMMARY
FOR SINGLE COMPONENT ANALYTES

EPA SAMPLE NO.
SH899-12206-B70607MS

Lab Name: Roy F. Weston, Inc. Contract: 01667-600-001-9999-00

Lab Code: SAS No.: SDG No.: Case No.: NYSDEC

Lab Sample ID: 9912L959-007 MS Date(s) Analyzed: 01/19/00 01/19/00

Instrument ID (1): 11 Instrument ID (2): 12

GC Column(1): DB608 ID: 0.53 (mm) GC Column(2): 1701 ID: 0.53 (mm)

ANALYTE	COL	RT	RT WINDOW FROM	RT WINDOW TO	CONCENTRATION	%D
GAMMA-BHC (LINDANE)	1	15.19	15.11	15.21	14	
	2	16.24	16.15	16.25	19	36.0
HEPTACHLOR	1	16.52	16.43	16.53	19	
	2	17.10	17.01	17.11	19	0.0
ALDRIN	1	17.85	17.76	17.86	18	
	2	18.15	18.05	18.15	18	0.0
DIELDRIN	1	22.56	22.45	22.59	51	
	2	22.97	22.86	23.00	37	38.0
ENDRIN	1	23.95	23.84	23.98	34	
	2	23.76	23.65	23.79	43	26.0
4,4'-DDT	1	25.36	25.26	25.40	36	
	2	25.67	25.57	25.71	46	28.0

10A

PESTICIDE IDENTIFICATION SUMMARY
FOR SINGLE COMPONENT ANALYTES

EPA SAMPLE NO.
SH899-12206-B70607MSD

Lab Name: Roy F. Weston, Inc. Contract: 01667-600-001-9999-00

Lab Code: SAS No.: SDG No.: Case No.: NYSDEC

Lab Sample ID: 9912L959-007 MSD Date(s) Analyzed: 01/19/00 01/19/00

Instrument ID (1): 11 Instrument ID (2): 12

GC Column(1): DB608 ID: 0.53 (mm) GC Column(2): 1701 ID: 0.53 (mm)

ANALYTE	COL	RT	RT WINDOW FROM	RT WINDOW TO	CONCENTRATION	%D
GAMMA-BHC (LINDANE)	1	15.19	15.11	15.21	12	
	2	16.24	16.15	16.25	16	33.0
HEPTACHLOR	1	16.52	16.43	16.53	18	
	2	17.10	17.01	17.11	17	5.9
ALDRIN	1	17.85	17.76	17.86	17	
	2	18.15	18.05	18.15	16	6.2
DIELDRIN	1	22.55	22.45	22.59	57	
	2	22.97	22.86	23.00	34	68.0
ENDRIN	1	23.95	23.84	23.98	25	
	2	23.76	23.65	23.79	41	64.0
4,4'-DDT	1	25.36	25.26	25.40	32	
	2	25.67	25.57	25.71	42	31.0

1GA

PESTICIDE IDENTIFICATION SUMMARY
FOR SINGLE COMPONENT ANALYTES

EPA SAMPLE NO.
SH899-12207-B70611

Lab Name: Roy F. Weston, Inc. Contract: 01667-600-001-9999-00

Lab Code: SAS No.: SDG No.: Case No.: NYSDEC

Lab Sample ID: 9912L959-009 Date(s) Analyzed: 01/20/00 01/20/00

Instrument ID (1): 11 Instrument ID (2): 12

GC Column(1): DB608 ID: 0.53 (mm) GC Column(2): 1701 ID: 0.53 (mm)

ANALYTE	COL	RT	RT WINDOW FROM	RT WINDOW TO	CONCENTRATION	%D
HEPTACHLOR EPOXIDE	1	20.00	19.91	20.05	30	
	2	20.64	20.55	20.69	30	0.0
GAMMA CHLORDANE	1	20.63	20.53	20.67	180	
	2	21.82	21.73	21.87	170	5.9
ALPHA CHLORDANE	1	21.21	21.15	21.29	210	
	2	22.06	21.96	22.10	220	4.8
DIELDRIN	1	22.54	22.45	22.59	74	
	2	22.95	22.86	23.00	82	11.0

10A

PESTICIDE IDENTIFICATION SUMMARY
FOR SINGLE COMPONENT ANALYTES

EPA SAMPLE NO.
SH899-12207-B70614

Lab Name: Roy F. Weston, Inc. Contract: 01667-600-001-9999-00

Lab Code: SAS No.: SDG No.: Case No.: NYSDEC

Lab Sample ID: 9912L959-012 Date(s) Analyzed: 01/20/00 01/20/00

Instrument ID (1): 11 Instrument ID (2): 12

GC Column(1): DB608 ID: 0.53 (mm) GC Column(2): 1701 ID: 0.53 (mm)

ANALYTE	COL	RT	RT WINDOW FROM	RT WINDOW TO	CONCENTRATION	%D
DIELDRIN	1	22.63	22.45	22.59	88	
	2	22.96	22.86	23.00	15	490.0

10A

PESTICIDE IDENTIFICATION SUMMARY
FOR SINGLE COMPONENT ANALYTES

EPA SAMPLE NO.
SH899-12207-B70615

Lab Name: Roy F. Weston, Inc. Contract: 01667-600-001-9999-00

Lab Code: SAS No.: SDG No.: Case No.: NYSDEC

Lab Sample ID: 9912L959-013 Date(s) Analyzed: 01/20/00 01/20/00

Instrument ID (1): 11 Instrument ID (2): 12

GC Column(1): DB608 ID: 0.53 (mm) GC Column(2): 1701 ID: 0.53 (mm)

ANALYTE	COL	RT	RT WINDOW FROM	RT WINDOW TO	CONCENTRATION	%D
4,4'-DDE	1	22.14	22.05	22.19	23	
	2	22.29	22.20	22.34	19	21.0
4,4'-DDT	1	25.34	25.26	25.40	26	
	2	25.65	25.57	25.71	21	24.0

gw 12-20-00

10A

PESTICIDE IDENTIFICATION SUMMARY
FOR SINGLE COMPONENT ANALYTES

EPA SAMPLE NO.
PBLKCVBS

Lab Name: Roy F. Weston, Inc. Contract: 01667-600-001-9999-00

Lab Code: SAS No.: SDG No.: Case No.: NYSDEC

Lab Sample ID: 99LE1534-MB1 BS Date(s) Analyzed: 01/15/00 01/15/00

Instrument ID (1): 11 Instrument ID (2): 12

GC Column(1): DB608 ID: 0.53 (mm) GC Column(2): 1701 ID: 0.53 (mm)

ANALYTE	COL	RT	RT WINDOW FROM	RT WINDOW TO	CONCENTRATION	%D
GAMMA-BHC (LINDANE)	1	15.15	15.11	15.21	10	
	2	16.20	16.15	16.25	10	0.0
HEPTACHLOR	1	16.48	16.43	16.53	12	
	2	17.05	17.01	17.11	11	9.1
ALDRIN	1	17.81	17.76	17.86	11	
	2	18.10	18.05	18.15	12	9.1
DIELDRIN	1	22.51	22.45	22.59	23	
	2	22.93	22.86	23.00	22	4.5
ENDRIN	1	23.91	23.84	23.98	24	
	2	23.71	23.65	23.79	24	0.0
4,4'-DDT	1	25.32	25.26	25.40	25	
	2	25.63	25.57	25.71	24	4.2

1D

PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

PIBLK 08R

Lab Name: Recra.LabNet.Philadelphia Contract:

Client:

Matrix: (soil/water) WATER Lab Sample ID: 99LPST08 MBR

Sample wt/vol: 1000.0 (g/mL) mL Lab File ID:

Level: (low/med) low Date Received:

% Moisture: decanted: (Y/N): Date Extracted:

Concentrated Extract Volume: 10000 (uL) Date Analyzed: 1/14/00

Injection Volume: 0.5 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: 7 Sulfur Cleanup: (Y/N)

CAS No.	Compound	Concentration Units: (ug/L or ug/Kg) ug/L	Q
319-84-6	alpha-BHC	0.025	U
319-85-7	beta-BHC	0.025	U
319-86-8	delta-BHC	0.025	U
58-89-9	gamma-BHC (Lindane)	0.025	U
76-44-8	Heptachlor	0.025	U
309-00-2	Aldrin	0.025	U
1024-57-3	Heptachlor epoxide	0.025	U
959-98-8	Endosulfan I	0.025	U
60-57-1	Dieldrin	0.05	U
72-55-9	4,4'-DDE	0.05	U
72-20-8	Endrin	0.05	U
33213-65-9	Endosulfan II	0.05	U
72-54-8	4,4'-DDD	0.05	U
1031-07-8	Endosulfan sulfate	0.05	U
50-29-3	4,4'-DDT	0.05	U
72-43-5	Methoxychlor	0.05	U
53494-70-5	Endrin ketone	0.05	U
7421-36-3	Endrin aldehyde	0.05	U
5103-71-9	alpha-Chlordane	0.025	U
5103-74-2	gamma-Chlordane	0.025	U
8001-35-2	Toxaphene	0.25	U
12674-11-2	Aroclor-1016	0.5	U
11104-28-2	Aroclor-1221	1	U
11141-16-5	Aroclor-1232	0.5	U
53469-21-9	Aroclor-1242	0.5	U
12672-29-6	Aroclor-1248	0.5	U
11097-69-1	Aroclor-1254	0.5	U
11096-82-5	Aroclor-1260	0.5	U

1D

PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

PIBLK 085

Lab Name: Recra.LabNet.Philadelphia Contract: _____

Client: _____

Matrix: (soil/water) WATER Lab Sample ID: 99LPST08 MB5

Sample wt/vol: 1000.0 (g/mL) mL Lab File ID: _____

Level: (low/med) low Date Received: _____

% Moisture: _____ decanted: (Y/N): _____ Date Extracted: _____

Concentrated Extract Volume: 10000 (uL) Date Analyzed: 1/15/00

Injection Volume: 0.5 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: 7 Sulfur Cleanup: (Y/N) _____

CAS No.	Compound	Concentration Units: (ug/L or ug/Kg) ug/L	Q
319-84-6	alpha-BHC	0.025	U
319-85-7	beta-BHC	0.025	U
319-86-8	delta-BHC	0.025	U
58-89-9	gamma-BHC (Lindane)	0.025	U
76-44-8	Heptachlor	0.025	U
309-00-2	Aldrin	0.025	U
1024-57-3	Heptachlor epoxide	0.025	U
959-98-8	Endosulfan I	0.025	U
60-57-1	Dieldrin	0.05	U
72-55-9	4,4'-DDE	0.05	U
72-20-8	Endrin	0.05	U
33213-65-9	Endosulfan II	0.05	U
72-54-8	4,4'-DDD	0.05	U
1031-07-8	Endosulfan sulfate	0.05	U
50-29-3	4,4'-DDT	0.05	U
72-43-5	Methoxychlor	0.05	U
53494-70-5	Endrin ketone	0.05	U
7421-36-3	Endrin aldehyde	0.05	U
5103-71-9	alpha-Chlordane	0.025	U
5103-74-2	gamma-Chlordane	0.025	U
8001-35-2	Toxaphene	0.25	U
12674-11-2	Aroclor-1016	0.5	U
11104-28-2	Aroclor-1221	1	U
11141-16-5	Aroclor-1232	0.5	U
53469-21-9	Aroclor-1242	0.5	U
12672-29-6	Aroclor-1248	0.5	U
11097-69-1	Aroclor-1254	0.5	U
11096-82-5	Aroclor-1260	0.5	U

1D

PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

PIBLK 08T

Lab Name: Recra.LabNet.Philadelphia Contract:

Client:

Matrix: (soil/water) WATER Lab Sample ID: 99LPST08 MBT

Sample wt/vol: 1000.0 (g/mL) mL Lab File ID:

Level: (low/med) low Date Received:

% Moisture: decanted: (Y/N): Date Extracted:

Concentrated Extract Volume: 10000 (uL) Date Analyzed: 1/15/00

Injection Volume: 0.5 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: 7 Sulfur Cleanup: (Y/N)

CAS No.	Compound	Concentration Units: (ug/L or ug/Kg) ug/L	Q
319-84-6	alpha-BHC	0.025	U
319-85-7	beta-BHC	0.025	U
319-86-8	delta-BHC	0.025	U
58-89-9	gamma-BHC (Lindane)	0.025	U
76-44-8	Heptachlor	0.025	U
309-00-2	Aldrin	0.025	U
1024-57-3	Heptachlor epoxide	0.025	U
959-98-8	Endosulfan I	0.025	U
60-57-1	Dieldrin	0.05	U
72-55-9	4,4'-DDE	0.05	U
72-20-8	Endrin	0.05	U
33213-65-9	Endosulfan II	0.05	U
72-54-8	4,4'-DDD	0.05	U
1031-07-8	Endosulfan sulfate	0.05	U
50-29-3	4,4'-DDT	0.05	U
72-43-5	Methoxychlor	0.05	U
53494-70-5	Endrin ketone	0.05	U
7421-36-3	Endrin aldehyde	0.05	U
5103-71-9	alpha-Chlordane	0.025	U
5103-74-2	gamma-Chlordane	0.025	U
8001-35-2	Toxaphene	0.25	U
12674-11-2	Aroclor-1016	0.5	U
11104-28-2	Aroclor-1221	1	U
11141-16-5	Aroclor-1232	0.5	U
53469-21-9	Aroclor-1242	0.5	U
12672-29-6	Aroclor-1248	0.5	U
11097-69-1	Aroclor-1254	0.5	U
11096-82-5	Aroclor-1260	0.5	U

1-12-00

1D

PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO: PIBLK 08✓

Lab Name: Recra.LabNet.Philadelphia Contract: _____

Client: _____

Matrix: (soil/water) WATER Lab Sample ID: 99LPST08 MB✓

Sample wt/vol: 1000.0 (g/mL) mL Lab File ID: _____

Level: (low/med) low Date Received: _____

% Moisture: _____ decanted: (Y/N): _____ Date Extracted: _____

Concentrated Extract Volume: 10000 (uL) Date Analyzed: 1/19/00

Injection Volume: 0.5 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: 7 Sulfur Cleanup: (Y/N) ____

CAS No.	Compound	Concentration Units: (ug/L or ug/Kg) ug/L	Q
319-84-6	alpha-BHC	0.025	U
319-85-7	beta-BHC	0.025	U
319-86-8	delta-BHC	0.025	U
58-89-9	gamma-BHC (Lindane)	0.025	U
76-44-8	Heptachlor	0.025	U
309-00-2	Aldrin	0.025	U
1024-57-3	Heptachlor epoxide	0.025	U
959-98-8	Endosulfan I	0.025	U
60-57-1	Dieldrin	0.05	U
72-55-9	4,4'-DDE	0.05	U
72-20-8	Endrin	0.05	U
33213-65-9	Endosulfan II	0.05	U
72-54-8	4,4'-DDD	0.05	U
1031-07-8	Endosulfan sulfate	0.05	U
50-29-3	4,4'-DDT	0.05	U
72-43-5	Methoxychlor	0.05	U
53494-70-5	Endrin ketone	0.05	U
7421-36-3	Endrin aldehyde	0.05	U
5103-71-9	alpha-Chlordane	0.025	U
5103-74-2	gamma-Chlordane	0.025	U
8001-35-2	Toxaphene	0.25	U
12674-11-2	Aroclor-1016	0.5	U
11104-28-2	Aroclor-1221	1	U
11141-16-5	Aroclor-1232	0.5	U
53469-21-9	Aroclor-1242	0.5	U
12672-29-6	Aroclor-1248	0.5	U
11097-69-1	Aroclor-1254	0.5	U
11096-82-5	Aroclor-1260	0.5	U

1D

PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

PIBLK 08 W

Lab Name: Recra.LabNet.Philadelphia Contract:

Client:

Matrix: (soil/water) WATER Lab Sample ID: 99LPST08 MB W

Sample wt/vol: 1000.0 (g/mL) mL Lab File ID:

Level: (low/med) low Date Received:

% Moisture: decanted: (Y/N): Date Extracted:

Concentrated Extract Volume: 10000 (uL) Date Analyzed: 1/12/00

Injection Volume: 0.5 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: 7 Sulfur Cleanup: (Y/N)

CAS No.	Compound	Concentration Units: (ug/L or ug/Kg) ug/L	Q
319-84-6	alpha-BHC	0.025	U
319-85-7	beta-BHC	0.025	U
319-86-8	delta-BHC	0.025	U
58-89-9	gamma-BHC (Lindane)	0.025	U
76-44-8	Heptachlor	0.025	U
309-00-2	Aldrin	0.025	U
1024-57-3	Heptachlor epoxide	0.025	U
959-98-8	Endosulfan I	0.025	U
60-57-1	Dieldrin	0.05	U
72-55-9	4,4'-DDE	0.05	U
72-20-8	Endrin	0.05	U
33213-65-9	Endosulfan II	0.05	U
72-54-8	4,4'-DDD	0.05	U
1031-07-8	Endosulfan sulfate	0.05	U
50-29-3	4,4'-DDT	0.05	U
72-43-5	Methoxychlor	0.05	U
53494-70-5	Endrin ketone	0.05	U
7421-36-3	Endrin aldehyde	0.05	U
5103-71-9	alpha-Chlordane	0.025	U
5103-74-2	gamma-Chlordane	0.025	U
8001-35-2	Toxaphene	0.25	U
12674-11-2	Aroclor-1016	0.5	U
11104-28-2	Aroclor-1221	1	U
11141-16-5	Aroclor-1232	0.5	U
53469-21-9	Aroclor-1242	0.5	U
12672-29-6	Aroclor-1248	0.5	U
11097-69-1	Aroclor-1254	0.5	U
11096-82-5	Aroclor-1260	0.5	U

1D

PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

PIBLK08X

Lab Name: Recra.LabNet.Philadelphia Contract:

Client:

Matrix: (soil/water) WATER Lab Sample ID: 99LPST08 -MBX

Sample wt/vol: 1000.0 (g/mL) mL Lab File ID:

Level: (low/med) low Date Received:

% Moisture: decanted: (Y/N): Date Extracted:

Concentrated Extract Volume: 10000 (uL) Date Analyzed: 1/20/00

Injection Volume: 0.5 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: 7 Sulfur Cleanup: (Y/N)

Concentration Units:

CAS No.	Compound	(ug/L or ug/Kg) ug/L	Q
319-84-6	alpha-BHC	0.025	U
319-85-7	beta-BHC	0.025	U
319-86-8	delta-BHC	0.025	U
58-89-9	gamma-BHC (Lindane)	0.025	U
76-44-8	Heptachlor	0.025	U
309-00-2	Aldrin	0.025	U
1024-57-3	Heptachlor epoxide	0.025	U
959-98-8	Endosulfan I	0.025	U
60-57-1	Dieldrin	0.05	U
72-55-9	4,4'-DDE	0.05	U
72-20-8	Endrin	0.05	U
33213-65-9	Endosulfan II	0.05	U
72-54-8	4,4'-DDD	0.05	U
1031-07-8	Endosulfan sulfate	0.05	U
50-29-3	4,4'-DDT	0.05	U
72-43-5	Methoxychlor	0.05	U
53494-70-5	Endrin ketone	0.05	U
7421-36-3	Endrin aldehyde	0.05	U
5103-71-9	alpha-Chlordane	0.025	U
5103-74-2	gamma-Chlordane	0.025	U
8001-35-2	Toxaphene	0.25	U
12674-11-2	Aroclor-1016	0.5	U
11104-28-2	Aroclor-1221	1	U
11141-16-5	Aroclor-1232	0.5	U
53469-21-9	Aroclor-1242	0.5	U
12672-29-6	Aroclor-1248	0.5	U
11097-69-1	Aroclor-1254	0.5	U
11096-82-5	Aroclor-1260	0.5	U

1/20/00

RAW QC DATA

1D

ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

PBLKCV

Lab Name: Recra.LabNet Work Order: 01667-600-001-9999-00

Client: NYSDEC

Matrix: (soil/water) SOIL Lab Sample ID: 99LE1534-MB1

Sample wt/vol: 30.0 (g/mL) G Lab File ID: 01140011.25

% Moisture: 0 decanted: (Y/N) N Date Received: 12/18/99

Extraction: (SepF/Cont/Sonc) SONC Date Extracted: 12/18/99

Concentrated Extract Volume: 2000(uL) Date Analyzed: 01/15/00

Injection Volume: 0.5(uL) Dilution Factor: 1.00

GPC Cleanup: (Y/N) Y pH: 7.0 Sulfur Cleanup: (Y/N) N

CAS NO.	COMPOUND	CONCENTRATION UNITS: UG/KG	Q
319-84-6	Alpha-BHC	1.7	U
319-85-7	Beta-BHC	1.7	U
319-86-8	Delta-BHC	1.7	U
58-89-9	gamma-BHC (Lindane)	1.7	U
76-44-8	Heptachlor	1.7	U
309-00-2	Aldrin	1.7	U
1024-57-3	Heptachlor epoxide	1.7	U
959-98-8	Endosulfan I	1.7	U
60-57-1	Dieldrin	3.3	U
72-55-9	4,4'-DDE	3.3	U
72-20-8	Endrin	3.3	U
33213-65-9	Endosulfan II	3.3	U
72-54-8	4,4'-DDD	3.3	U
1031-07-8	Endosulfan sulfate	3.3	U
50-29-3	4,4'-DDT	3.3	U
72-43-5	Methoxychlor	17	U
53494-70-5	Endrin ketone	3.3	U
7421-93-4	Endrin aldehyde	3.3	U
5103-71-9	alpha-Chlordane	1.7	U
5103-74-2	gamma-Chlordane	1.7	U
8001-35-2	Toxaphene	170	U
12674-11-2	Aroclor-1016	33	U
11104-28-2	Aroclor-1221	67	U
11141-16-5	Aroclor-1232	33	U
53469-21-9	Aroclor-1242	33	U
12672-29-6	Aroclor-1248	33	U
11097-69-1	Aroclor-1254	33	U
11096-82-5	Aroclor-1260	33	U

02.02.00

1D

ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

PBLKCVBS

Lab Name: Recra.LabNet Work Order: 01667-600-001-9999-00

Client: NYSDEC

Matrix: (soil/water) SOIL Lab Sample ID: 99LE1534-MB1 BS

Sample wt/vol: 30.0 (g/mL) G Lab File ID: 01140011.26

% Moisture: 0 decanted: (Y/N) N Date Received: 12/18/99

Extraction: (SepF/Cont/Sonc) SONC Date Extracted: 12/18/99

Concentrated Extract Volume: 2000 (uL) Date Analyzed: 01/15/00

Injection Volume: 0.5 (uL) Dilution Factor: 1.00

GPC Cleanup: (Y/N) Y pH: 7.0 Sulfur Cleanup: (Y/N) N

CAS NO.	COMPOUND	CONCENTRATION UNITS: UG/KG	Q
319-84-6	Alpha-BHC	1.7	U
319-85-7	Beta-BHC	1.7	U
319-86-8	Delta-BHC	1.7	U
58-89-9	gamma-BHC (Lindane)	10	
76-44-8	Heptachlor	11	
309-00-2	Aldrin	11	
1024-57-3	Heptachlor epoxide	1.7	U
959-98-8	Endosulfan I	1.7	U
60-57-1	Dieldrin	22	
72-55-9	4,4'-DDE	3.3	U
72-20-8	Endrin	24	
33213-65-9	Endosulfan II	3.3	U
72-54-8	4,4'-DDD	3.3	U
1031-07-8	Endosulfan sulfate	3.3	U
50-29-3	4,4'-DDT	24	
72-43-5	Methoxychlor	17	U
53494-70-5	Endrin ketone	3.3	U
7421-93-4	Endrin aldehyde	3.3	U
5103-71-9	alpha-Chlordane	1.7	U
5103-74-2	gamma-Chlordane	1.7	U
8001-35-2	Toxaphene	170	U
12674-11-2	Aroclor-1016	33	U
11104-28-2	Aroclor-1221	67	U
11141-16-5	Aroclor-1232	33	U
53469-21-9	Aroclor-1242	33	U
12672-29-6	Aroclor-1248	33	U
11097-69-1	Aroclor-1254	33	U
11096-82-5	Aroclor-1260	33	U

02-02-00

1D

ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

SH899-12206-B70607MS

Lab Name: Recra.LabNet Work Order: 01667-600-001-9999-00

Client: NYSDEC

Matrix: (soil/water) SOIL Lab Sample ID: 9912L959-007 MS

Sample wt/vol: 30.0 (g/mL) G Lab File ID: 01140011.54

% Moisture: 33 decanted: (Y/N) N Date Received: 12/08/99

Extraction: (SepF/Cont/Sonc) SONC Date Extracted: 12/18/99

Concentrated Extract Volume: 2000(uL) Date Analyzed: 01/19/00

Injection Volume: 0.5(uL) Dilution Factor: 5.00

GPC Cleanup: (Y/N) Y pH: 8.3 Sulfur Cleanup: (Y/N) N

CAS NO.	COMPOUND	CONCENTRATION UNITS: UG/KG	Q
319-84-6	Alpha-BHC	12	U
319-85-7	Beta-BHC	12	U
319-86-8	Delta-BHC	12	U
58-89-9	gamma-BHC (Lindane)	14	DP
76-44-8	Heptachlor	19	D
309-00-2	Aldrin	18	D
1024-57-3	Heptachlor epoxide	12	U
959-98-8	Endosulfan I	12	U
60-57-1	Dieldrin	37	DP
72-55-9	4,4'-DDE	25	U
72-20-8	Endrin	34	DP
33213-65-9	Endosulfan II	25	U
72-54-8	4,4'-DDD	25	U
1031-07-8	Endosulfan sulfate	25	U
50-29-3	4,4'-DDT	36	DP
72-43-5	Methoxychlor	120	U
53494-70-5	Endrin ketone	25	U
7421-93-4	Endrin aldehyde	25	U
5103-71-9	alpha-Chlordane	12	U
5103-74-2	gamma-Chlordane	12	U
8001-35-2	Toxaphene	1200	U
12674-11-2	Aroclor-1016	250	U
11104-28-2	Aroclor-1221	500	U
11141-16-5	Aroclor-1232	250	U
53469-21-9	Aroclor-1242	250	U
12672-29-6	Aroclor-1248	250	U
11097-69-1	Aroclor-1254	250	U
11096-82-5	Aroclor-1260	250	U

gw 03-02-00

1D

ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

SH899-12206-B70607MSD

Lab Name: Recra.LabNet Work Order: 01667-600-001-9999-00

Client: NYSDEC

Matrix: (soil/water) SOIL Lab Sample ID: 9912L959-007 MSD

Sample wt/vol: 31.1 (g/mL) G Lab File ID: 01140011.55

% Moisture: 33 decanted: (Y/N) N Date Received: 12/08/99

Extraction: (SepF/Cont/Sonc) SONC Date Extracted: 12/18/99

Concentrated Extract Volume: 2000(uL) Date Analyzed: 01/19/00

Injection Volume: 0.5(uL) Dilution Factor: 5.00

GPC Cleanup: (Y/N) Y pH: 8.3 Sulfur Cleanup: (Y/N) N

CAS NO.	COMPOUND	CONCENTRATION UNITS: UG/KG	Q
319-84-6	Alpha-BHC	12	U
319-85-7	Beta-BHC	12	U
319-86-8	Delta-BHC	12	U
58-89-9	gamma-BHC (Lindane)	12	DP
76-44-8	Heptachlor	17	D
309-00-2	Aldrin	16	D
1024-57-3	Heptachlor epoxide	12	U
959-98-8	Endosulfan I	12	U
60-57-1	Dieldrin	34	DP
72-55-9	4,4'-DDE	24	U
72-20-8	Endrin	25	DP
33213-65-9	Endosulfan II	24	U
72-54-8	4,4'-DDD	24	U
1031-07-8	Endosulfan sulfate	24	U
50-29-3	4,4'-DDT	32	DP
72-43-5	Methoxychlor	120	U
53494-70-5	Endrin ketone	24	U
7421-93-4	Endrin aldehyde	24	U
5103-71-9	alpha-Chlordane	12	U
5103-74-2	gamma-Chlordane	12	U
8001-35-2	Toxaphene	1200	U
12674-11-2	Aroclor-1016	240	U
11104-28-2	Aroclor-1221	480	U
11141-16-5	Aroclor-1232	240	U
53469-21-9	Aroclor-1242	240	U
12672-29-6	Aroclor-1248	240	U
11097-69-1	Aroclor-1254	240	U
11096-82-5	Aroclor-1260	240	U

RECRA
ENVIRONMENTAL
INC.

Chemical and Environmental Measurement Information

20 March 2000

Mr. Jack Ryan
NYSDEC
Room 392
50 Wolf Road
Albany, NY 12233-3502

Ref: Contract C003783
Sample Data Package: RFW Batch 0002L425
NYSDEC ID: SH800-02208-B70616 to B70621

Dear Mr. Ryan:

Enclosed please find the data report for 6 soil samples received 11 February 2000. These were analyzed for CLP metals and TPH as well as full TCLP and RCRA characteristics. The EDD is being emailed to you and a disk sent to the sampler.

We had requested a week's extension because the TCLP herbicides needed to be reextracted.

Please do not hesitate to contact me at (610) 280-3000 with any questions you may have.

Very truly yours,

Recra LabNet Philadelphia

Judith L. Stone
Senior Project Manager

Enclosure

cc: Frank Sowers (NYSDEC)

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RECRA LabNet Use Only

00021 425

Custody Transfer Record/Lab Work Request

Page 1 of 1

FIELD PERSONNEL: COMPLETE ONLY SHADED AREAS

(8) GCMS BNA P/PCB Met Dig Perrone

RECRA LabNet

Client: NYSDEC
Est. Final Proj. Sampling Date: 2/17/00
Project #: 011667-600-001-9999-00
Project Contact/Phone #: FRANK SOWERS 716 2265357
RECRA Project Manager: JS
QC: Exp Spec Del: CLP TAT: 30 day
Date Rec'd: 2-11-00 Date Due: 3-12-00
Account #:

	VOA	BNA	Pest/PCB	Herb		leachate		Metal	CN	IPHC	ITCLP	ICORP	IIGN	ICARE ISFAE	leachate
Refrigerator #	1	—	—	—	—	—	—	4	—	—	—	—	—	—	
#/Type Container Liquid															
#/Type Container Solid	1AG	—						1AG		1AG	2AG	—	—	—	
Volume Liquid															
Volume Solid	250	—						250		250	500	—	—	—	
Preservatives	—	—						—		—	—	—	—	—	

ANALYSES REQUESTED → ORGANIC / INORG

MATRIX CODES:
S - Soil
SE - Sediment
SO - Solid
SL - Sludge
W - Water
O - Oil
A - Air
DS - Drum Solids
DL - Drum Liquids
L - EP/TCLP Leachate
WI - Wipe
X - Other
F - Fish

RECRA LabNet Use Only

Lab ID	Client ID/Description SH800-02208-	MS	MSD	Matrix	Date Collected	Time Collected	VOA OLC4C	BNA OLO3SC	OLO8T	OHG8T	OLO2ST	OLO24T	ITCLV	METAL		TPH	TCLP	CORROS.	IGNIT.	REACT.	REACTCN
001	B70616			Soil	2/8/00	1233								✓1		✓1					
002	" 17			"	2/8/00	1250	✓	✓								✓					
003	" 18	✓	✓	"	2/8/00	1600								✓3		✓3					
004	" 19			"	2/8/00	1605								✓1		✓1					
005	" 20			"	2/9/00	0952										✓1					
006	" 21			"	2/9/00	1000							✓				✓	✓	✓	✓	
007	NYSDEC Refrig Blank				2-11-00	-	2														
008	B70621 tclp of 006 (TK2-11-00)				**	-			✓	✓	✓										✓
009	B70621 tclv of 006											✓									

Special Instructions:

DATE/REVISIONS:
Metal = 1. HSL
** 2. See lab chron
3.
4.
5.
6.

RECRA LabNet Use Only

Samples were:
1) Shipped ✓ or Hand Delivered
Airbill # See Below
2) Ambient or (Chilled)
3) Received in Good Condition (Y) or N
4) Labels Indicate Properly Preserved (Y) or N
5) Received Within Holding Times (N)

COC Tape was:
1) Present on Outer Package (Y) or N
2) Unbroken on Outer Package (Y) or N
3) Present on Sample Y or (N)
4) Unbroken on Sample Y or N
COC Record Present Upon Sample Rec't (Y) or N
Cooler Temp. 6.2 °C

Relinquished by	Received by	Date	Time	Relinquished by	Received by	Date	Time
R Lane		2/10/00	1400				
[redacted]	[redacted]	2-11-00	1945				

ORIGINAL REWRITTEN

Discrepancies Between Samples Labels and COC Record? Y or (N)

J092 870 674 3

[redacted]

Case Narrative

Recra LabNet Philadelphia
Analytical Report

Client : NYSDEC
RFW# : 0002L425
ELAP# : 10752

W.O.# : 01667-600-001-9999-00
Date Received: 02-11-00

CLP/ILM04.0 METALS

1. This narrative covers the analyses of 3 soil samples and 1 TCLP leachate sample.

2. The samples were prepared and analyzed in accordance with CLP/ILM04.0 protocol. The total samples and the TCLP leachate sample have been reported on separate sets of forms.

3. ICVs, CCVs, and LCSs stock standards were purchased from Inorganic Ventures and High Purity.

4. All analyses were performed within the required holding times.

5. The cooler temperature has been recorded on the Chain of Custody.

6. All Initial and Continuing Calibration Verifications (ICV/CCVs) were within control limits.

7. All Initial and Continuing Calibration Blanks (ICB/CCBs) were within control limits.

8. All preparation/method blanks were below reporting limits. Refer to form 3.

9. All ICP Interference Check Samples (ICSA and ICSAB) were within control limits. Although not required, Sodium was spiked into the ICSAB solution at 2000µg/L. The recovery was within the control limits. Refer to form 4.

10. All laboratory control samples (LCS) were within the 80-120% control limits. Refer to form 7.

11. All serial dilution percent differences were within CLP control limits. Refer to form 9.

12. The matrix spike (MS) recovery for 1 analyte was outside the 75-125% control limits (exception allowed when sample concentration exceeds the spike added concentration by a factor of 4 or more). Refer to form 5A. For analytes where the MS is out of control, a post-digestion MS is performed (exception allowed for Silver). MS analyses are not required for Calcium, Magnesium, Sodium and Potassium in waters and soils. Also, not required for Aluminum and Iron in soils.

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13. The duplicate analysis for 1 analyte was outside the method criteria. Refer to form 6.

14. The TCLP extract from sample SH800-02208-B70621 was selected for the matrix spike for this analytical batch. The matrix spike recoveries for all analytes in the TCLP extract were above 50% as per method criteria.

15. All sample IDs were changed to accommodate the EPA naming convention which allows a maximum of 6 characters on all CLP Forms. Refer to the comments section of form 1 for the original ID.

16. Recoveries on the Laboratory Summary Report and CLP forms will vary depending on the number of significant figures used in the recovery calculation.

Pat E

J. Michael Taylor
Vice President
Philadelphia Analytical Laboratory

3-8-00
Date

gmbmld/m02-425

METALS METHOD GLOSSARY

The following methods are used as reference for the digestion and analysis of samples contained within this Recra Lot#: 0002L425

Leaching Procedure: __1310 ✓ __1311 __1312 __Other:_____

CLP Metals __ **Digestion and** __ **Analysis Methods:** __ILM03.0 ✓ __ILM04.0 (Total Samples)

Metals Digestion Methods: __3005A ✓ 3010A __3015 __3020A __3050B __3051 __200.7 __SS17
__Other: _____

Metals Analysis Methods

	SW846	EPA	STD MTD	EPA OSWR	USATHAMA
Aluminum	__6010B	__200.7			__99
Antimony	__6010B __7041 [5]	__200.7 __204.2			__99
Arsenic	✓6010B __7060A [5]	__200.7 __206.2	__3113B		__99
Barium	✓6010B	__200.7			__99
Beryllium	__6010B	__200.7			__99
Bismuth	__6010B [1]	__200.7 [1]		__1620	__99
Boron	__6010B	__200.7			__99
Cadmium	✓6010B __7131A [5]	__200.7 __213.2			__99
Calcium	__6010B	__200.7			__99
Chromium	✓6010B __7191 [5]	__200.7 __218.2			__SS17
Cobalt	__6010B	__200.7			__99
Copper	__6010B __7211 [5]	__200.7 __220.2			__99
Iron	__6010B	__200.7			__99
Lead	✓6010B __7421 [5]	__200.7 __239.2	__3113B		__99
Lithium	__6010B __7430 [4]	__200.7		__1620	__99
Magnesium	__6010B	__200.7			__99
Manganese	__6010B	__200.7			__99
Mercury	✓7470A [3] __7471A [3]	__245.1 [2] __245.5 [2]			__99
Molybdenum	__6010B	__200.7			__99
Nickel	__6010B	__200.7			__99
Potassium	__6010B __7610 [4]	__200.7 __258.1 [4]			__99
Rare Earths	__6010B [1]	__200.7 [1]		__1620	__99
Selenium	✓6010B __7740 [5]	__200.7 __270.2	__3113B		__99
Silicon	__6010B [1]	__200.7		__1620	__99
Silica	__6010B	__200.7		__1620	__99
Silver	✓6010B __7761 [5]	__200.7 __272.2			__99
Sodium	__6010B __7770 [4]	__200.7 __273.1 [4]			__99
Strontium	__6010B	__200.7			__99
Thallium	__6010B __7841 [5]	__200.7 __279.2 __200.9			__99
Tin	__6010B	__200.7			__99
Titanium	__6010B	__200.7			__99
Uranium	__6010B [1]	__200.7 [1]		__1620	__99
Vanadium	__6010B	__200.7			__99
Zinc	__6010B	__200.7			__99
Zirconium	__6010B [1]	__200.7 [1]		__1620	__99

Other:_____ Method:_____

METHOD REFERENCES AND DATA QUALIFIERS

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.

B = Indicates that the parameter was between the Instrument Detection Limit (IDL) and the Contract Required Detection Limit (CRDL)

Q QUALIFIERS

E = The reported value is estimated because of the presence of interference.

M = Duplicate injection precision not met.

N = Spiked sample recovery not within control limits.

S = The reported value was determined by the Method of Standard Additions (MSA).

W = Post Digestion spike for Furnace AA analysis is out of control limits (85 -115 %), while sample absorbance is less than 50% of spike absorbance.

* = Duplicate analysis not within control limits.

+ = Correlation coefficient for the MSA is less than 0.995.

ABBREVIATIONS

PB = Method or Preparation Blank.
S = Matrix Spike.
T = Matrix Spike Duplicate.
R or D = Sample Replicate

ANALYTICAL METAL METHODS

1. Not included in the method element list.
2. Modified Hg: Hg1 and Hg2 require less total volume of digestate due to the autosampler analysis. Sample volumes and reagents for mercury determinations in water and soil have been proportionately scaled down to adapt to this semi-automated technique. The sample volume used for water analysis is 33 mL. For soils, 0.1 grams of sample is taken to a final volume of 50 mL (including all reagents).
3. Modified Hg: Hg1 and Hg2 require less total volume of digestate due to the autosampler analysis. Sample volumes and reagents for mercury determinations in water and soil have been proportionately scaled down to adapt to this semi-automated technique. The sample volume used for water analysis is 33 mL. For soils, three 0.1 gram of sample is taken to a final volume of 50 mL (including all reagents).
4. Flame AA.
5. Graphite Furnace AA.

Inorganic Analysis Data Package

U.S. EPA - CLP

1

INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

B70616

Lab Name: RECRA_LABNET Contract: 01667

Lab Code: RECRA_ Case No.: SH800_ SAS No.: _____ SDG No.: 02208_

Matrix (soil/water): SOIL_ Lab Sample ID: 0002L425-001

Level (low/med): LOW__ Date Received: 02/11/00

% Solids: _81.4

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

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	8100			P
7440-36-0	Antimony	0.43	U	N	P
7440-38-2	Arsenic	4.7			P
7440-39-3	Barium	47.0	B		P
7440-41-7	Beryllium	0.46	B		P
7440-43-9	Cadmium	0.07	U		P
7440-70-2	Calcium	1280			P
7440-47-3	Chromium	11.5			P
7440-48-4	Cobalt	7.6	B		P
7440-50-8	Copper	13.7			P
7439-89-6	Iron	18100			P
7439-92-1	Lead	9.6		*	P
7439-95-4	Magnesium	2640			P
7439-96-5	Manganese	222			P
7439-97-6	Mercury	0.02	U		AV
7440-02-0	Nickel	20.0			P
7440-09-7	Potassium	865	B		P
7782-49-2	Selenium	1.5			P
7440-22-4	Silver	0.21	U		P
7440-23-5	Sodium	97.7	B		P
7440-28-0	Thallium	0.88	U		P
7440-62-2	Vanadium	13.9			P
7440-66-6	Zinc	47.5			P

Color Before: _____ Clarity Before: _____ Texture: _____

Color After: _____ Clarity After: _____ Artifacts: _____

Comments:

_____

_____

_____

_____

U.S. EPA - CLP

1

INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

B70618

Lab Name: RECRA_LABNET Contract: 01667

Lab Code: RECRA Case No.: SH800 SAS No.: SDG No.: 02208

Matrix (soil/water): SOIL Lab Sample ID: 0002L425-003

Level (low/med): LOW Date Received: 02/11/00

% Solids: 83.9

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

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	6140			P
7440-36-0	Antimony	0.42	U	N	P
7440-38-2	Arsenic	7.2			P
7440-39-3	Barium	43.9	B		P
7440-41-7	Beryllium	0.28	B		P
7440-43-9	Cadmium	0.07	U		P
7440-70-2	Calcium	1870			P
7440-47-3	Chromium	11.5			P
7440-48-4	Cobalt	4.6	B		P
7440-50-8	Copper	17.2			P
7439-89-6	Iron	15900			P
7439-92-1	Lead	12.1		*	P
7439-95-4	Magnesium	2130			P
7439-96-5	Manganese	85.4			P
7439-97-6	Mercury	0.09			AV
7440-02-0	Nickel	14.5			P
7440-09-7	Potassium	473	B		P
7782-49-2	Selenium	1.0	U		P
7440-22-4	Silver	0.21	U		P
7440-23-5	Sodium	52.3	B		P
7440-28-0	Thallium	0.87	U		P
7440-62-2	Vanadium	14.3			P
7440-66-6	Zinc	62.9			P

Color Before: Clarity Before: Texture:

Color After: Clarity After: Artifacts:

Comments:

U.S. EPA - CLP

1
INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.
B70619

Lab Name: RECRA_LABNET Contract: 01667

Lab Code: RECRA_ Case No.: SH800_ SAS No.: _____ SDG No.: 02208_

Matrix (soil/water): SOIL_ Lab Sample ID: 0002L425-004

Level (low/med): LOW__ Date Received: 02/11/00

% Solids: _66.5

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

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	3400			P
7440-36-0	Antimony	0.52	U	N	P
7440-38-2	Arsenic	8.8			P
7440-39-3	Barium	59.7			P
7440-41-7	Beryllium	0.15	B		P
7440-43-9	Cadmium	0.65	B		P
7440-70-2	Calcium	4300			P
7440-47-3	Chromium	19.9			P
7440-48-4	Cobalt	10.9	B		P
7440-50-8	Copper	113			P
7439-89-6	Iron	3400			P
7439-92-1	Lead	21.8		*	P
7439-95-4	Magnesium	396	B		P
7439-96-5	Manganese	20.4			P
7439-97-6	Mercury	0.03	U		AV
7440-02-0	Nickel	23.2			P
7440-09-7	Potassium	1000	B		P
7782-49-2	Selenium	2.0			P
7440-22-4	Silver	0.26	U		P
7440-23-5	Sodium	83.6	B		P
7440-28-0	Thallium	1.1	U		P
7440-62-2	Vanadium	32.0			P
7440-66-6	Zinc	62.4			P

Color Before: _____ Clarity Before: _____ Texture: _____

Color After: _____ Clarity After: _____ Artifacts: _____

Comments:

_____

_____

_____

_____

3
BLANKS

Lab Name: RECRA_LABNET_____ Contract: 01667_____

Lab Code: RECRA_ Case No.: SH800_ SAS No.: _____ SDG No.: 02208_

Preparation Blank Matrix (soil/water): SOIL_

Preparation Blank Concentration Units (ug/L or mg/kg): MG/KG

Analyte	Initial Calib. Blank (ug/L)	C	Continuing Calibration Blank (ug/L) 1	C	2	C	3	C	Prepa-ration Blank	C	M
Aluminum	17.1	U	17.1	U	17.1	U	17.1	U	3.420	U	P
Antimony	1.8	U	1.8	U	1.8	U	1.8	U	0.360	U	P
Arsenic	2.9	U	2.9	U	2.9	U	2.9	U	0.580	U	P
Barium	0.2	U	0.2	U	0.2	U	0.2	U	0.061	B	P
Beryllium	0.1	U	0.1	U	0.1	U	0.1	U	0.020	U	P
Cadmium	0.3	U	0.3	U	0.3	U	0.3	U	0.060	U	P
Calcium	13.2	U	13.2	U	13.2	U	13.2	U	2.998	B	P
Chromium	0.6	U	0.6	U	0.6	U	0.6	U	0.120	U	P
Cobalt	0.8	U	0.8	U	0.8	U	0.8	U	0.160	U	P
Copper	0.8	U	0.8	U	0.8	U	0.8	U	0.160	U	P
Iron	14.6	U	14.6	U	14.6	U	14.6	U	2.920	U	P
Lead	2.3	U	2.3	U	2.3	U	2.3	U	0.460	U	P
Magnesium	6.5	U	6.5	U	6.5	U	6.5	U	1.300	U	P
Manganese	0.1	B	0.2	B	0.1	B	0.1	B	0.020	U	P
Mercury	0.1	U	0.1	U	0.1	U	0.1	U	0.050	U	AV
Nickel	1.4	U	1.4	U	1.4	U	1.4	U	0.280	U	P
Potassium	19.7	U	19.7	U	19.7	U	19.7	U	3.940	U	P
Selenium	4.4	U	4.4	U	4.4	U	4.4	U	0.880	U	P
Silver	0.9	U	0.9	U	0.9	U	0.9	U	0.180	U	P
Sodium	2.4	U	2.4	U	2.4	U	2.4	U	1.089	B	P
Thallium	3.8	B	3.7	U	3.7	U	3.7	U	0.740	U	P
Vanadium	0.6	U	0.6	U	0.6	U	0.6	U	0.120	U	P
Zinc	0.8	U	0.8	U	0.8	U	0.8	U	-0.293	B	P

U.S. EPA - CLP

3
BLANKS

Lab Name: RECRA_LABNET_____ Contract: 01667_____

Lab Code: RECRA_ Case No.: SH800_ SAS No.: _____ SDG No.: 02208_

Preparation Blank Matrix (soil/water): _____

Preparation Blank Concentration Units (ug/L or mg/kg): _____

Analyte	Initial Calib. Blank (ug/L)	C	Continuing Calibration Blank (ug/L) 1	C	2	C	3	C	Prepa-ration Blank	C	M
Aluminum			-32.3	B							P
Antimony			1.8	B							P
Arsenic			2.9	U							P
Barium			0.2	U							P
Beryllium			-0.1	B							P
Cadmium			0.3	U							P
Calcium			13.2	U							P
Chromium			0.6	U							P
Cobalt			0.8	U							P
Copper			-1.0	B							P
Iron			14.6	U							P
Lead			2.3	U							P
Magnesium			6.5	U							P
Manganese			0.2	B							P
Mercury			0.1	U	0.1	U	0.1	U			AV
Nickel			1.4	U							P
Potassium			19.7	U							P
Selenium			4.4	U							P
Silver			0.9	U							P
Sodium			-4.4	B							P
Thallium			3.7	U							P
Vanadium			0.6	U							P
Zinc			0.8	U							P

U.S. EPA - CLP

5A
SPIKE SAMPLE RECOVERY

EPA SAMPLE NO.

B70618S

Lab Name: RECRA_LABNET_____ Contract: 01667_____

Lab Code: RECRA_ Case No.: SH800_ SAS No.: _____ SDG No.: 02208_

Matrix (soil/water): SOIL__ Level (low/med): LOW___

% Solids for Sample: _83.9

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

Analyte	Control Limit %R	Spiked Sample Result (SSR)	C	Sample Result (SR)	C	Spike Added (SA)	%R	Q	M
Aluminum									NR
Antimony	75-125	78.8287		0.4248	U	116.85	67.5	N	P
Arsenic	75-125	441.7315		7.1939		467.41	93.0		P
Barium	75-125	477.0516		43.8846	B	467.41	92.7		P
Beryllium	75-125	11.1381		0.2766	B	11.69	92.9		P
Cadmium	75-125	10.6775		0.0708	U	11.69	91.3		P
Calcium									NR
Chromium	75-125	57.2591		11.4521		46.74	98.0		P
Cobalt	75-125	114.7155		4.6371	B	116.85	94.2		P
Copper	75-125	73.3427		17.1937		58.43	96.1		P
Iron									NR
Lead	75-125	121.9168		12.1307		116.85	94.0		P
Magnesium									NR
Manganese	75-125	204.7021		85.3869		116.85	102.1		P
Mercury	75-125	0.2885 ~~0.3135~~		0.0906		0.24 ~~0.26~~	82.4 ~~85.7~~		AV *
Nickel	75-125	125.0193		14.4630		116.85	94.6		P
Potassium									NR
Selenium	75-125	416.5120		1.0385	U	467.41	89.1		P
Silver	75-125	10.8056		0.2124	U	11.69	92.4		P
Sodium									NR
Thallium	75-125	427.4711		0.8733	U	467.41	91.5		P
Vanadium	75-125	126.8878		14.2697		116.85	96.4		P
Zinc	75-125	165.5708		62.9075		116.85	87.9		P

Comments:

Corrections to Mercury MD 3/8/00

U.S. EPA - CLP

5B
POST DIGEST SPIKE SAMPLE RECOVERY

EPA SAMPLE NO.
B70618A

Lab Name: RECRA_LABNET Contract: 01667

Lab Code: RECRA_ Case No.: SH800_ SAS No.: _____ SDG No.: 02208_

Matrix (soil/water) : SOIL__ Level (low/med): LOW___

Concentration Units: ug/L

Analyte	Control Limit %R	Spiked Sample Result (SSR)	C	Sample Result (SR)	C	Added (SA)	%R	Q	M
Aluminum									NR
Antimony		99.62		1.80	U	100.0	99.6		P
Arsenic									NR
Barium									NR
Beryllium									NR
Cadmium									NR
Calcium									NR
Chromium									NR
Cobalt									NR
Copper									NR
Iron									NR
Lead									NR
Magnesium									NR
Manganese									NR
Mercury									NR
Nickel									NR
Potassium									NR
Selenium									NR
Silver									NR
Sodium									NR
Thallium									NR
Vanadium									NR
Zinc									NR

Comments:

6
DUPLICATES

EPA SAMPLE NO.
B70618D

Lab Name: RECRA_LABNET Contract: 01667

Lab Code: RECRA Case No.: SH800 SAS No.: SDG No.: 02208

Matrix (soil/water): SOIL Level (low/med): LOW

% Solids for Sample: 83.9 % Solids for Duplicate: 83.9

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

Analyte	Control Limit	Sample (S)	C	Duplicate (D)	C	RPD	Q	M
Aluminum		6141.2667		6049.4929		1.5		P
Antimony		0.4248	U	0.3764	U			P
Arsenic	2.3602	7.1939		7.2672		1.0		P
Barium		43.8846	B	45.9775		4.7		P
Beryllium		0.2766	B	0.2743	B	0.8		P
Cadmium		0.0708	U	0.0627	U			P
Calcium	1180.094	1869.3612		1937.8625		3.6		P
Chromium	2.3602	11.4521		11.3694		0.7		P
Cobalt		4.6371	B	4.5526	B	1.8		P
Copper	5.9005	17.1937		17.9792		4.5		P
Iron		15906.6168		15654.3755		1.6		P
Lead		12.1307		17.8747		38.3	*	P
Magnesium	1180.094	2128.1913		2080.8879		2.2		P
Manganese		85.3869		84.3966		1.2		P
Mercury	0.0477	0.0906		0.0917		1.2		AV
Nickel	9.4408	14.4630		13.9224		3.8		P
Potassium		472.8600	B	608.6642	B	25.1		P
Selenium		1.0385	U	1.0819		200.0		P
Silver		0.2124	U	0.1882	U			P
Sodium		52.3433	B	52.3742	B	0.1		P
Thallium		0.8733	U	0.7737	U			P
Vanadium	11.8009	14.2697		14.8527		4.0		P
Zinc		62.9075		61.3213		2.6		P

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9
ICP SERIAL DILUTION

EPA SAMPLE NO.

B70618L

Lab Name: RECRA_LABNET Contract: 01667

Lab Code: RECRA Case No.: SH800 SAS No.: SDG No.: 02208

Matrix (soil/water): SOIL Level (low/med): LOW

Concentration Units: ug/L

Analyte	Initial Sample Result (I)	C	Serial Dilution Result (S)	C	% Difference	Q	M
Aluminum	26020.24		26477.60		1.8		P
Antimony	1.80	U	9.00	U			P
Arsenic	30.48		43.18	B	41.7		P
Barium	185.94	B	188.90	B	1.6		P
Beryllium	1.17	B	1.22	B	4.3		P
Cadmium	0.30	U	1.50	U			P
Calcium	7920.39		7937.10	B	0.2		P
Chromium	48.52		49.34	B	1.7		P
Cobalt	19.65	B	22.16	B	12.8		P
Copper	72.85		70.33	B	3.5		P
Iron	67395.54		68033.25		0.9		P
Lead	51.40		54.34		5.7		P
Magnesium	9017.04		9184.10	B	1.9		P
Manganese	361.78		367.85		1.7		P
Mercury							NR
Nickel	61.28		59.76	B	2.5		P
Potassium	2003.48	B	1940.24	B	3.2		P
Selenium	4.40	U	22.00	U			P
Silver	0.90	U	4.50	U			P
Sodium	221.78	B	227.04	B	2.4		P
Thallium	3.70	U	18.50	U			P
Vanadium	60.46		62.25	B	3.0		P
Zinc	266.54		289.59		8.6		P

RECRA
ENVIRONMENTAL
INC.

Chemical and Environmental Measurement Information

RECEIVED

19 January 2000

Mr. Jack Ryan
NYSDEC
Room 392
50 Wolf Road
Albany, NY 12233-3502

Ref: Contract C003783
Sample Data Package: RFW Batch 9912L973
NYSDEC ID: SH899-12206-870601, 870602

Dear Mr. Ryan:

Enclosed please find the data report for 2 soil/solid samples received 8 December 1999. These were analyzed for CLP VOA, BNA, pesticides/PCBs, metals/CN and full TCLP. The EDD is being emailed to you and a disk will be sent to the sampler.

We had received an extension for this report.

Please do not hesitate to contact me at (610) 280-3000 with any questions you may have.

Very truly yours,

Recra Environmental, Inc.

Judith L. Stone
Senior Project Manager

Enclosure

cc: Frank Sowers (NYSDEC)

208 Welsh Pool Road • Lionville, PA 19341-1333 • (610) 280-3000 • Fax (610) 280-3041

RECRA LabNet Use Only
99121973

Custody Transfer Record/Lab Work Request

Page 1 of 1

FIELD PERSONNEL: COMPLETE ONLY SHADED AREAS

RECRA LabNet

Client: Nysdec
Est. Final Proj. Sampling Date:
Project #: 01667-600-001-9999-00
Project Contact/Phone #:
RECRA Project Manager: J.S. Day
QC: Clp Del: Clp TAT: 7 ~~[illegible]~~
Date Rec'd: 12-8-99 Date Due: ~~1-7-99~~ 12/15/99
Account #:

Refrigerator #	1	3	3					3	3	3	3			
#/Type Container Liquid														
#/Type Container Solid	1g	1g						1g						
Volume Liquid														
Volume Solid	125	250						125						
Preservatives														
ANALYSES REQUESTED	ORGANIC: VOA	BNA	Pest/PCB	Herb				INORG: Metal	CN					
RECRA LabNet Use Only	0624C	0625C	0608C		0024T			MH5L70	1CN70	1TCLV	1TCLP		C025T C0081	04B6T ROBATCH

MATRIX CODES:
S - Soil
SE - Sediment
SO - Solid
SL - Sludge
W - Water
O - Oil
A - Air
DS - Drum Solids
DL - Drum Liquids
L - EP/TCLP Leachate
WI - Wipe
X - Other
F - Fish

Lab ID	Client ID/Description	MS	MSD	Matrix	Date Collected	Time Collected	VOA	BNA	Pest/PCB	Herb	0024T			Metal	CN	TCLV	TCLP		C025T	04B6T
001	SH899-12206-B706-01			S	12/6/99	1000	1	1	✓					✓	✓	✓	✓			
002	〃 〃 02			S	〃	1007	1	1	✓					✓	✓	✓	✓			
003	〃 〃 01 tclvofor			L	*	-					✓									
004	〃 〃 02	〃		2	〃	〃					✓									
005	〃 〃 01 tclpafor			〃	〃	〃													✓	✓
006	〃 〃 02	〃		2 〃	〃	〃													✓	✓
007	Nysdec-fridge blank			W	12/10/99	1619	✓													

Special Instructions:

DATE/REVISIONS:
1. Relog from 99121959-001+002
2. 99PM292
007→ 3. was made on 12/10/99 - but
4. Logged as 12/8/99 to accommodate
5. Lims
6.

Relinquished by	Received by	Date	Time
Relog	Janson	12/10/99	-

Relinquished by	Received by	Date	Time
	ORIGINAL REWRITTEN		

Discrepancies Between Samples Labels and COC Record? Y or N
NOTES:

RECRA LabNet Use Only

Samples were:
1) Shipped ___ or Hand Delivered ___
Airbill # ___
2) Ambient or Chilled
3) Received in Good Condition Y or N
4) Labels Indicate Properly Preserved Y or N
5) Received Within Holding Times Y or N

COC Tape was:
1) Present on Outer Package Y or N
2) Unbroken on Outer Package Y or N
3) Present on Sample Y or N
4) Unbroken on Sample Y or N
COC Record Present Upon Sample Rec't Y or N
Cooler Temp. ___ °C

CASE NARRATIVE

RECRA ENVIRONMENTAL INC.

Chemical and Environmental Measurement Information

Recra LabNet Philadelphia
Analytical Report

Client: NYSDEC
RFW#: 9912L973
ELAP#: 10752

W.O.#: 01667-600-001-9999-00
Date Received: 12-08-99

PESTICIDE/PCB

The set of samples consisted of two (2) soil samples collected on 12-06-99.

The samples and their associated QC samples were extracted on 12-17-99 and analyzed on 01-06-00 according to criteria set forth in NYSDEC 1995 ASP for Pesticide and PCB target compounds.

The following is a summary of the QC results accompanying the sample results and a description of any problems encountered during their analyses:

1. Linearity and breakdown criteria were met for each of the analytical columns.
2. Retention time criteria were met for all compounds on both analytical columns.
3. Resolution of all pesticides in the Resolution Check Standard were within EPA QC limits.
4. The RPDs of the pesticides in the Individual Mixes analyzed for calibration verification were within 25% for both analytical columns.
5. The RPDs of the pesticides in the Performance Evaluation Mixes analyzed for calibration verification were within 25% for both analytical columns.
6. All surrogate recoveries were within the advisory EPA QC limits.
7. All blank spike recoveries were within EPA QC limits.
8. Recoveries of pesticides for the Florisil Cartridge Check were within EPA QC limits.
9. Recoveries of pesticides for the GPC Calibration Check were within EPA QC limits.

J. Michael Taylor
Vice President
Philadelphia Analytical Laboratory

01-18-00
Date

per\r:\group\data\pest\12L-973..pes

GLOSSARY OF PESTICIDE/PCB DATA

DATA QUALIFIERS

U = Indicates that the compound was analyzed for but not detected. The minimum detection limit for the sample (not the method detection limit) is reported with the U (e.g., 10U).

J = Indicates an estimated value. This flag is used in cases where a target analyte is detected at a level less than the lower quantification level. If the limit of quantification 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.

E = Indicates that the compound was detected beyond the calibration range and was subsequently analyzed at a dilution.

I = Interference.

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 recoveries were not obtained because the extract had to be diluted for analysis.

NA = Not Applicable.

DF = Dilution Factor.

NR = Not Required.

SP = Indicates Spiked Compound.

GLOSSARY OF PESTICIDE/PCB DATA

P = This flag is used for a pesticide/Aroclor target analyte when there is greater than 25% difference for detected concentrations between the two GC columns (see Form X). The lower of the two values is reported on Form I and flagged with a "P".

D = This flag identifies all compounds identified in an analysis at a secondary dilution factor.

C = This flag applies to a compound that has been confirmed by GC/MS.

RECRA LabNet Use Only

99124973

Custody Transfer Record/Lab Work Request

FIELD PERSONNEL: COMPLETE ONLY SHADED AREAS

RECRA LabNet

Client: Nysdec

Est. Final Proj. Sampling Date:

Project #: 01667-600-001-9999-00

Project Contact/Phone #:

RECRA Project Manager: T.S.

QC: Clp Del: Clp TAT: 7 ~~30 day~~ day

Date Rec'd: 12-8-99 Date Due: ~~1-7-99~~ 12/15/99

Account #:

	VOA	BNA	Pest/PCB	Herb				Metal	CN					
Refrigerator #	1	3	3					3	3	3	3			
#/Type Container – Liquid														
#/Type Container – Solid	1gl	1gl	⊥					1gl	⊥	⊥	⊥			
Volume – Liquid														
Volume – Solid	125	250	⊥					125	⊥	⊥	⊥			
Preservatives														
ANALYSES REQUESTED	ORGANIC							INORG						

MATRIX CODES: S - Soil; SE - Sediment; SO - Solid; SL - Sludge; W - Water; O - Oil; A - Air; DS - Drum Solids; DL - Drum Liquids; L - EP/TCLP Leachate; WI - Wipe; X - Other; F - Fish

RECRA LabNet Use Only

Lab ID	Client ID/Description	MS	MSD	Matrix	Date Collected	Time Collected	0624C	0625C	0608C		0324T			MH5L70	1CN70	1TCLV	1TCLP		C025T CT 1081	OH8CT ROTATION
001	SH899-12206-B706-01			S	12/6/99	1000	1	1	✓					✓	✓	✓	✓			
002	⊥ ⊥ 02			S	⊥	1007	1	1	✓					✓	✓	✓	✓			
003	01 tclvafor			L	*	-					✓									
004	02	⊥		2							✓									
005	01 tclpafor																		✓	✓
006	02	⊥		2 ⊥	⊥	⊥													✓	✓
007	Nysdec-fridge blank			W	12/10/99	1619	✓													

Special Instructions:

DATE/REVISIONS:
1. Relog from 99124959-001+002
2. 99PM292
3. 007 → was made on 12/10/99 - but
4. logged as 12/8/99 to accomodate
5. lims
6.

RECRA LabNet Use Only

Samples were: 1) Shipped ___ or Hand Delivered ___
Airbill # ___
2) Ambient or Chilled
3) Received in Good Condition Y or N
4) Labels Indicate Properly Preserved Y or N
5) Received Within Holding Times Y or N

COC Tape was:
1) Present on Outer Package Y or N
2) Unbroken on Outer Package Y or N
3) Present on Sample Y or N
4) Unbroken on Sample Y or N
COC Record Present Upon Sample Rec't Y or N
Cooler Temp. ___ °C

Relog

Relinquished by	Received by	Date	Time
Relog	Janson	12/10/99	-

Relinquished by	Received by	Date	Time
	ORIGINAL		
	REWRITTEN		

Discrepancies Between Samples Labels and COC Record? Y or N
NOTES:

3F

SOIL ORGANICS BLANK SPIKE RECOVERY

Lab Name: Recra.LabNet Contract: 1667-00-01

Client : NYSDEC RFW Lot No.: 99LE1531-MB1

BLANK Spike - Sample No.: PBLKCU

COMPOUND	SPIKE ADDED UG/KG	SAMPLE CONCENTRATION UG/KG	BS CONCENTRATION UG/KG	BS % REC #	QC LIMITS REC.
gamma-BHC (Lindane)	16.7	0	15	90	46-127
Heptachlor	16.7	0	15	90	35-130
Aldrin	16.7	0	16	98	34-132
Dieldrin	33.3	0	30	91	31-134
Endrin	33.3	0	33	99	42-139
4,4'-DDT	33.3	0	31	94	23-134

Column to be used to flag recovery value with an asterisk

* Values outside of QC limits

Spike Recovery: 0 out of 6 outside limits

COMMENTS:

1D

ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

SH899-12206-B706-01

Lab Name: Recra.LabNet Work Order: 01667-600-001-9999-00

Client: NYSDEC

Matrix: (soil/water) SOIL Lab Sample ID: 9912L973-001

Sample wt/vol: 30.0 (g/mL) G Lab File ID: 01050012.21

% Moisture: 13 decanted: (Y/N) N Date Received: 12/08/99

Extraction: (SepF/Cont/Sonc) SONC Date Extracted: 12/17/99

Concentrated Extract Volume: 2000(uL) Date Analyzed: 01/06/00

Injection Volume: 0.5(uL) Dilution Factor: 1.00

GPC Cleanup: (Y/N) Y pH: 8.4 Sulfur Cleanup: (Y/N) N

CAS NO.	COMPOUND	CONCENTRATION UNITS: UG/KG	Q
319-84-6	Alpha-BHC	1.9	U
319-85-7	Beta-BHC	1.9	U
319-86-8	Delta-BHC	1.9	U
58-89-9	gamma-BHC (Lindane)	1.9	U
76-44-8	Heptachlor	1.9	U
309-00-2	Aldrin	1.9	U
1024-57-3	Heptachlor epoxide	1.9	U
959-98-8	Endosulfan I	1.9	U
60-57-1	Dieldrin	3.8	U
72-55-9	4,4'-DDE	3.8	U
72-20-8	Endrin	3.8	U
33213-65-9	Endosulfan II	3.8	U
72-54-8	4,4'-DDD	3.8	U
1031-07-8	Endosulfan sulfate	3.8	U
50-29-3	4,4'-DDT	3.8	U
72-43-5	Methoxychlor	19	U
53494-70-5	Endrin ketone	3.8	U
7421-93-4	Endrin aldehyde	3.8	U
5103-71-9	alpha-Chlordane	1.9	U
5103-74-2	gamma-Chlordane	1.9	U
8001-35-2	Toxaphene	190	U
12674-11-2	Aroclor-1016	38	U
11104-28-2	Aroclor-1221	77	U
11141-16-5	Aroclor-1232	38	U
53469-21-9	Aroclor-1242	38	U
12672-29-6	Aroclor-1248	38	U
11097-69-1	Aroclor-1254	38	U
11096-82-5	Aroclor-1260	38	U

01-17-00

1D

ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

SH899-12206-B706-02

Lab Name: Recra.LabNet Work Order: 01667-600-001-9999-00

Client: NYSDEC

Matrix: (soil/water) SOIL Lab Sample ID: 9912L973-002

Sample wt/vol: 30.0 (g/mL) G Lab File ID: 01050012.22

% Moisture: 22 decanted: (Y/N) N Date Received: 12/08/99

Extraction: (SepF/Cont/Sonc) SONC Date Extracted: 12/17/99

Concentrated Extract Volume: 2000(uL) Date Analyzed: 01/06/00

Injection Volume: 0.5(uL) Dilution Factor: 1.00

GPC Cleanup: (Y/N) Y pH: 8.3 Sulfur Cleanup: (Y/N) N

CAS NO.	COMPOUND	CONCENTRATION UNITS: UG/KG	Q
319-84-6	Alpha-BHC	2.1	U
319-85-7	Beta-BHC	2.1	U
319-86-8	Delta-BHC	2.1	U
58-89-9	gamma-BHC (Lindane)	2.1	U
76-44-8	Heptachlor	2.1	U
309-00-2	Aldrin	2.6	P
1024-57-3	Heptachlor epoxide	2.1	U
959-98-8	Endosulfan I	2.1	U
60-57-1	Dieldrin	4.3	U
72-55-9	4,4'-DDE	4.3	U
72-20-8	Endrin	4.3	U
33213-65-9	Endosulfan II	4.3	U
72-54-8	4,4'-DDD	4.3	U
1031-07-8	Endosulfan sulfate	4.3	U
50-29-3	4,4'-DDT	4.3	U
72-43-5	Methoxychlor	21	U
53494-70-5	Endrin ketone	4.3	U
7421-93-4	Endrin aldehyde	4.3	U
5103-71-9	alpha-Chlordane	2.1	U
5103-74-2	gamma-Chlordane	2.1	U
8001-35-2	Toxaphene	210	U
12674-11-2	Aroclor-1016	43	U
11104-28-2	Aroclor-1221	86	U
11141-16-5	Aroclor-1232	43	U
53469-21-9	Aroclor-1242	43	U
12672-29-6	Aroclor-1248	43	U
11097-69-1	Aroclor-1254	43	U
11096-82-5	Aroclor-1260	43	U

1-17-00

024

1D

ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

PBLKCU

Lab Name: Recra.LabNet Work Order: 01667-600-001-9999-00

Client: NYSDEC

Matrix: (soil/water) SOIL Lab Sample ID: 99LE1531-MB1

Sample wt/vol: 30.0 (g/mL) G Lab File ID: 01050011.18

% Moisture: 0 decanted: (Y/N) N Date Received: 12/17/99

Extraction: (SepF/Cont/Sonc) SONC Date Extracted: 12/17/99

Concentrated Extract Volume: 2000(uL) Date Analyzed: 01/06/00

Injection Volume: 0.5(uL) Dilution Factor: 1.00

GPC Cleanup: (Y/N) Y pH: 7.0 Sulfur Cleanup: (Y/N) N

CAS NO.	COMPOUND	CONCENTRATION UNITS: UG/KG	Q
319-84-6	Alpha-BHC	1.7	U
319-85-7	Beta-BHC	1.7	U
319-86-8	Delta-BHC	1.7	U
58-89-9	gamma-BHC (Lindane)	1.7	U
76-44-8	Heptachlor	1.7	U
309-00-2	Aldrin	1.7	U
1024-57-3	Heptachlor epoxide	1.7	U
959-98-8	Endosulfan I	1.7	U
60-57-1	Dieldrin	3.3	U
72-55-9	4,4'-DDE	3.3	U
72-20-8	Endrin	3.3	U
33213-65-9	Endosulfan II	3.3	U
72-54-8	4,4'-DDD	3.3	U
1031-07-8	Endosulfan sulfate	3.3	U
50-29-3	4,4'-DDT	3.3	U
72-43-5	Methoxychlor	17	U
53494-70-5	Endrin ketone	3.3	U
7421-93-4	Endrin aldehyde	3.3	U
5103-71-9	alpha-Chlordane	1.7	U
5103-74-2	gamma-Chlordane	1.7	U
8001-35-2	Toxaphene	170	U
12674-11-2	Aroclor-1016	33	U
11104-28-2	Aroclor-1221	67	U
11141-16-5	Aroclor-1232	33	U
53469-21-9	Aroclor-1242	33	U
12672-29-6	Aroclor-1248	33	U
11097-69-1	Aroclor-1254	33	U
11096-82-5	Aroclor-1260	33	U

01-17-00

1D

ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

PBLKCUBS

Lab Name: Recra.LabNet Work Order: 01667-600-001-9999-00

Client: NYSDEC

Matrix: (soil/water) SOIL Lab Sample ID: 99LE1531-MB1 BS

Sample wt/vol: 30.0 (g/mL) G Lab File ID: 01050011.19

% Moisture: 0 decanted: (Y/N) N Date Received: 12/17/99

Extraction: (SepF/Cont/Sonc) SONC Date Extracted: 12/17/99

Concentrated Extract Volume: 2000 (uL) Date Analyzed: 01/06/00

Injection Volume: 0.5 (uL) Dilution Factor: 1.00

GPC Cleanup: (Y/N) Y pH: 7.0 Sulfur Cleanup: (N) N

CAS NO.	COMPOUND	CONCENTRATION UNITS: UG/KG	Q
319-84-6	Alpha-BHC	1.7	U
319-85-7	Beta-BHC	1.7	U
319-86-8	Delta-BHC	1.7	U
58-89-9	gamma-BHC (Lindane)	15	
76-44-8	Heptachlor	15	
309-00-2	Aldrin	16	
1024-57-3	Heptachlor epoxide	1.7	U
959-98-8	Endosulfan I	1.7	U
60-57-1	Dieldrin	30	
72-55-9	4,4'-DDE	3.3	U
72-20-8	Endrin	33	
33213-65-9	Endosulfan II	3.3	U
72-54-8	4,4'-DDD	3.3	U
1031-07-8	Endosulfan sulfate	3.3	U
50-29-3	4,4'-DDT	31	
72-43-5	Methoxychlor	17	U
53494-70-5	Endrin ketone	3.3	U
7421-93-4	Endrin aldehyde	3.3	U
5103-71-9	alpha-Chlordane	1.7	U
5103-74-2	gamma-Chlordane	1.7	U
8001-35-2	Toxaphene	170	U
12674-11-2	Aroclor-1016	33	U
11104-28-2	Aroclor-1221	67	U
11141-16-5	Aroclor-1232	33	U
53469-21-9	Aroclor-1242	33	U
12672-29-6	Aroclor-1248	33	U
11097-69-1	Aroclor-1254	33	U
11096-82-5	Aroclor-1260	33	U

01-17-00

Case Narrative

Recra LabNet Philadelphia
Analytical Report

Client: NYSDEC
RFW#: 9912L973 **(Relogged)**
ELAP #: 10752

W.O.#: 01667-600-001-9999-00
Date Received: 12-08-99

GC/MS VOLATILE

One (1) water and two (2) soil samples were collected on 12-06,08-99.

The samples and their associated QC samples were analyzed according to criteria set forth in NYSDEC ASP (Rev. 10-95) for TCL Volatile target compounds on 12-12,13-99.

The following is a summary of the QC results accompanying these sample results and a description of any problems encountered during their analyses:

1. These samples were relogged from RFW lot 9912L959.

2. The required holding time for analysis was met.

3. Non-target compounds were detected in the samples.

4. Samples SH899-12206-B706-01 and SH899-12206-B706-02 required medium level analyses due to high levels of both target and non-target compounds.

5. Four (4) of eighteen (18) surrogate recoveries were outside EPA QC limits. The analysis of the method blank fulfills the reanalysis requirement of sample 99LVN492-MB1 BS. The surrogate recovery criteria were not met for samples SH899-12206-B706-01 and SH899-12206-B706-02 due to the TIC interferences; however, samples were not reanalyzed because no significant target compounds were detected in the samples. A copy of the Sample Discrepancy Report (SDR) has been enclosed.

6. Matrix spike analyses are associated with RFW lot 9912L959.

7. All blank spike recoveries were within EPA QC limits.

8. The method blanks contained the common laboratory contaminants Methylene Chloride and Acetone at levels less than 2x the CRQL. The method blank 99LVN490-MB1 also contained the target compound 2-Butanone at a level less than the CRQL.

9. All internal standard area and retention time criteria were met.

10. The water analyses were performed with the method enhancement of a 40°C heated purge to standardize the purge temperature and improve overall purging efficiency.

208 Welsh Pool Road • Lionville, PA 19341-1333 • (610) 280-3000 • Fax (610) 280-3041

11. The samples were analyzed with a standard, which had expired for the gas compounds; however, upon comparison with a newly prepared standard (prepared on 12-14-99) indicated that the gas recoveries were within criteria; consequently, there were no significant impact on the data. A copy of the Corrective Action Documentation has been enclosed.

12. Manual integrations are performed according to OP L-QA-125 to produce quality data with the utmost integrity. All manual integrations are required to be technically valid and properly documented. Appropriate technical flags are defined in Section III ("Technical Flags For Manual Integration"); hard copies of the integrations have been included with the quantitation data.

13. 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 hard copy 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.

By _____ 12-22-99

J. Michael Taylor
Vice President
Philadelphia Analytical Laboratory

Date

som\group\data\voa\nys12973.doc

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 under the following circumstances: 1) when estimating a concentration for tentatively identified compounds (TICs) where a 1:1 response is assumed; or 2) 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.

D = Identifies all compounds identified in an analysis at a secondary dilution factor.

I = Interference.

NQ = Result qualitatively confirmed but not able to quantify.

N = Indicates presumptive evidence of a compound. This flag is only used for tentatively identified compounds (TICs), where the identification is based on a mass spectral library search. It is applied to all TIC results. For generic characterization of a TIC, such as chlorinated hydrocarbon, the N code is not used.

X = This flag is used for a TIC compound which is quantified relative to a response factor generated from a daily calibration standard (rather than quantified relative to the closest internal standard).

Y = Additional qualifiers used as required are explained in the case narrative.

GLOSSARY OF VOA DATA

ABBREVIATIONS

BS	=	Indicates blank spike in which reagent grade water is spiked with the CLP matrix spike 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	=	Suffix added to sample number to indicate that results are from a diluted analysis.
NA	=	Not Applicable.
DF	=	Dilution Factor.
NR	=	Not Required.
SP, Z	=	Indicates Spiked Compound.

TECHNICAL FLAGS FOR MANUAL INTEGRATION

Manual quan modifications or integrations are performed routinely to improve the data quality for a variety of technical reasons. Documentation of these modifications should be clear and concise. The following "flags" are used to indicate the technical reasons for quan modifications:

MP - Missed Peak: manually added peak not found by automatic quan program.

PA - Peak Assignment: quan report was changed to reflect correct peak assignment.

RI - Routine Integration: routine integrations are performed for some analytes that are consistently integrated improperly by the automatic integration programs. Examples are the dichlorobenzene isomers on the VOA packed column and benzo(b)fluoranthene/benzo(k)fluoranthene which are poorly resolved on the BNA column.

SP - Split Peak: the automatic integration improperly split the peak; a manual integration was performed to get the correct area.

CB - Coelution/Background: peak was manually integrated to eliminate contribution from coeluting compounds, background signal, or other interference.

PI - Proper Integration: a peak with poor or inconsistent integration (e.g., excessive tail) was properly integrated manually.

Recra LabNet Philadelphia **Sample Discrepancy Report (SDR)** SDR #: 99NT244

Initiator: N Schneider RFW Batch: 9912-973 Parameter: [illegible]
Date: 12/12/99 Samples: [illegible] Matrix: Soil
Client: NYSDEC Method: SW846/MCAWW/CLP/ Prep Batch: —

1. Reason for SDR

a. COC Discrepancy __ Tech Profile Error __ Client Request __ Sampler Error on C-O-C
__ Transcription Error __ Wrong Test Code __ Other ____________

b. General Discrepancy
__ Missing Sample/Extract __ Container Broken __ Wrong Sample Pulled __ Label ID's Illegible
__ Hold Time Exceeded __ Insufficient Sample __ Preservation Wrong __ Received Past Hold
__ Improper Bottle Type __ Not Amenable to Analysis

Note: Verified by [Log-In] or [Prep Group] (circle)...signature/date: ____________

c. QC Problem (Include all relevant specific results; attach data if necessary)

~~All IS were low, and SS3~~ [illegible] All IS's OK.
SS2 (Toluene) & SS3 (BFB) were out of limits (see below). Sample is loaded with extremely large TICs.

	Limit %	Actual
SS2	84-138	82%
SS3	59-113	141%

2. Known or Probable Causes(s)

Matrix interference -
* Medium analysis was done on 12/12 surrogates were still out for sample c01 - major TICs in both samples no targets, at this point would like to report only the medium levels.

3. Discussion and Proposed Action Other Description:

__ Re-log
__ Entire Batch
__ Following Samples: ________
__ Re-leach
__ Re-extract
__ Re-digest
__ Revise EDD
__ Change Test Code to ________
__ Place On/Take Off Hold (circle)

* We would like to avoid re-analyzing due to TIC contamination (reanalysis would be at medium level). No significant hits.
Report run & Narrate SS.

4. Project Manager Instructions...signature/date: [signature] 12/13/99
✓ Concur with Proposed Action
__ Disagree with Proposed Action; See Instruction
✓ Include in Case Narrative
__ Client Contacted:
Date/Person ____________
__ Add
__ Cancel

5. Final Action...signature/date: [signature] 12/22/99 Other Explanation:
Verified re-[log][leach][extract][digest][analysis] (circle)
X Included in Case Narrative
__ Hard Copy COC Revised
__ Electronic COC Revised
__ EDD Corrections Completed

When Final Action has been recorded, forward original to QA Specialist for distribution and filing.

Route	Distribution of Completed SDR	Route	Distribution of Completed SDR
2	X Initiator M. Schneider	__	__ Metals: Doughty
	X Lab Manager: M Taylor	__	__ Inorganic: Perrone
1	X Project Mgr: (Stone)/Carey/Schrenkel/Johnson	__	__ GC/LC: Schnell
__	X Section Mgr: ~~Wesson~~/Daniels	__	__ MS: Taylor
__	X QA (file): Racioppi	__	__ Log-in: Janson
__	__ Data Management: Feldman	__	__ Admin: Soos
__	__ Sample Prep: Doughty/Kauffman	__	__ Other: ________

L-WI-006/E-03/99

Recra LabNet Philadelphia

CORRECTIVE ACTION DOCUMENTATION

AUDIT REPORT # AR99-035

INSTRUCTIONS: 1) **ORIGINATOR** complete **PERSON RESPONSIBLE FOR RESPONSE** and **DESCRIPTION OF PROBLEM** blocks.
2) Originator forward form to **PERSON RESPONSIBLE FOR RESPONSE**.
3) Develop/plan a **SEQUENCE OF CORRECTIVE ACTION** and obtain **INITIAL CA APPROVAL** sign-off from supervisor.
4) Forward original form to QA for sign-off and **FOLLOW-UP ACTION**. This allows all pertinent action to be documented on the original form. On completion of the corrective action, the form is signed off by QA, distributed, and the original archived with the QA records.

DATE/ORIGINATOR MARIE SCHNEIDER 12-14-99

PAGE 1 OF 1

PERSON RESPONSIBLE FOR RESPONSE (corrective action plan and implementation of corrective action plan):

MARIE SCHNEIDER

12/14

DISTRIBUTION:
___ LABORATORY MANAGER
___ INORGANIC MANAGER
___ GC/MS MANAGER
___ GC/EXTR MANAGER
___ QA MANAGER
___ QA REPORT FILE
___
___

DESCRIPTION OF PROBLEM and when identified: Samples analyzed from 12/10 → 12/13/99 ran on calibrations which used an expired std (gases only). The std (8109-006-02) expired on 12/9/99.

CAUSE OF PROBLEM if known or suspected: Replacement std was prepped, but was not good (8109-012-01) (prepped incorrectly)

SEQUENCE OF CORRECTIVE ACTION (CA) planned (signature/date): 12/14/99

The replacement std (8109-012-01) was prepped on 12/9/99; prior to "old" std's expiration. When std was checked, it did not meet criteria (bad prep). A 2nd replacement std (8109-013-01) was prepped on 12/13/99 - it did meet criteria.

The expired std (gases only) were checked against the "new" std, and met criteria, confirming the validity of the "expired" std.

ATTACHED - Form 7; logbook noting effected batches

INITIAL CA APPROVAL: Supervisor signature/date: STD Webb 12-14-99
QA signature/date:

DESCRIPTION OF QA FOLLOW-UP ACTION (include signature/date): Jim Hurmel QA 12/28/99

FINAL CA APPROVED (QA signature/date):

RFW 21-21-006/C-05/97

RECRA LabNet Use Only

99121973

Custody Transfer Record/Lab Work Request

Page 1 of 1

FIELD PERSONNEL: COMPLETE ONLY SHADED AREAS

RECRA LabNet

Client: Nysdec

Est. Final Proj. Sampling Date:

Project #: 01667-600-001-9999-00

Project Contact/Phone #:

RECRA Project Manager: T.S.

QC: Clp Del: Clp TAT: 7 ~~5~~ day ~~12/10/99~~

Date Rec'd: 12-8-99 Date Due: ~~12/9/99~~ 12/15/99

Account #:

Refrigerator #		1	3	3					3	3	3	3							
#/Type Container	Liquid																		
	Solid	1gl	1gl	1					1gl		1	1							
Volume	Liquid																		
	Solid	125	250	1					125		1	1							
Preservatives																			
ANALYSES REQUESTED →		ORGANIC							INORG										
		VOA	BNA	Pest/PCB	Herb				Metal	CN									
									RECRA LabNet Use Only										
		0624C	0625C	0608C		C324T			MHSETO	ICMTO	ITALV	ITCLP		C125T	CHBGT				

MATRIX CODES	Lab ID	Client ID/Description	Matrix QC Chosen (✓) MS	MSD	Matrix	Date Collected	Time Collected														
S - Soil, SE - Sediment, SO - Solid, SL - Sludge, W - Water, O - Oil, A - Air, DS - Drum Solids, DL - Drum Liquids, L - EP/TCLP Leachate, WI - Wipe, X - Other, F - Fish	001	SH899-12206-B706-01			S	12/6/99	1000	1	1	✓					✓	✓	✓	✓			
	002	〃 〃 02			S	〃	1007	1	1	✓					✓	✓	✓	✓			
	003	01 telephone			L	*	-				✓										
	004	02			〃	〃	〃				✓										
	005	01 telephone			〃	〃	〃												✓	✓	
	006	02			〃	〃	〃												✓	✓	
	007	Nysdec-fridge blank			W	12/10/99	1619	✓													

Special Instructions:

DATE/REVISIONS:

1. Relog from 99121959-001+002
2. 99PM292
3. 007 → was made on 12/10/99 - but
4. Logged as 12/8/99 to accommodate
5. CLMS
6.

Relinquished by	Received by	Date	Time
Kelley	Jamison	12/10/99	-

Relinquished by	Received by	Date	Time
	ORIGINAL		
	REWRITTEN		

Discrepancies Between Samples Labels and COC Record? Y or N

NOTES:

RECRA LabNet Use Only

Samples were:
1) Shipped ___ or Hand Delivered ___
Airbill # ___
2) Ambient or Chilled
3) Received in Good Condition Y or N
4) Labels Indicate Properly Preserved Y or N
5) Received Within Holding Times Y or N

COC Tape was:
1) Present on Outer Package Y or N
2) Unbroken on Outer Package Y or N
3) Present on Sample Y or N
4) Unbroken on Sample Y or N

COC Record Present Upon Sample Rec't Y or N

Cooler Temp. ___ C

3A

WATER VOLATILE MATRIX SPIKE RECOVERY

Lab Name: Recra.LabNet Contract: ONE

Lab Code: Recra Case No.: SAS No.: _____ SDG No.: _____

MATRIX Spike - EPA Sample No.: VBLKEH

COMPOUND	SPIKE ADDED ug/L	SAMPLE CONCENTRATION ug/L	MS CONCENTRATION ug/L	MS % REC #	QC LIMITS REC.
1,1-Dichloroethene	50.0	0	43.4	87	61 -145
Trichloroethene	50.0	0	47.9	96	71 -120
Benzene	50.0	0	48.9	98	76 -127
Toluene	50.0	0	49.1	98	76 -125
Chlorobenzene	50.0	0	49.5	99	75 -130

Column to be used to flag recovery value with an asterisk

* Values outside of QC limits

Spike Recovery: 0 out of 5 outside limits

COMMENTS: _____

_____

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

SH899-12206-B706-01

Lab Name: Recra.LabNet Contract: 01667600001

Lab Code: Recra Case No.: _____ SAS No.: _____ SDG No.: _____

Matrix: (soil/water) SOIL Lab Sample ID: 9912L973-001

Sample wt/vol: 4.10 (g/mL) G Lab File ID: N121209

Level: (low/med) MED Date Received: 12/08/99

% Moisture: not dec. 13 Date Analyzed: 12/12/99

GC Column: RTX624 ID: 0.32(mm) Dilution Factor: 0.976

Soil Extract Volume: 10000 (uL) Soil Aliquot Volume: 100 (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
74-87-3	Chloromethane	1400	U
74-83-9	Bromomethane	1400	U
75-01-4	Vinyl Chloride	1400	U
75-00-3	Chloroethane	1400	U
75-09-2	Methylene Chloride	1300	JB
67-64-1	Acetone	410	JB
75-15-0	Carbon Disulfide	1400	U
75-35-4	1,1-Dichloroethene	1400	U
75-34-3	1,1-Dichloroethane	1400	U
540-59-0	1,2-Dichloroethene (total)	1400	U
67-66-3	Chloroform	1400	U
107-06-2	1,2-Dichloroethane	1400	U
78-93-3	2-Butanone	1400	U
71-55-6	1,1,1-Trichloroethane	1400	U
56-23-5	Carbon Tetrachloride	1400	U
75-27-4	Bromodichloromethane	1400	U
78-87-5	1,2-Dichloropropane	1400	U
10061-01-5	cis-1,3-Dichloropropene	1400	U
79-01-6	Trichloroethene	1400	U
124-48-1	Dibromochloromethane	1400	U
79-00-5	1,1,2-Trichloroethane	1400	U
71-43-2	Benzene	1400	U
10061-02-6	Trans-1,3-Dichloropropene	1400	U
75-25-2	Bromoform	1400	U
108-10-1	4-Methyl-2-pentanone	1400	U
591-78-6	2-Hexanone	1400	U
127-18-4	Tetrachloroethene	1400	U
79-34-5	1,1,2,2-Tetrachloroethane	1400	U
108-88-3	Toluene	1400	U
108-90-7	Chlorobenzene	1400	U
100-41-4	Ethylbenzene	1400	U
100-42-5	Styrene	1400	U
1330-20-7	Xylene (total)	1400	U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

SH899-12206-B706-01

Lab Name: Recra.LabNet Contract: 01667600001

Lab Code: Recra Case No.: _____ SAS No.: _____ SDG No.: _____

Matrix: (soil/water) SOIL Lab Sample ID: 9912L973-001

Sample wt/vol: 4.10 (g/mL) G Lab File ID: N121209

Level: (low/med) MED Date Received: 12/08/99

% Moisture: not dec. 13 Date Analyzed: 12/12/99

GC Column: RTX624 ID: 0.32 (mm) Dilution Factor: 0.976

Soil Extract Volume: 10000 (uL) Soil Aliquot Volume: 100 (uL)

Number TICs found: 12 CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.		CYCLOALKANE	19.642	10000	J
2.		CYCLOALKANE	20.194	7000	J
3.		CYCLOALKANE	21.427	8000	J
4.		C3-ALKYLBENZENE	21.565	10000	J
5.		CYCLOA[illegible]ANE	22.601	9000	J
6.		C4-ALK[illegible]BENZENE	23.518	10000	J
7.		UNKNO	23.558	9000	J
8.		UNKNC	24.258	8000	J
9.		CYCL[illegible]KANE	24.485	10000	J
10.		C4-A[illegible]LBENZENE	24.751	9000	J
11.		C4-A[illegible]YLBENZENE	25.372	10000	J
12.		AROMATIC	26.102	9000	J

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

SH899-12206-B706-02

Lab Name: Recra.LabNet Contract: 01667600001

Lab Code: Recra Case No.: _____ SAS No.: _____ SDG No.: _____

Matrix: (soil/water) SOIL Lab Sample ID: 9912L973-002

Sample wt/vol: 4.30 (g/mL) G Lab File ID: N121210

Level: (low/med) MED Date Received: 12/08/99

% Moisture: not dec. 22 Date Analyzed: 12/12/99

GC Column: RTX624 ID: 0.32 (mm) Dilution Factor: 0.930

Soil Extract Volume: 10000 (uL) Soil Aliquot Volume: 100 (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
74-87-3	Chloromethane	1500	U
74-83-9	Bromomethane	1500	U
75-01-4	Vinyl Chloride	1500	U
75-00-3	Chloroethane	1500	U
75-09-2	Methylene Chloride	1400	JB
67-64-1	Acetone	290	JB
75-15-0	Carbon Disulfide	1500	U
75-35-4	1,1-Dichloroethene	1500	U
75-34-3	1,1-Dichloroethane	1500	U
540-59-0	1,2-Dichloroethene (total)	1500	U
67-66-3	Chloroform	1500	U
107-06-2	1,2-Dichloroethane	1500	U
78-93-3	2-Butanone	240	JB
71-55-6	1,1,1-Trichloroethane	1500	U
56-23-5	Carbon Tetrachloride	1500	U
75-27-4	Bromodichloromethane	1500	U
78-87-5	1,2-Dichloropropane	1500	U
10061-01-5	cis-1,3-Dichloropropene	1500	U
79-01-6	Trichloroethene	1500	U
124-48-1	Dibromochloromethane	1500	U
79-00-5	1,1,2-Trichloroethane	1500	U
71-43-2	Benzene	1500	U
10061-02-6	Trans-1,3-Dichloropropene	1500	U
75-25-2	Bromoform	1500	U
108-10-1	4-Methyl-2-pentanone	1500	U
591-78-6	2-Hexanone	1500	U
127-18-4	Tetrachloroethene	1500	U
79-34-5	1,1,2,2-Tetrachloroethane	1500	U
108-88-3	Toluene	1500	U
108-90-7	Chlorobenzene	1500	U
100-41-4	Ethylbenzene	1500	U
100-42-5	Styrene	1500	U
1330-20-7	Xylene (total)	6300	

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

SH899-12206-B706-02

Lab Name: Recra.LabNet Contract: 01667600001

Lab Code: Recra Case No.: _____ SAS No.: _____ SDG No.: _____

Matrix: (soil/water) SOIL Lab Sample ID: 9912L973-002

Sample wt/vol: 4.30 (g/mL) G Lab File ID: N121210

Level: (low/med) MED Date Received: 12/08/99

% Moisture: not dec. 22 Date Analyzed: 12/12/99

GC Column: RTX624 ID: 0.32 (mm) Dilution Factor: 0.930

Soil Extract Volume: 10000 (uL) Soil Aliquot Volume: 100 (uL)

Number TICs found: 12

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.		CYCLOALKANE	19.071	7000	J
2.		CYCLOALKANE	19.633	10000	J
3.		C3-ALKYLBENZENE	21.418	10000	J
4.		C3-ALKYLBENZENE	21.566	20000	J
5.		UNKNOWN	21.941	7000	J
6.		C3-ALKYLBENZENE	22.276	30000	J
7.		CYCLOALKANE	22.602	7000	J
8.		C3-ALKYLBENZENE	23.085	8000	J
9.		C4-ALKYLBENZENE	23.410	8000	J
10.		C4-ALKYLBENZENE	23.519	10000	J
11.		C4-ALKYLBENZENE	24.752	8000	J
12.		C4-ALKYLBENZENE	25.373	8000	J

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

NYSDEC-FRIDGE BLANK

Lab Name: Recra.LabNet Contract: 01667600001

Lab Code: Recra Case No.: _____ SAS No.: _____ SDG No.: _____

Matrix: (soil/water) WATER Lab Sample ID: 9912L973-007

Sample wt/vol: 5.00 (g/mL) ML Lab File ID: n121318

Level: (low/med) LOW Date Received: 12/08/99

% Moisture: not dec. _____ Date Analyzed: 12/13/99

GC Column: RTX624 ID: 0.32 (mm) Dilution Factor: 1.00

Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____ (uL)

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

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

NYSDEC-FRIDGE BLANK

Lab Name: Recra.LabNet Contract: 01667600001

Lab Code: Recra Case No.: _____ SAS No.: _____ SDG No.: _____

Matrix: (soil/water) WATER Lab Sample ID: 9912L973-007

Sample wt/vol: 5.00 (g/mL) ML Lab File ID: n121318

Level: (low/med) LOW Date Received: 12/08/99

% Moisture: not dec. _____ Date Analyzed: 12/13/99

GC Column: RTX624 ID: 0.32 (mm) Dilution Factor: 1.00

Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____ (uL)

Number TICs found: 0

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.				

Raw QC Data: Tune, Blank and Spike Data

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

VBLKEG

Lab Name: Recra.LabNet Contract: 01667600001

Lab Code: Recra Case No.: _____ SAS No.: _____ SDG No.: _____

Matrix: (soil/water) SOIL Lab Sample ID: 99LVN490-MB1

Sample wt/vol: 4.00 (g/mL) G Lab File ID: N121207

Level: (low/med) MED Date Received: 12/12/99

% Moisture: not dec. _____ Date Analyzed: 12/12/99

GC Column: RTX624 ID: 0.32 (mm) Dilution Factor: 1.00

Soil Extract Volume: _____(uL) Soil Aliquot Volume: _____(uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
74-87-3	Chloromethane	1200	U
74-83-9	Bromomethane	1200	U
75-01-4	Vinyl Chloride	1200	U
75-00-3	Chloroethane	1200	U
75-09-2	Methylene Chloride	2000	
67-64-1	Acetone	420	J
75-15-0	Carbon Disulfide	1200	U
75-35-4	1,1-Dichloroethene	1200	U
75-34-3	1,1-Dichloroethane	1200	U
540-59-0	1,2-Dichloroethene (total)	1200	U
67-66-3	Chloroform	1200	U
107-06-2	1,2-Dichloroethane	1200	U
78-93-3	2-Butanone	130	J
71-55-6	1,1,1-Trichloroethane	1200	U
56-23-5	Carbon Tetrachloride	1200	U
75-27-4	Bromodichloromethane	1200	U
78-87-5	1,2-Dichloropropane	1200	U
10061-01-5	cis-1,3-Dichloropropene	1200	U
79-01-6	Trichloroethene	1200	U
124-48-1	Dibromochloromethane	1200	U
79-00-5	1,1,2-Trichloroethane	1200	U
71-43-2	Benzene	1200	U
10061-02-6	Trans-1,3-Dichloropropene	1200	U
75-25-2	Bromoform	1200	U
108-10-1	4-Methyl-2-pentanone	1200	U
591-78-6	2-Hexanone	1200	U
127-18-4	Tetrachloroethene	1200	U
79-34-5	1,1,2,2-Tetrachloroethane	1200	U
108-88-3	Toluene	1200	U
108-90-7	Chlorobenzene	1200	U
100-41-4	Ethylbenzene	1200	U
100-42-5	Styrene	1200	U
1330-20-7	Xylene (total)	1200	U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

VBLKEG

Lab Name: Recra.LabNet Contract: 01667600001

Lab Code: Recra Case No.: _____ SAS No.: _____ SDG No.: _____

Matrix: (soil/water) SOIL Lab Sample ID: 99LVN490-MB1

Sample wt/vol: 4.00 (g/mL) G Lab File ID: N121207

Level: (low/med) MED Date Received: 12/12/99

% Moisture: not dec. _____ Date Analyzed: 12/12/99

GC Column: RTX624 ID: 0.32 (mm) Dilution Factor: 1.00

Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____ (uL)

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 DATA SHEET

EPA SAMPLE NO.

VBLKEH

Lab Name: Recra.LabNet Contract: 01667600001

Lab Code: Recra Case No.: _____ SAS No.: _____ SDG No.: _____

Matrix: (soil/water) WATER Lab Sample ID: 99LVN492-MB1

Sample wt/vol: 5.00 (g/mL) ML Lab File ID: n121304

Level: (low/med) LOW Date Received: 12/13/99

% Moisture: not dec. _____ Date Analyzed: 12/13/99

GC Column: RTX624 ID: 0.32 (mm) Dilution Factor: 1.00

Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____ (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
74-87-3	Chloromethane	10	U
74-83-9	Bromomethane	10	U
75-01-4	Vinyl Chloride	10	U
75-00-3	Chloroethane	10	U
75-09-2	Methylene Chloride	16	
67-64-1	Acetone	3	J
75-15-0	Carbon Disulfide	10	U
75-35-4	1,1-Dichloroethene	10	U
75-34-3	1,1-Dichloroethane	10	U
540-59-0	1,2-Dichloroethene (total)	10	U
67-66-3	Chloroform	10	U
107-06-2	1,2-Dichloroethane	10	U
78-93-3	2-Butanone	10	U
71-55-6	1,1,1-Trichloroethane	10	U
56-23-5	Carbon Tetrachloride	10	U
75-27-4	Bromodichloromethane	10	U
78-87-5	1,2-Dichloropropane	10	U
10061-01-5	cis-1,3-Dichloropropene	10	U
79-01-6	Trichloroethene	10	U
124-48-1	Dibromochloromethane	10	U
79-00-5	1,1,2-Trichloroethane	10	U
71-43-2	Benzene	10	U
10061-02-6	Trans-1,3-Dichloropropene	10	U
75-25-2	Bromoform	10	U
108-10-1	4-Methyl-2-pentanone	10	U
591-78-6	2-Hexanone	10	U
127-18-4	Tetrachloroethene	10	U
79-34-5	1,1,2,2-Tetrachloroethane	10	U
108-88-3	Toluene	10	U
108-90-7	Chlorobenzene	10	U
100-41-4	Ethylbenzene	10	U
100-42-5	Styrene	10	U
1330-20-7	Xylene (total)	10	U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

VBLKEH

Lab Name: Recra.LabNet Contract: 01667600001

Lab Code: Recra Case No.: _____ SAS No.: _____ SDG No.: _____

Matrix: (soil/water) WATER Lab Sample ID: 99LVN492-MB1

Sample wt/vol: 5.00 (g/mL) ML Lab File ID: n121304

Level: (low/med) LOW Date Received: 12/13/99

% Moisture: not dec. _____ Date Analyzed: 12/13/99

GC Column: RTX624 ID: 0.32 (mm) Dilution Factor: 1.00

Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____ (uL)

Number TICs found: 0

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.				

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

VBLKEHMS

Lab Name: Recra.LabNet Contract: 01667600001

Lab Code: Recra Case No.: _____ SAS No.: _____ SDG No.: _____

Matrix: (soil/water) WATER Lab Sample ID: 99LVN492-MB1 BS

Sample wt/vol: 5.00 (g/mL) ML Lab File ID: n121306

Level: (low/med) LOW Date Received: 12/13/99

% Moisture: not dec. _____ Date Analyzed: 12/13/99

GC Column: RTX624 ID: 0.32 (mm) Dilution Factor: 1.00

Soil Extract Volume: _____(uL) Soil Aliquot Volume: _____(uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
74-87-3	Chloromethane	10	U
74-83-9	Bromomethane	10	U
75-01-4	Vinyl Chloride	10	U
75-00-3	Chloroethane	10	U
75-09-2	Methylene Chloride	12	B
67-64-1	Acetone	1	BJ
75-15-0	Carbon Disulfide	10	U
75-35-4	1,1-Dichloroethene	43	Z
75-34-3	1,1-Dichloroethane	10	U
540-59-0	1,2-Dichloroethene (total)	10	U
67-66-3	Chloroform	10	U
107-06-2	1,2-Dichloroethane	10	U
78-93-3	2-Butanone	10	U
71-55-6	1,1,1-Trichloroethane	10	U
56-23-5	Carbon Tetrachloride	10	U
75-27-4	Bromodichloromethane	10	U
78-87-5	1,2-Dichloropropane	10	U
10061-01-5	cis-1,3-Dichloropropene	10	U
79-01-6	Trichloroethene	48	Z
124-48-1	Dibromochloromethane	10	U
79-00-5	1,1,2-Trichloroethane	10	U
71-43-2	Benzene	49	Z
10061-02-6	Trans-1,3-Dichloropropene	10	U
75-25-2	Bromoform	10	U
108-10-1	4-Methyl-2-pentanone	10	U
591-78-6	2-Hexanone	10	U
127-18-4	Tetrachloroethene	10	U
79-34-5	1,1,2,2-Tetrachloroethane	10	U
108-88-3	Toluene	49	Z
108-90-7	Chlorobenzene	50	Z
100-41-4	Ethylbenzene	10	U
100-42-5	Styrene	10	U
1330-20-7	Xylene (total)	10	U

Z: SPIKE COMPOUND FORM 1 VOA 3/90

Case Narrative

RECRA ENVIRONMENTAL INC.

Chemical and Environmental Measurement Information

Recra LabNet Philadelphia
Analytical Report

Client: NYSDEC
RFW #: 9912L973 (Relogged)
ELAP #: 10752

W.O.#: 01667-600-001-9999-00
Date Received: 12-08-99

SEMIVOLATILE

Two (2) soil samples were collected on 12-06-99.

The samples and their associated QC samples were extracted on 12-18-99 and analyzed according to criteria set forth in NYSDEC ASP (Rev. 10-95) for Priority Pollutant Semivolatile target compounds on 01-10,11-2000.

The following is a summary of the QC results accompanying the sample results and a description of any problems encountered during their analyses:

1. This set of samples has been relogged from RFW lot 9912L959.

2. The samples were extracted and analyzed within required holding times.

3. Non-target compounds were detected in the samples.

4. Both samples required a 20-fold dilution due to high levels of non-target compounds.

5. Three (3) of thirty-two (32) surrogate recoveries were outside EPA QC limits. However, EPA CLP surrogate recovery criteria were met (i.e., no more than one outlier per fraction {acid and base neutral} and no recoveries less than 10%).

6. Five (5) of eleven (11) blank spike recoveries were outside EPA QC limits. The out of limit recoveries were slightly high; however, there was no impact on the data.

7. The method blank contained the common laboratory contaminants Di-n-butylphthalate and Bis(2-Ethylhexyl)phthalate at levels less than the CRQL.

8. Internal standard area and retention time criteria were met.

9. 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 hard copy 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.

By _____ 01-19-00

J. Michael Taylor
Vice President
Philadelphia Analytical Laboratory

Date

som\group\data\bnawys12973.doc

208 Welsh Pool Road • Lionville, PA 19341-1333 • (610) 280-3000 • Fax (610) 280-3041

GLOSSARY OF BNA 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 under the following circumstances: 1) when estimating a concentration for tentatively identified compounds (TICs) where a 1:1 response is assumed; or 2) 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.
D	=	Identifies all compounds identified in an analysis at a secondary dilution factor.
I	=	Interference.
NQ	=	Result qualitatively confirmed but not able to quantify.
A	=	Indicates that a TIC is a suspected aldol-condensation product.
N	=	Indicates presumptive evidence of a compound. This flag is only used for tentatively identified compounds (TICs), where the identification is based on a mass spectral library search. It is applied to all TIC results. For generic characterization of a TIC, such as chlorinated hydrocarbon, the N code is not used.
X	=	This flag is used for a TIC compound which is quantified relative to a response factor generated from a daily calibration standard (rather than quantified relative to the closest internal standard).
Y	=	Additional qualifiers used as required are explained in the case narrative.

GLOSSARY OF BNA DATA

ABBREVIATIONS

BS = Indicates blank spike in which reagent grade water is spiked with the CLP matrix spike 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 = Suffix added to sample number to indicate that results are from a diluted analysis.

NA = Not Applicable.

DF = Dilution Factor.

NR = Not Required.

SP, Z = Indicates Spiked Compound.

TECHNICAL FLAGS FOR MANUAL INTEGRATION

Manual quan modifications or integrations are performed routinely to improve the data quality for a variety of technical reasons. Documentation of these modifications should be clear and concise. The following "flags" are used to indicate the technical reasons for quan modifications:

MP - Missed Peak: manually added peak not found by automatic quan program.

PA - Peak Assignment: quan report was changed to reflect correct peak assignment.

RI - Routine Integration: routine integrations are performed for some analytes that are consistently integrated improperly by the automatic integration programs. Examples are the dichlorobenzene isomers on the VOA packed column and benzo(b)fluoranthene/benzo(k)fluoranthene which are poorly resolved on the BNA column.

SP - Split Peak: the automatic integration improperly split the peak; a manual integration was performed to get the correct area.

CB - Coelution/Background: peak was manually integrated to eliminate contribution from coeluting compounds, background signal, or other interference.

PI - Proper Integration: a peak with poor or inconsistent integration (e.g., excessive tail) was properly integrated manually.

RECRA LabNet Use Only

99121973

[redacted] Custody Transfer Record/Lab Work Request Page [redacted] of [redacted]

FIELD PERSONNEL: COMPLETE ONLY SHADED AREAS

RECRA LabNet

Client: Nysdec

Est. Final Proj. Sampling Date:

Project #: 01667-600-001-9999-00

Project Contact/Phone #:

RECRA Project Manager: J.S.

QC: Clp Del: Clp TAT: 7 ~~30 Day~~ day 8 12/10/99

Date Rec'd: 12-8-99 Date Due: ~~12-7-99~~ 12/15/99

Account #:

	VOA	BNA	Pest/PCB	Herb				Metal	CN						
Refrigerator #	1	3	3					3	3	3	3				
#/Type Container – Liquid															
#/Type Container – Solid	1gl	1gl	"					1gl	"	"	"				
Volume – Liquid															
Volume – Solid	125	250	"					125	"	"	"				
Preservatives															
Analyses Requested	ORGANIC							INORG							

MATRIX CODES:
S - Soil
SE - Sediment
SO - Solid
SL - Sludge
W - Water
O - Oil
A - Air
DS - Drum Solids
DL - Drum Liquids
L - EP/TCLP Leachate
WI - Wipe
X - Other
F - Fish

RECRA LabNet Use Only

Lab ID	Client ID/Description	MS	MSD	Matrix	Date Collected	Time Collected	0624C	0625C	0608C		0024T			1MASLTO	1CNTO	1TCLV	1TCLP		C025T CT:08T	CH8GT ROTATION	
001	SH899-12206-B706-01			S	12/6/99	1000	1	1	✓					✓	✓	✓	✓				
002	" " 02			S	"	1007	1	1	✓					✓	✓	✓	✓				
003	" " 01 telvafor			L	*	-					✓										
004	" " 02	"		2 "	"	"					✓										
005	" " 01 telpafor			"	"	"													✓	✓	
006	" " 02	"		2 "	"	"													✓	✓	
007	Nysdec-fridge blank			W	12/10/99	1619	✓														

Special Instructions:

DATE/REVISIONS:
1. Relog from 99121959-001+002
2. 99PM292 attached
3. 007 → was made on 12/10/99 - but
4. Logged as 12/8/99 to accomodate
5. LIMS
6.

RECRA LabNet Use Only

Samples were:
1) Shipped ___ or Hand Delivered ___
Airbill # ___
2) Ambient or Chilled
3) Received in Good Condition Y or N
4) Labels Indicate Properly Preserved Y or N
5) Received Within Holding Times Y or N

COC Tape was:
1) Present on Outer Package Y or N
2) Unbroken on Outer Package Y or N
3) Present on Sample Y or N
4) Unbroken on Sample Y or N
COC Record Present Upon Sample Rec't Y or N
Cooler Temp. ___ °C

Relinquished by	Received by	Date	Time
Relog	Janson	12/10/99	-

Relinquished by	Received by	Date	Time
	ORIGINAL		
	REWRITTEN		

Discrepancies Between Samples Labels and COC Record? Y or N
NOTES:

3D

SOIL SEMIVOLATILE BLANK SPIKE RECOVERY

Lab Name: Recra.LabNet Contract: 1667-00-01

Case No.: NYSDEC RFW Lot No.: 9912L973

BLANK Spike - Sample No.: SBLKJDLE1535-MB1 Level: (low/med) LOW

COMPOUND	SPIKE ADDED UG/KG	SAMPLE CONCENTRATION UG/KG	BS CONCENTRATION UG/KG	BS % REC #	QC LIMITS REC
Phenol	2500	0	2810	112 *	26 - 90
2-Chlorophenol	2500	0	2600	104 *	25 -102
1,4-Dichlorobenzene	1670	0	1600	96	28 -104
N-Nitroso-di-n-propylamine	1670	0	1610	96	41 -126
1,2,4-Trichlorobenzene	1670	0	1720	103	38 -107
4-Chloro-3-methylphenol	2500	0	2640	105 *	26 -103
Acenaphthene	1670	0	1750	105	31 -137
4-Nitrophenol	2500	0	2720	108	11 -114
2,4-Dinitrotoluene	1670	0	1690	101 *	28 - 89
Pentachlorophenol	2500	0	3560	142 *	17 -109
Pyrene	1670	0	2210	132	35 -142

Column to be used to flag recovery value with an asterisk
* Values outside of QC limits

Spike Recovery: 5 out of 11 outside limits

COMMENTS:

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

SH899-12206-B706-01

Lab Name: Recra.LabNet Work Order: 01667600001

Client: NYSDEC

Matrix: (soil/water) SOIL Lab Sample ID: 9912L973-001

Sample wt/vol: 30.2 (g/mL) G Lab File ID: D011104

Level: (low/med) LOW Date Received: 12/08/99

% Moisture: 13 decanted: (Y/N) Date Extracted: 12/18/99

Concentrated Extract Volume: 500(uL) Date Analyzed: 01/11/00

Injection Volume: 2.0(uL) Dilution Factor: 20.0

GPC Cleanup: (Y/N) Y pH: 8.4

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
108-95-2	Phenol	7600	U
111-44-4	bis(2-Chloroethyl)ether	7600	U
95-57-8	2-Chlorophenol	7600	U
541-73-1	1,3-Dichlorobenzene	7600	U
106-46-7	1,4-Dichlorobenzene	7600	U
95-50-1	1,2-Dichlorobenzene	7600	U
95-48-7	2-Methylphenol	7600	U
108-60-1	2,2'-oxybis(1-Chloropropane)	7600	U
106-44-5	4-Methylphenol	7600	U
621-64-7	N-Nitroso-di-n-propylamine	7600	U
67-72-1	Hexachloroethane	7600	U
98-95-3	Nitrobenzene	7600	U
78-59-1	Isophorone	7600	U
88-75-5	2-Nitrophenol	7600	U
105-67-9	2,4-Dimethylphenol	7600	U
111-91-1	bis(2-Chloroethoxy)methane	7600	U
120-83-2	2,4-Dichlorophenol	7600	U
120-82-1	1,2,4-Trichlorobenzene	7600	U
91-20-3	Naphthalene	7600	U
106-47-8	4-Chloroaniline	7600	U
87-68-3	Hexachlorobutadiene	7600	U
59-50-7	4-Chloro-3-methylphenol	7600	U
91-57-6	2-Methylnaphthalene	1500	J
77-47-4	Hexachlorocyclopentadiene	7600	U
88-06-2	2,4,6-Trichlorophenol	7600	U
95-95-4	2,4,5-Trichlorophenol	19000	U
91-58-7	2-Chloronaphthalene	7600	U
88-74-4	2-Nitroaniline	19000	U
131-11-3	Dimethylphthalate	7600	U
208-96-8	Acenaphthylene	7600	U
606-20-2	2,6-Dinitrotoluene	7600	U
99-09-2	3-Nitroaniline	19000	U
83-32-9	Acenaphthene	7600	U

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

SH899-12206-B706-01

Lab Name: Recra.LabNet Work Order: 01667600001

Client: NYSDEC

Matrix: (soil/water) SOIL Lab Sample ID: 9912L973-001

Sample wt/vol: 30.2 (g/mL) G Lab File ID: D011104

Level: (low/med) LOW Date Received: 12/08/99

% Moisture: 13 decanted: (Y/N) Date Extracted: 12/18/99

Concentrated Extract Volume: 500(uL) Date Analyzed: 01/11/00

Injection Volume: 2.0(uL) Dilution Factor: 20.0

GPC Cleanup: (Y/N) Y pH: 8.4

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
51-28-5	2,4-Dinitrophenol	19000	U
100-02-7	4-Nitrophenol	19000	U
132-64-9	Dibenzofuran	7600	U
121-14-2	2,4-Dinitrotoluene	7600	U
84-66-2	Diethylphthalate	7600	U
7005-72-3	4-Chlorophenyl-phenylether	7600	U
86-73-7	Fluorene	7600	U
100-01-6	4-Nitroaniline	19000	U
534-52-1	4,6-Dinitro-2-methylphenol	19000	U
86-30-6	N-Nitrosodiphenylamine (1)	7600	U
101-55-3	4-Bromophenyl-phenylether	7600	U
118-74-1	Hexachlorobenzene	7600	U
87-86-5	Pentachlorophenol	19000	U
85-01-8	Phenanthrene	1300	J
120-12-7	Anthracene	7600	U
86-74-8	Carbazole	7600	U
84-74-2	Di-n-butylphthalate	7600	U
206-44-0	Fluoranthene	500	J
129-00-0	Pyrene	670	J
85-68-7	Butylbenzylphthalate	7600	U
91-94-1	3,3'-Dichlorobenzidine	7600	U
56-55-3	Benzo(a)anthracene	7600	U
218-01-9	Chrysene	390	J
117-81-7	bis(2-Ethylhexyl)phthalate	7600	U
117-84-0	Di-n-octyl phthalate	7600	U
205-99-2	Benzo(b)fluoranthene	7600	U
207-08-9	Benzo(k)fluoranthene	7600	U
50-32-8	Benzo(a)pyrene	7600	U
193-39-5	Indeno(1,2,3-cd)pyrene	7600	U
53-70-3	Dibenz(a,h)anthracene	7600	U
191-24-2	Benzo(g,h,i)perylene	7600	U

(1) - Cannot be separated from Diphenylamine

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

CLIENT SAMPLE NO.

SH899-12206-B706-01

Lab Name: Recra.LabNet Work Order: 01667600001

Client: NYSDEC

Matrix: (soil/water) SOIL Lab Sample ID: 9912L973-001

Sample wt/vol: 30.2 (g/mL) G Lab File ID: D011104

Level: (low/med) LOW Date Received: 12/08/99

% Moisture: 13 decanted: (Y/N) Date Extracted: 12/18/99

Concentrated Extract Volume: 500 (uL) Date Analyzed: 01/11/00

Injection Volume: 2.0 (uL) Dilution Factor: 20.0

GPC Cleanup: (Y/N) Y pH: 8.4

Number TICs found: 41 CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.		12 TO 24 MINUTES			
2.		UNRESOLVED HYDROCARBONS			
3.		CYCLOALKANE	8.96	20000	J
4.		ALKANE	9.94	20000	J
5.		CYCLOALKANE	10.69	8000	J
6.		UNKNOWN	10.75	7000	J
7.		ALKANE	10.98	8000	J
8.		CYCLOALKANE	11.48	8000	J
9.		UNKNOWN	11.57	20000	J
10.		ALKANE	11.75	20000	J
11.		CYCLOALKANE	12.31	20000	J
12.		ALKANE	12.61	30000	J
13.		UNKNOWN	13.01	20000	J
14.		ALKANE	13.17	10000	J
15.		ALKANE	13.27	20000	J
16.		UNKNOWN	13.52	7000	J
17.		UNKNOWN	13.67	10000	J
18.		ALKANE	13.72	10000	J
19.		CYCLOALKANE	13.80	20000	J
20.		ALKANE	13.83	8000	J
21.		ALKANE	14.01	9000	J
22.		ALKANE	14.09	20000	J
23.		ALKANE	14.39	10000	J
24.		CYCLOALKANE	14.45	10000	J
25.		ALKANE	14.53	7000	J
26.		UNKNOWN	15.17	10000	J
27.		ALKANE	15.21	40000	J
28.		ALKANE	15.70	20000	J
29.		CYCLOALKANE	16.52	10000	J
30.		UNKNOWN	16.81	8000	J

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

CLIENT SAMPLE NO.

SH899-12206-B706-01

Lab Name: Recra.LabNet Work Order: 01667600001

Client: NYSDEC

Matrix: (soil/water) SOIL Lab Sample ID: 9912L973-001

Sample wt/vol: 30.2 (g/mL) G Lab File ID: D011104

Level: (low/med) LOW Date Received: 12/08/99

% Moisture: 13 decanted: (Y/N) Date Extracted: 12/18/99

Concentrated Extract Volume: 500(uL) Date Analyzed: 01/11/00

Injection Volume: 2.0(uL) Dilution Factor: 20.0

GPC Cleanup: (Y/N) Y pH: 8.4

Number TICs found: 41 CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
31.		ALKANE	16.91	10000	J
32.		ALKANE	17.49	30000	J
33.		ALKANE	18.15	60000	J
34.		ALKANE	18.54	10000	J
35.		ALKANE	19.07	10000	J
36.		ALKANE	19.16	30000	J
37.		ALKANE	19.82	10000	J
38.		ALKANE	19.87	10000	J
39.		ALKANE	20.57	10000	J
40.		ALKANE	20.70	9000	J
41.		ALKANE	21.17	8000	J
42.		ALKANE	21.71	9000	J
43.		UNKNOWN	22.39	9000	J

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

SH899-12206-B706-02

Lab Name: Recra.LabNet Work Order: 01667600001

Client: NYSDEC

Matrix: (soil/water) SOIL Lab Sample ID: 9912L973-002

Sample wt/vol: 30.2 (g/mL) G Lab File ID: D011105

Level: (low/med) LOW Date Received: 12/08/99

% Moisture: 22 decanted: (Y/N) Date Extracted: 12/18/99

Concentrated Extract Volume: 500(uL) Date Analyzed: 01/11/00

Injection Volume: 2.0(uL) Dilution Factor: 20.0

GPC Cleanup: (Y/N) Y pH: 8.3

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
108-95-2	Phenol	8500	U
111-44-4	bis(2-Chloroethyl)ether	8500	U
95-57-8	2-Chlorophenol	8500	U
541-73-1	1,3-Dichlorobenzene	8500	U
106-46-7	1,4-Dichlorobenzene	8500	U
95-50-1	1,2-Dichlorobenzene	8500	U
95-48-7	2-Methylphenol	8500	U
108-60-1	2,2'-oxybis(1-Chloropropane)	8500	U
106-44-5	4-Methylphenol	8500	U
621-64-7	N-Nitroso-di-n-propylamine	8500	U
67-72-1	Hexachloroethane	8500	U
98-95-3	Nitrobenzene	8500	U
78-59-1	Isophorone	8500	U
88-75-5	2-Nitrophenol	8500	U
105-67-9	2,4-Dimethylphenol	8500	U
111-91-1	bis(2-Chloroethoxy)methane	8500	U
120-83-2	2,4-Dichlorophenol	8500	U
120-82-1	1,2,4-Trichlorobenzene	8500	U
91-20-3	Naphthalene	8500	U
106-47-8	4-Chloroaniline	8500	U
87-68-3	Hexachlorobutadiene	8500	U
59-50-7	4-Chloro-3-methylphenol	8500	U
91-57-6	2-Methylnaphthalene	6400	J
77-47-4	Hexachlorocyclopentadiene	8500	U
88-06-2	2,4,6-Trichlorophenol	8500	U
95-95-4	2,4,5-Trichlorophenol	21000	U
91-58-7	2-Chloronaphthalene	8500	U
88-74-4	2-Nitroaniline	21000	U
131-11-3	Dimethylphthalate	8500	U
208-96-8	Acenaphthylene	8500	U
606-20-2	2,6-Dinitrotoluene	8500	U
99-09-2	3-Nitroaniline	21000	U
83-32-9	Acenaphthene	8500	U

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

SH899-12206-B706-02

Lab Name: Recra.LabNet Work Order: 01667600001

Client: NYSDEC

Matrix: (soil/water) SOIL Lab Sample ID: 9912L973-002

Sample wt/vol: 30.2 (g/mL) G Lab File ID: D011105

Level: (low/med) LOW Date Received: 12/08/99

Moisture: 22 decanted: (Y/N) Date Extracted: 12/18/99

Concentrated Extract Volume: 500(uL) Date Analyzed: 01/11/00

Injection Volume: 2.0(uL) Dilution Factor: 20.0

GPC Cleanup: (Y/N) Y pH: 8.3

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
51-28-5	2,4-Dinitrophenol	21000	U
100-02-7	4-Nitrophenol	21000	U
132-64-9	Dibenzofuran	8500	U
121-14-2	2,4-Dinitrotoluene	8500	U
84-66-2	Diethylphthalate	8500	U
7005-72-3	4-Chlorophenyl-phenylether	8500	U
86-73-7	Fluorene	8500	U
100-01-6	4-Nitroaniline	21000	U
534-52-1	4,6-Dinitro-2-methylphenol	21000	U
86-30-6	N-Nitrosodiphenylamine (1)	8500	U
101-55-3	4-Bromophenyl-phenylether	8500	U
118-74-1	Hexachlorobenzene	8500	U
87-86-5	Pentachlorophenol	21000	U
85-01-8	Phenanthrene	1500	J
120-12-7	Anthracene	8500	U
86-74-8	Carbazole	8500	U
84-74-2	Di-n-butylphthalate	8500	U
206-44-0	Fluoranthene	8500	U
129-00-0	Pyrene	8500	U
85-68-7	Butylbenzylphthalate	8500	U
91-94-1	3,3'-Dichlorobenzidine	8500	U
56-55-3	Benzo(a)anthracene	8500	U
218-01-9	Chrysene	8500	U
117-81-7	bis(2-Ethylhexyl)phthalate	8500	U
117-84-0	Di-n-octyl phthalate	8500	U
205-99-2	Benzo(b)fluoranthene	8500	U
207-08-9	Benzo(k)fluoranthene	8500	U
50-32-8	Benzo(a)pyrene	8500	U
193-39-5	Indeno(1,2,3-cd)pyrene	8500	U
53-70-3	Dibenz(a,h)anthracene	8500	U
191-24-2	Benzo(g,h,i)perylene	8500	U

(1) - Cannot be separated from Diphenylamine

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

CLIENT SAMPLE NO.

SH899-12206-B706-02

Lab Name: Recra.LabNet Work Order: 01667600001

Client: NYSDEC

Matrix: (soil/water) SOIL Lab Sample ID: 9912L973-002

Sample wt/vol: 30.2 (g/mL) G Lab File ID: D011105

Level: (low/med) LOW Date Received: 12/08/99

% Moisture: 22 decanted: (Y/N) Date Extracted: 12/18/99

Concentrated Extract Volume: 500(uL) Date Analyzed: 01/11/00

Injection Volume: 2.0(uL) Dilution Factor: 20.0

GPC Cleanup: (Y/N) Y pH: 8.3

Number TICs found: 38 CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.		8 TO 24 MINUTES			
2.		UNRESOLVED HYDROCARBONS			
3.		C3-ALKYLBENZENE	7.72	30000	J
4.		C3-ALKYLBENZENE	7.84	30000	J
5.		C3-ALKYLBENZENE	8.32	60000	J
6.		UNKNOWN	8.64	20000	J
7.		C3-ALKYLBENZENE	8.88	30000	J
8.		CYCLOALKANE	8.96	20000	J
9.		UNKNOWN	9.30	30000	J
10.		ALKANE	9.36	20000	J
11.		C4-ALKYLBENZENE	9.43	30000	J
12.		ALKANE	9.48	20000	J
13.		CYCLOALKANE	9.83	30000	J
14.		C4-ALKYLBENZENE	9.92	30000	J
15.		C4-ALKYLBENZENE	10.46	9000	J
16.		C4-ALKYLBENZENE	10.55	9000	J
17.		CYCLOALKANE	10.69	10000	J
18.		UNKNOWN	10.86	20000	J
19.		ALKANE	10.99	10000	J
20.		UNKNOWN	11.10	10000	J
21.		CYCLOALKANE	11.49	10000	J
22.		UNKNOWN	11.58	20000	J
23.		ALKANE	11.76	20000	J
24.		CYCLOALKANE	12.31	30000	J
25.		ALKANE	12.49	9000	J
26.		ALKANE	12.62	30000	J
27.		ALKANE	13.28	10000	J
28.		UNKNOWN	13.67	10000	J
29.		CYCLOALKANE	13.80	20000	J
30.		ALKANE	14.01	10000	J

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

CLIENT SAMPLE NO.

SH899-12206-B706-02

Lab Name: Recra.LabNet Work Order: 01667600001

Client: NYSDEC

Matrix: (soil/water) SOIL Lab Sample ID: 9912L973-002

Sample wt/vol: 30.2 (g/mL) G Lab File ID: D011105

Level: (low/med) LOW Date Received: 12/08/99

% Moisture: 22 decanted: (Y/N) Date Extracted: 12/18/99

Concentrated Extract Volume: 500(uL) Date Analyzed: 01/11/00

Injection Volume: 2.0(uL) Dilution Factor: 20.0

GPC Cleanup: (Y/N) Y pH: 8.3

Number TICs found: 38 CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
31.	ALKANE	14.09	20000	J
32.	CYCLOALKANE	14.45	7000	J
33.	ALKANE	15.05	10000	J
34.	UNKNOWN	15.17	20000	J
35.	UNKNOWN	15.21	40000	J
36.	UNKNOWN	16.52	20000	J
37.	UNKNOWN	16.82	10000	J
38.	ALKANE	17.49	30000	J
39.	ALKANE	18.15	40000	J
40.	ALKANE	19.16	30000	J

Raw QC Data: Tune, Blank and Spike Data

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

SBLKJD

Lab Name: Recra.LabNet Work Order: 01667600001

Client: NYSDEC

Matrix: (soil/water) SOIL Lab Sample ID: 99LE1535-MB1

Sample wt/vol: 30.0 (g/mL) G Lab File ID: D011013

Level: (low/med) LOW Date Received: 12/18/99

% Moisture: _____ decanted: (Y/N)__ Date Extracted: 12/18/99

Concentrated Extract Volume: 500(uL) Date Analyzed: 01/10/00

Injection Volume: 2.0(uL) Dilution Factor: 1.00

GPC Cleanup: (Y/N) Y pH: 7.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
108-95-2	Phenol	330	U
111-44-4	bis(2-Chloroethyl)ether	330	U
95-57-8	2-Chlorophenol	330	U
541-73-1	1,3-Dichlorobenzene	330	U
106-46-7	1,4-Dichlorobenzene	330	U
95-50-1	1,2-Dichlorobenzene	330	U
95-48-7	2-Methylphenol	330	U
108-60-1	2,2'-oxybis(1-Chloropropane)	330	U
106-44-5	4-Methylphenol	330	U
621-64-7	N-Nitroso-di-n-propylamine	330	U
67-72-1	Hexachloroethane	330	U
98-95-3	Nitrobenzene	330	U
78-59-1	Isophorone	330	U
88-75-5	2-Nitrophenol	330	U
105-67-9	2,4-Dimethylphenol	330	U
111-91-1	bis(2-Chloroethoxy)methane	330	U
120-83-2	2,4-Dichlorophenol	330	U
120-82-1	1,2,4-Trichlorobenzene	330	U
91-20-3	Naphthalene	330	U
106-47-8	4-Chloroaniline	330	U
87-68-3	Hexachlorobutadiene	330	U
59-50-7	4-Chloro-3-methylphenol	330	U
91-57-6	2-Methylnaphthalene	330	U
77-47-4	Hexachlorocyclopentadiene	330	U
88-06-2	2,4,6-Trichlorophenol	330	U
95-95-4	2,4,5-Trichlorophenol	840	U
91-58-7	2-Chloronaphthalene	330	U
88-74-4	2-Nitroaniline	840	U
131-11-3	Dimethylphthalate	330	U
208-96-8	Acenaphthylene	330	U
606-20-2	2,6-Dinitrotoluene	330	U
99-09-2	3-Nitroaniline	840	U
83-32-9	Acenaphthene	330	U

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

SBLKJD

Lab Name: Recra.LabNet Work Order: 01667600001

Client: NYSDEC

Matrix: (soil/water) SOIL Lab Sample ID: 99LE1535-MB1

Sample wt/vol: 30.0 (g/mL) G Lab File ID: D011013

Level: (low/med) LOW Date Received: 12/18/99

% Moisture: _____ decanted: (Y/N)__ Date Extracted: 12/18/99

Concentrated Extract Volume: 500(uL) Date Analyzed: 01/10/00

Injection Volume: 2.0(uL) Dilution Factor: 1.00

GPC Cleanup: (Y/N) Y pH: 7.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
51-28-5	2,4-Dinitrophenol	840	U
100-02-7	4-Nitrophenol	840	U
132-64-9	Dibenzofuran	330	U
121-14-2	2,4-Dinitrotoluene	330	U
84-66-2	Diethylphthalate	330	U
7005-72-3	4-Chlorophenyl-phenylether	330	U
86-73-7	Fluorene	330	U
100-01-6	4-Nitroaniline	840	U
534-52-1	4,6-Dinitro-2-methylphenol	840	U
86-30-6	N-Nitrosodiphenylamine (1)	330	U
101-55-3	4-Bromophenyl-phenylether	330	U
118-74-1	Hexachlorobenzene	330	U
87-86-5	Pentachlorophenol	840	U
85-01-8	Phenanthrene	330	U
120-12-7	Anthracene	330	U
86-74-8	Carbazole	330	U
84-74-2	Di-n-butylphthalate	69	J
206-44-0	Fluoranthene	330	U
129-00-0	Pyrene	330	U
85-68-7	Butylbenzylphthalate	330	U
91-94-1	3,3'-Dichlorobenzidine	330	U
56-55-3	Benzo(a)anthracene	330	U
218-01-9	Chrysene	330	U
117-81-7	bis(2-Ethylhexyl)phthalate	28	J
117-84-0	Di-n-octyl phthalate	330	U
205-99-2	Benzo(b)fluoranthene	330	U
207-08-9	Benzo(k)fluoranthene	330	U
50-32-8	Benzo(a)pyrene	330	U
193-39-5	Indeno(1,2,3-cd)pyrene	330	U
53-70-3	Dibenz(a,h)anthracene	330	U
191-24-2	Benzo(g,h,i)perylene	330	U

(1) - Cannot be separated from Diphenylamine

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

CLIENT SAMPLE NO.

SBLKJD

Lab Name: Recra.LabNet Work Order: 01667600001

Client: NYSDEC

Matrix: (soil/water) SOIL Lab Sample ID: 99LE1535-MB1

Sample wt/vol: 30.0 (g/mL) G Lab File ID: D011013

Level: (low/med) LOW Date Received: 12/18/99

% Moisture: _____ decanted: (Y/N)__ Date Extracted: 12/18/99

Concentrated Extract Volume: 500(uL) Date Analyzed: 01/10/00

Injection Volume: 2.0(uL) Dilution Factor: 1.00

GPC Cleanup: (Y/N) Y pH: 7.0

Number TICs found: 5 CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.		UNKNOWN	20.29	100	J
2.		UNKNOWN	20.34	200	J
3.		UNKNOWN	21.69	80	J
4.		UNKNOWN	22.86	80	J
5.		UNKNOWN	23.27	100	J

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

SBLKJDMS

Lab Name: Recra.LabNet Work Order: 01667600001

Client: NYSDEC

Matrix: (soil/water) SOIL Lab Sample ID: 99LE1535-MB1 BS

Sample wt/vol: 30.0 (g/mL) G Lab File ID: D011014

Level: (low/med) LOW Date Received: 12/18/99

% Moisture: _____ decanted: (Y/N)__ Date Extracted: 12/18/99

Concentrated Extract Volume: 500(uL) Date Analyzed: 01/10/00

Injection Volume: 2.0(uL) Dilution Factor: 1.00

GPC Cleanup: (Y/N) Y pH: 7.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
108-95-2	Phenol	2800	Z
111-44-4	bis(2-Chloroethyl)ether	330	U
95-57-8	2-Chlorophenol	2600	Z
541-73-1	1,3-Dichlorobenzene	330	U
106-46-7	1,4-Dichlorobenzene	1600	Z
95-50-1	1,2-Dichlorobenzene	330	U
95-48-7	2-Methylphenol	330	U
108-60-1	2,2'-oxybis(1-Chloropropane)	330	U
106-44-5	4-Methylphenol	330	U
621-64-7	N-Nitroso-di-n-propylamine	1600	Z
67-72-1	Hexachloroethane	330	U
98-95-3	Nitrobenzene	330	U
78-59-1	Isophorone	330	U
88-75-5	2-Nitrophenol	330	U
105-67-9	2,4-Dimethylphenol	330	U
111-91-1	bis(2-Chloroethoxy)methane	330	U
120-83-2	2,4-Dichlorophenol	330	U
120-82-1	1,2,4-Trichlorobenzene	1700	Z
91-20-3	Naphthalene	330	U
106-47-8	4-Chloroaniline	330	U
87-68-3	Hexachlorobutadiene	330	U
59-50-7	4-Chloro-3-methylphenol	2600	Z
91-57-6	2-Methylnaphthalene	330	U
77-47-4	Hexachlorocyclopentadiene	330	U
88-06-2	2,4,6-Trichlorophenol	330	U
95-95-4	2,4,5-Trichlorophenol	840	U
91-58-7	2-Chloronaphthalene	330	U
88-74-4	2-Nitroaniline	840	U
131-11-3	Dimethylphthalate	330	U
208-96-8	Acenaphthylene	330	U
606-20-2	2,6-Dinitrotoluene	330	U
99-09-2	3-Nitroaniline	840	U
83-32-9	Acenaphthene	1700	Z

Z: SPIKE COMPOUND FORM 1 SV-1 RFW (v3.3)

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

SBLKJDMS

Lab Name: Recra.LabNet Work Order: 01667600001

Client: NYSDEC

Matrix: (soil/water) SOIL Lab Sample ID: 99LE1535-MB1 BS

Sample wt/vol: 30.0 (g/mL) G Lab File ID: D011014

Level: (low/med) LOW Date Received: 12/18/99

% Moisture: _____ decanted: (Y/N)__ Date Extracted: 12/18/99

Concentrated Extract Volume: 500(uL) Date Analyzed: 01/10/00

Injection Volume: 2.0(uL) Dilution Factor: 1.00

GPC Cleanup: (Y/N) Y pH: 7.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
51-28-5	2,4-Dinitrophenol	840	U
100-02-7	4-Nitrophenol	2700	Z
132-64-9	Dibenzofuran	330	U
121-14-2	2,4-Dinitrotoluene	1700	Z
84-66-2	Diethylphthalate	330	U
7005-72-3	4-Chlorophenyl-phenylether	330	U
86-73-7	Fluorene	330	U
100-01-6	4-Nitroaniline	840	U
534-52-1	4,6-Dinitro-2-methylphenol	840	U
86-30-6	N-Nitrosodiphenylamine (1)	330	U
101-55-3	4-Bromophenyl-phenylether	330	U
118-74-1	Hexachlorobenzene	330	U
87-86-5	Pentachlorophenol	3600	Z
85-01-8	Phenanthrene	330	U
120-12-7	Anthracene	330	U
86-74-8	Carbazole	330	U
84-74-2	Di-n-butylphthalate	18	JB
206-44-0	Fluoranthene	330	U
129-00-0	Pyrene	2200	Z
85-68-7	Butylbenzylphthalate	330	U
91-94-1	3,3'-Dichlorobenzidine	330	U
56-55-3	Benzo(a)anthracene	330	U
218-01-9	Chrysene	330	U
117-81-7	bis(2-Ethylhexyl)phthalate	110	JB
117-84-0	Di-n-octyl phthalate	330	U
205-99-2	Benzo(b)fluoranthene	330	U
207-08-9	Benzo(k)fluoranthene	330	U
50-32-8	Benzo(a)pyrene	330	U
193-39-5	Indeno(1,2,3-cd)pyrene	330	U
53-70-3	Dibenz(a,h)anthracene	330	U
191-24-2	Benzo(g,h,i)perylene	330	U

(1) - Cannot be separated from Diphenylamine

Z: SPIKE COMPOUND FORM 1 SV-2 RFW (v3.3)

RECRA ENVIRONMENTAL INC.

Chemical and Environmental Measurement Information

Recra LabNet Philadelphia
Analytical Report

Client: NYSDEC
RFW#: 9912L973 (**Relogged**)
ELAP #: 10752

W.O.#: 01667-600-001-9999-00
Date Received: 12-08-99

GC/MS VOLATILE-TCLP

Two (2) leachate samples were generated on 12-15-99 from soil samples collected on 12-06-99.

The samples and their associated QC samples were analyzed according to criteria set forth in NYSDEC ASP (Rev. 10-95) for TCLP Volatile target compounds on 12-15-99.

The following is a summary of the QC results accompanying these sample results and a description of any problems encountered during their analyses:

1. These samples were relogged from RFW lot 9912L959.

2. The required holding time for analysis was met.

3. The samples were analyzed at five-fold dilution due to the leachate matrix.

4. All surrogate recoveries were within EPA QC limits.

5. Matrix spike analyses are associated with RFW lot 9912L959.

6. Internal standard area and retention time criteria were met.

7. The analyses were performed with the method enhancement of a 40°C heated purge to standardize the purge temperature and improve overall purging efficiency.

8. 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 hard copy 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.

Per J. Michael Taylor
Vice President
Philadelphia Analytical Laboratory

12-22-99
Date

som\group\data\voa\nys-t973.doc

208 Welsh Pool Road • Lionville, PA 19341-1333 • (610) 280-3000 • Fax (610) 280-3041

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 under the following circumstances: 1) when estimating a concentration for tentatively identified compounds (TICs) where a 1:1 response is assumed; or 2) 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.
D	=	Identifies all compounds identified in an analysis at a secondary dilution factor.
I	=	Interference.
NQ	=	Result qualitatively confirmed but not able to quantify.
N	=	Indicates presumptive evidence of a compound. This flag is only used for tentatively identified compounds (TICs), where the identification is based on a mass spectral library search. It is applied to all TIC results. For generic characterization of a TIC, such as chlorinated hydrocarbon, the N code is not used.
X	=	This flag is used for a TIC compound which is quantified relative to a response factor generated from a daily calibration standard (rather than quantified relative to the closest internal standard).
Y	=	Additional qualifiers used as required are explained in the case narrative.

GLOSSARY OF VOA DATA

ABBREVIATIONS

BS	=	Indicates blank spike in which reagent grade water is spiked with the CLP matrix spike 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	=	Suffix added to sample number to indicate that results are from a diluted analysis.
NA	=	Not Applicable.
DF	=	Dilution Factor.
NR	=	Not Required.
SP, Z	=	Indicates Spiked Compound.

TECHNICAL FLAGS FOR MANUAL INTEGRATION

Manual quan modifications or integrations are performed routinely to improve the data quality for a variety of technical reasons. Documentation of these modifications should be clear and concise. The following "flags" are used to indicate the technical reasons for quan modifications:

MP - Missed Peak: manually added peak not found by automatic quan program.

PA - Peak Assignment: quan report was changed to reflect correct peak assignment.

RI - Routine Integration: routine integrations are performed for some analytes that are consistently integrated improperly by the automatic integration programs. Examples are the dichlorobenzene isomers on the VOA packed column and benzo(b)fluoranthene/benzo(k)fluoranthene which are poorly resolved on the BNA column.

SP - Split Peak: the automatic integration improperly split the peak; a manual integration was performed to get the correct area.

CB - Coelution/Background: peak was manually integrated to eliminate contribution from coeluting compounds, background signal, or other interference.

PI - Proper Integration: a peak with poor or inconsistent integration (e.g., excessive tail) was properly integrated manually.

RECRA LabNet Use Only

99121973

Custody Transfer Record/Lab Work Request

Page 1 of 1

RECRA LabNet

FIELD PERSONNEL: COMPLETE ONLY SHADED AREAS

Client Nysdec

Est. Final Proj. Sampling Date

Project # 01667-600-001-9999-00

Project Contact/Phone #

RECRA Project Manager T. S. Quy

QC Clp Del Clp TAT 7 ~~10 DAY~~ by 12/10/99

Date Rec'd 12-8-99 Date Due ~~12-9-99~~ 12/15/99

Account #

Refrigerator #		1	3	3					3	3	3	3							
#/Type Container	Liquid																		
	Solid	1gl	1gl	1					1gl	"	"	"							
Volume	Liquid																		
	Solid	125	250	1					125	"	"	"							
Preservatives																			

ANALYSES REQUESTED → ORGANIC: VOA, BNA, Pest/PCB, Herb; INORG: Metal, CN

RECRA LabNet Use Only

MATRIX CODES: S - Soil; SE - Sediment; SO - Solid; SL - Sludge; W - Water; O - Oil; A - Air; DS - Drum Solids; DL - Drum Liquids; L - EP/TCLP Leachate; WI - Wipe; X - Other; F - Fish

Lab ID	Client ID/Description	Matrix QC Chosen (✓) MS	MSD	Matrix	Date Collected	Time Collected	0624C	0625C	0608C		C624T		MASS70	ICMS	ITALV	ITCLP		C625T	C608T	CHBGT RORATOX
001	SH899-12206-B706-01			S	12/6/99	1000	1	1	✓				✓	✓	✓	✓				
002	" " 02			S	"	1007	1	1	✓				✓	✓	✓	✓				
003	01 tclwaBox1			L	*	-					✓									
004	02			2							✓									
005	01 tclpaBox1																	✓	✓	
006	02			2														✓	✓	
007	Nysdec-fridge blank			W	12/10/99	1619	✓													

Special Instructions:

DATE/REVISIONS:

1. Relog from 99121959-001+002
2. 99PM292
3. 007 → was made on 12/10/99 - but
4. Logged as 12/8/99 to accommodate
5. Lims
6.

RECRA LabNet Use Only

Samples were: 1) Shipped ___ or Hand Delivered ___; Airbill # ___; 2) Ambient or Chilled; 3) Received in Good Condition Y or N; 4) Labels Indicate Properly Preserved Y or N; 5) Received Within Holding Times Y or N

COC Tape was: 1) Present on Outer Package Y or N; 2) Unbroken on Outer Package Y or N; 3) Present on Sample Y or N; 4) Unbroken on Sample Y or N

COC Record Present Upon Sample Rec't Y or N

Cooler Temp. ___ °C

Discrepancies Between Samples Labels and COC Record? Y or N

NOTES:

Relinquished by	Received by	Date	Time
Kelley	Grisson	12/10/99	-

Relinquished by	Received by	Date	Time
	ORIGINAL REWRITTEN		

Volatile Sample QC / Data Summary

Recra LabNet - Lionville Laboratory

Volatiles by GC/MS, TCLP Leachate

Report Date: 12/22/99 15:33

RFW Batch Number: **9912L973** Client: **NYSDEC** Work Order: 01667600001 Page: 1a

	Cust ID:	**SH899-12206-B706-01**		**SH899-12206-B706-02**		**VBLKEI**		**LCHBLK**	
Sample Information	RFW#:	**003**		**004**		**99LVN496-MB1**		**99LTV060-LB1**	
	Matrix:	WATER		WATER		WATER		WATER	
	D.F.:	5.00		5.00		1.00		5.00	
	Units:	MG/L		MG/L		MG/L		MG/L	
Surrogate Recovery	Toluene-d8	98	%	99	%	102	%	103	%
	Bromofluorobenzene	87	%	90	%	87	%	94	%
	1,2-Dichloroethane-d4	98	%	104	%	101	%	104	%
Vinyl Chloride		0.050	U	0.050	U	0.010	U	0.050	U
1,1-Dichloroethene		0.025	U	0.025	U	0.005	U	0.025	U
Chloroform		0.025	U	0.025	U	0.005	U	0.025	U
1,2-Dichloroethane		0.025	U	0.025	U	0.005	U	0.025	U
2-Butanone		0.050	U	0.011	J	0.010	U	0.050	U
Carbon Tetrachloride		0.025	U	0.025	U	0.005	U	0.025	U
Trichloroethene		0.025	U	0.025	U	0.005	U	0.025	U
Benzene		0.025	U	0.097		0.005	U	0.025	U
Tetrachloroethene		0.025	U	0.025	U	0.005	U	0.025	U
Chlorobenzene		0.025	U	0.025	U	0.005	U	0.025	U

*= Outside of EPA CLP QC limits.

RECRA LabNet Use Only
99121973

Custody Transfer Record/Lab Work Request

Page 1 of 1

FIELD PERSONNEL: COMPLETE ONLY SHADED AREAS

RECRA LabNet

Client: Nysdec
Est. Final Proj. Sampling Date:
Project #: 01667-600-001-9999-00
Project Contact/Phone #:
RECRA Project Manager: T.S.
QC: Clp Del: Clp TAT: 7 ~~Std~~ day ~~12/10/99~~
Date Rec'd: 12-8-99 Date Due: ~~12-7-99~~ 12/15/99
Account #:

	VOA	BNA	Pest/PCB	Herb				Metal	CN					
Refrigerator #	1	3	3					3	3	3	3			
#/Type Container – Liquid														
#/Type Container – Solid	1gl	1gl						1gl						
Volume – Liquid														
Volume – Solid	125	250						125						
Preservatives														
RECRA LabNet Use Only	0624C	0625C	0608C		0324T			MHSLTO	ICNTO	ITCLV	ITCLP		C0025T C0038T	0HBGT RCRATCLP

MATRIX CODES: S - Soil, SE - Sediment, SO - Solid, SL - Sludge, W - Water, O - Oil, A - Air, DS - Drum Solids, DL - Drum Liquids, L - EP/TCLP Leachate, WI - Wipe, X - Other, F - Fish

Lab ID	Client ID/Description	MS	MSD	Matrix	Date Collected	Time Collected	0624C	0625C	0608C		0324T			MHSLTO	ICNTO	ITCLV	ITCLP		C0025T C0038T	0HBGT RCRATCLP
001	SH899-12206-B706-01			S	12/6/99	1000	1	1	✓					✓	✓	✓	✓			
002	〃 〃 02			S	〃	1007	1	1	✓					✓	✓	✓	✓			
003	〃 〃 01 tclvoafoo1			L	*	-					✓									
004	〃 〃 02 〃			2 〃	〃	〃					✓									
005	〃 〃 01 tclpafoo1			〃	〃	〃													✓	✓
006	〃 〃 02 〃			2 〃	〃	〃													✓	✓
007	Nysdec-fridge blank			W	12/10/99	1619	✓													

Special Instructions:

DATE/REVISIONS:
1. Relog from 99121959-001+002
2. 99PM292
3. 007 → was made on 12/10/99 - but
4. Logged as 12/8/99 to accomodate
5. Lims
6.

600

Relinquished by	Received by	Date	Time	Relinquished by	Received by	Date	Time
Relog	Janson	12/10/99	-		ORIGINAL REWRITTEN		

Discrepancies Between Samples Labels and COC Record? Y or N
NOTES:

RECRA LabNet Use Only

Samples were:
1) Shipped ___ or Hand Delivered ___
Airbill # ___
2) Ambient or Chilled
3) Received in Good Condition Y or N
4) Labels Indicate Properly Preserved Y or N
5) Received Within Holding Times Y or N

COC Tape was:
1) Present on Outer Package Y or N
2) Unbroken on Outer Package Y or N
3) Present on Sample Y or N
4) Unbroken on Sample Y or N
COC Record Present Upon Sample Rec't Y or N
Cooler Temp. ___ °C

Relog

Case Narrative

Recra LabNet Philadelphia
Analytical Report

Client : NYSDEC
RFW# : 9912L973
ELAP# : 10752

W.O.# : 01667-600001-9999-00
Date Received: 12-08-99

CLP/ILM04.0 METALS

1. This narrative covers the analyses of 2 soil samples and 2 TCLP leachate samples.

2. The total samples were prepared and analyzed in accordance with CLP/ILM04.0 protocol. The TCLP samples were prepared and analyzed in accordance with SW-846 protocol and reported with CLP deliverable. The total sample and the TCLP leachate sample have been reported on separate sets of forms.

3. ICVs, CCVs, and LCSs stock standards were purchased from Inorganic Ventures and High Purity.

4. All analyses were performed within the required holding times.

5. All cooler temperatures have been recorded on the original Chain of Custody.

6. All Initial and Continuing Calibration Verifications (ICV/CCVs) were within control limits.

7. All Initial and Continuing Calibration Blanks (ICB/CCBs) were within control limits.

8. All preparation/method blanks were below reporting limits. Refer to form 3.

9. All ICP Interference Check Samples (ICSA and ICSAB) were within control limits with the exception of the ending ICSAB for Selenium at 126.6% in TA1215A. All of the samples were surrounded by CCVs which were within the control limits. The concentration of the interferring analytes was lower in the samples as compared to the ISCAB solution. Therefore, it is unlikely that the samples are significantly impacted.

10. All laboratory control samples (LCS) were within the 80-120% control limits. Refer to form 7.

11. All serial dilution percent differences were within method control limits. Refer to form 9.

12. All sample IDs were changed to accommodate the EPA naming convention which allows a maximum of 6 characters on all CLP Forms. Refer to the comments section of form 1 for the original ID.

13. The TCLP extract from sample SH899-12206-B706-01 was selected for the matrix spike for this analytical batch. All TCLP matrix spike recoveries were greater than 50% as per method criteria.

14. All matrix spike, duplicate and serial dilution analyses for the soil sample were performed on NYSDEC, Recra batch# 9910L393. Refer to this package for the appropriate set of QC forms.

15. Recoveries on the Laboratory Summary Report and CLP forms will vary depending on the number of significant figures used in the recovery calculation.

Pat Taylor

J. Michael Taylor
Vice President
Philadelphia Analytical Laboratory

12-30-99
Date

mld/m12-973

METALS METHOD GLOSSARY

The following methods are used as reference for the digestion and analysis of samples contained within this Recra Lot#: 9912L973

Leaching Procedure: __1310 ✓1311 __1312 __Other:_____

CLP Metals ✓Digestion and ✓Analysis Methods: __ILM03.0 ✓ILM04.0 (Total Samples)

Metals Digestion Methods: __3005A __3010A __3015 __3020A __3050B __3051 __200.7 __SS17
__Other: _____

Metals Analysis Methods

	SW846	EPA		STD MTD	EPA OSWR	USATHAMA
Aluminum	__6010B	__200.7				__99
Antimony	__6010B __7041 [5]	__200.7	__204.2			__99
Arsenic	✓6010B __7060A [5]	__200.7	__206.2	__3113B		__99
Barium	✓6010B	__200.7				__99
Beryllium	__6010B	__200.7				__99
Bismuth	__6010B [1]	__200.7 [1]			__1620	__99
Boron	__6010B	__200.7				__99
Cadmium	✓6010B __7131A [5]	__200.7	__213.2			__99
Calcium	__6010B	__200.7				__99
Chromium	✓6010B __7191 [5]	__200.7	__218.2			__SS17
Cobalt	__6010B	__200.7				__99
Copper	__6010B __7211 [5]	__200.7	__220.2			__99
Iron	__6010B	__200.7				__99
Lead	✓6010B __7421 [5]	__200.7	__239.2	__3113B		__99
Lithium	__6010B __7430 [4]	__200.7			__1620	__99
Magnesium	__6010B	__200.7				__99
Manganese	__6010B	__200.7				__99
Mercury	✓7470A [3] __7471A [3]	__245.1 [2]	__245.5 [2]			__99
Molybdenum	__6010B	__200.7				__99
Nickel	__6010B	__200.7				__99
Potassium	__6010B __7610 [4]	__200.7	__258.1 [4]			__99
Rare Earths	__6010B [1]	__200.7 [1]			__1620	__99
Selenium	✓6010B __7740 [5]	__200.7	__270.2	__3113B		__99
Silicon	__6010B [1]	__200.7			__1620	__99
Silica	__6010B	__200.7			__1620	__99
Silver	✓6010B __7761 [5]	__200.7	__272.2			__99
Sodium	__6010B __7770 [4]	__200.7	__273.1 [4]			__99
Strontium	__6010B	__200.7				__99
Thallium	__6010B __7841 [5]	__200.7	__279.2	__200.9		__99
Tin	__6010B	__200.7				__99
Titanium	__6010B	__200.7				__99
Uranium	__6010B [1]	__200.7 [1]			__1620	__99
Vanadium	__6010B	__200.7				__99
Zinc	__6010B	__200.7				__99
Zirconium	__6010B [1]	__200.7 [1]			__1620	__99

Other:_____ Method:_____

METHOD REFERENCES AND DATA QUALIFIERS

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.

B = Indicates that the parameter was between the Instrument Detection Limit (IDL) and the Contract Required Detection Limit (CRDL)

Q QUALIFIERS

E = The reported value is estimated because of the presence of interference.

M = Duplicate injection precision not met.

N = Spiked sample recovery not within control limits.

S = The reported value was determined by the Method of Standard Additions (MSA).

W = Post Digestion spike for Furnace AA analysis is out of control limits (85 -115 %), while sample absorbance is less than 50% of spike absorbance.

* = Duplicate analysis not within control limits.

+ = Correlation coefficient for the MSA is less than 0.995.

ABBREVIATIONS

PB = Method or Preparation Blank.
S = Matrix Spike.
T = Matrix Spike Duplicate.
R or D = Sample Replicate

ANALYTICAL METAL METHODS

1. Not included in the method element list.
2. Modified Hg: Hg1 and Hg2 require less total volume of digestate due to the autosampler analysis. Sample volumes and reagents for mercury determinations in water and soil have been proportionately scaled down to adapt to this semi-automated technique. The sample volume used for water analysis is 33 mL. For soils, 0.1 grams of sample is taken to a final volume of 50 mL (including all reagents).
3. Modified Hg: Hg1 and Hg2 require less total volume of digestate due to the autosampler analysis. Sample volumes and reagents for mercury determinations in water and soil have been proportionately scaled down to adapt to this semi-automated technique. The sample volume used for water analysis is 33 mL. For soils, three 0.1 gram of sample is taken to a final volume of 50 mL (including all reagents).
4. Flame AA.
5. Graphite Furnace AA.

WET CHEMISTRY
METHODS GLOSSARY FOR ANALYSIS OF SOIL/SOLID SAMPLES

	ASTM	SW846	OTHER
%Ash	__ D2216-80		
%Moisture	__ D2216-80		__ ILMO4.0 (e)
%Solids			✓ ILMO4.0 (e)
%Volatile Solids	__ D2216-80		
ASTM Extraction in Water	__ D3987-81/85		
BTU	__ D240-87		
CEC		__ 9081	__ c
Corrosivity __by coupon __by pH		__ 1110 (mod)__ 9045	
Cyanide, Total		__ 9010	__ ILMO4.0 (e)
Cyanide, Reactive		__ Sec 7.3	
Density			__ b
Halides, Extractable Organic			__ EPA 600/4/84-008 (mod)
Halides, Total			__ EPA 600/4/84-008 (mod)
EP-Toxicity		__ 1310A	
Flash Point		__ 1010	
Ignitability		__ 1010	
Carbon, Total Organic (by LOI)			__ c
Oil and Grease		__ 9071A	
Carbon, Total Organic		__ 9060	__ Lloyd Kahn (mod)
Oxygen Bomb Prep for Anions	__ D240-87 (mod)	__ 5050	
Petroleum Hydrocarbons, Total Recoverable		__ 9071	__ EPA 418.1 (mod)
pH, Soil		__ 9045B	
Sulfide, Reactive		__ Sec 7.3	
Specific Gravity	__ D1429-76C		
Sulfur, Total		__ 9056	
TCLP		__ 1311	
TCLV		__ 1311	
Synthetic Precipitation Leach		__ 1312	
Chlorine, Total		__ 9056	
Paint Filter		__ 9095	

Other: _____ Method: _____

RECRA

METHOD REFERENCES AND DATA QUALIFIERS

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

ABBREVIATIONS

MB = Method or Preparation Blank.
MS = Matrix Spike.
MSD = Matrix Spike Duplicate.
REP = Sample Replicate
LC = Laboratory Control Sample.
NC = Not calculated.

A suffix of -R, -S, or -T following these codes indicate a replicate, spike or sample duplicate analysis respectively.

ANALYTICAL WET CHEMISTRY METHODS

1. ASTM Standard Methods.

2. USEPA Methods for Chemical Analysis of Water and Wastes (USEPA 600/4-79 020).

3. Test Methods for Evaluating Solid Waste (USEPA SW-846).

a. Standard Methods for the Examination of Water and Waste, 16 ed., (1989).

b. Standard Methods for the Examination of Water and Waste, 17 ed., (1983)

c. Method of Soil Analysis, Part 1, Physical and Mineralogical Methods, 2nd. Ed. (1986)

d. Method of Soil Analysis, Part 2, Chemical and Microbiological Properties, Am. Soc. Agron., Madison, WI (1965)

e. USEPA Contract Laboratory Program, Statement of Work for Inorganic Analysis

f. Code of Federal Regulations.

U.S. EPA - CLP

1

INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

B70601

Lab Name: RECRA_LABNET Contract: 01667

Lab Code: RECRA Case No.: SH899 SAS No.: SDG No.: 12206

Matrix (soil/water): SOIL Lab Sample ID: 9912L973-001

Level (low/med): LOW Date Received: 12/08/99

% Solids: 87.0

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

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	6340			P
7440-36-0	Antimony	0.41	U		P
7440-38-2	Arsenic	9.0			P
7440-39-3	Barium	89.5			P
7440-41-7	Beryllium	0.54	B		P
7440-43-9	Cadmium	0.08	U		P
7440-70-2	Calcium	3150			P
7440-47-3	Chromium	9.4			P
7440-48-4	Cobalt	5.8	B		P
7440-50-8	Copper	28.0			P
7439-89-6	Iron	19300			P
7439-92-1	Lead	29.8			P
7439-95-4	Magnesium	2250			P
7439-96-5	Manganese	108			P
7439-97-6	Mercury	4.0			AV
7440-02-0	Nickel	14.9			P
7440-09-7	Potassium	930	B		P
7782-49-2	Selenium	1.3			P
7440-22-4	Silver	0.15	U		P
7440-23-5	Sodium	75.4	B		P
7440-28-0	Thallium	0.83	U		P
7440-62-2	Vanadium	16.2			P
7440-66-6	Zinc	139			P
5955-70-0	Cyanide	0.57	U		C

Color Before: Clarity Before: Texture:

Color After: Clarity After: Artifacts:

Comments:

SH899-12206-B706-01

U.S. EPA - CLP

1

INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

B70602

Lab Name: RECRA_LABNET Contract: 01667

Lab Code: RECRA Case No.: SH899 SAS No.: SDG No.: 12206

Matrix (soil/water): SOIL Lab Sample ID: 9912L973-002

Level (low/med): LOW Date Received: 12/08/99

% Solids: 77.6

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

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	9120			P
7440-36-0	Antimony	0.53	U		P
7440-38-2	Arsenic	10.4			P
7440-39-3	Barium	29.0	B		P
7440-41-7	Beryllium	0.52	B		P
7440-43-9	Cadmium	0.56	B		P
7440-70-2	Calcium	1850			P
7440-47-3	Chromium	9.8			P
7440-48-4	Cobalt	5.4	B		P
7440-50-8	Copper	143			P
7439-89-6	Iron	17700			P
7439-92-1	Lead	9.1			P
7439-95-4	Magnesium	2410			P
7439-96-5	Manganese	87.3			P
7439-97-6	Mercury	0.03	U		AV
7440-02-0	Nickel	17.3			P
7440-09-7	Potassium	1040	B		P
7782-49-2	Selenium	1.6			P
7440-22-4	Silver	0.20	U		P
7440-23-5	Sodium	67.7	B		P
7440-28-0	Thallium	1.1	U		P
7440-62-2	Vanadium	15.7			P
7440-66-6	Zinc	160			P
5955-70-0	Cyanide	0.64	U		C

Color Before: Clarity Before: Texture:

Color After: Clarity After: Artifacts:

Comments:

SH899-12206-B706-02

U.S. EPA - CLP

3
BLANKS

Lab Name: RECRA_LABNET_____ Contract: 01667_____

Lab Code: RECRA_ Case No.: SH899_ SAS No.: _____ SDG No.: 12206_

Preparation Blank Matrix (soil/water): SOIL_

Preparation Blank Concentration Units (ug/L or mg/kg): MG/KG

Analyte	Initial Calib. Blank (ug/L)	C	Continuing Calibration Blank (ug/L) 1	C	2	C	3	C	Prepa-ration Blank	C	M
Aluminum	10.1	U	10.1	U	-11.4	B	11.6	B	2.020	U	P
Antimony	2.1	U	2.1	U	2.1	U	2.1	U	0.420	U	P
Arsenic	2.7	U	2.7	U	2.7	U	2.7	U	0.540	U	P
Barium	0.2	U	0.2	U	0.2	U	0.2	U	0.162	B	P
Beryllium	0.1	U	0.1	U	0.1	U	0.1	B	0.020	U	P
Cadmium	0.4	U	0.4	U	0.4	U	0.4	U	0.080	U	P
Calcium	8.6	B	8.6	U	8.6	U	8.6	U	7.806	B	P
Chromium	-1.6	B	-1.9	B	-1.4	B	-3.2	B	0.140	U	P
Cobalt	0.7	U	0.7	U	-1.3	B	0.7	U	0.140	U	P
Copper	0.5	U	0.5	U	-1.3	B	0.5	U	0.100	U	P
Iron	13.6	U	13.6	U	13.6	U	13.6	U	2.720	U	P
Lead	2.1	U	2.1	U	2.1	U	2.4	B	0.420	U	P
Magnesium	6.3	U	6.3	U	6.3	U	6.3	U	1.880	B	P
Manganese	0.2	U	0.2	U	0.2	U	0.2	U	0.040	U	P
Mercury	0.1	U	0.1	U	0.1	U	0.1	U	0.050	U	AV
Nickel	1.0	U	1.0	U	-1.8	B	1.0	U	-0.271	B	P
Potassium	17.8	U	24.1	B	17.8	U	29.6	B	4.747	B	P
Selenium	4.1	U	4.1	U	4.1	U	4.1	U	0.820	U	P
Silver	0.8	U	0.8	U	0.8	U	0.8	U	0.160	U	P
Sodium	4.8	U	4.8	U	-6.2	B	4.8	U	6.112	B	P
Thallium	4.3	U	4.3	U	4.3	U	4.3	U	0.860	U	P
Vanadium	0.6	U	0.7	B	-0.8	B	1.0	B	0.120	U	P
Zinc	0.5	U	0.5	U	0.5	U	0.5	U	0.100	U	P
Cyanide	10.0	U	10.0	U	10.0	U	10.0	U	0.500	U	C

U.S. EPA - CLP

3
BLANKS

Lab Name: RECRA_LABNET_____ Contract: 01667_____

Lab Code: RECRA_ Case No.: SH899_ SAS No.: _____ SDG No.: 12206_

Preparation Blank Matrix (soil/water): _____

Preparation Blank Concentration Units (ug/L or mg/kg): _____

Analyte	Initial Calib. Blank (ug/L)	C	Continuing Calibration Blank (ug/L) 1	C	2	C	3	C	Prepa-ration Blank	C	M
Aluminum											NR
Antimony											NR
Arsenic											NR
Barium											NR
Beryllium											NR
Cadmium											NR
Calcium											NR
Chromium											NR
Cobalt											NR
Copper											NR
Iron											NR
Lead											NR
Magnesium											NR
Manganese											NR
Mercury			0.1	U							AV
Nickel											NR
Potassium											NR
Selenium											NR
Silver											NR
Sodium											NR
Thallium											NR
Vanadium											NR
Zinc											NR
Cyanide			10.0	U	10.0	U	10.0	U			C

U.S. EPA - CLP

3
BLANKS

Lab Name: RECRA_LABNET_____ Contract: 01667_____

Lab Code: RECRA_ Case No.: SH899_ SAS No.: _____ SDG No.: 12206_

Preparation Blank Matrix (soil/water): _____

Preparation Blank Concentration Units (ug/L or mg/kg): _____

Analyte	Initial Calib. Blank (ug/L)	C	Continuing Calibration Blank (ug/L) 1	C	2	C	3	C	Prepa-ration Blank	C	M
Aluminum											NR
Antimony											NR
Arsenic											NR
Barium											NR
Beryllium											NR
Cadmium											NR
Calcium											NR
Chromium											NR
Cobalt											NR
Copper											NR
Iron											NR
Lead											NR
Magnesium											NR
Manganese											NR
Mercury	0.1	U	0.1	U	0.1	U	0.1	U			AV
Nickel											NR
Potassium											NR
Selenium											NR
Silver											NR
Sodium											NR
Thallium											NR
Vanadium											NR
Zinc											NR
Cyanide											NR

U.S. EPA - CLP

3
BLANKS

Lab Name: RECRA_LABNET_____ Contract: 01667_____

Lab Code: RECRA_ Case No.: SH899_ SAS No.: _____ SDG No.: 12206_

Preparation Blank Matrix (soil/water): _____

Preparation Blank Concentration Units (ug/L or mg/kg): _____

Analyte	Initial Calib. Blank (ug/L)	C	Continuing Calibration Blank (ug/L) 1	C	2	C	3	C	Prepa-ration Blank	C	M
Aluminum											NR
Antimony											NR
Arsenic											NR
Barium											NR
Beryllium											NR
Cadmium											NR
Calcium											NR
Chromium											NR
Cobalt											NR
Copper											NR
Iron											NR
Lead											NR
Magnesium											NR
Manganese											NR
Mercury			0.1	U	0.1	U	0.1	U			AV
Nickel											NR
Potassium											NR
Selenium											NR
Silver											NR
Sodium											NR
Thallium											NR
Vanadium											NR
Zinc											NR
Cyanide											NR

U.S. EPA

COVER PAGE - INORGANIC ANALYSES DATA PACKAGE

Lab Name: RECRA_LABNET_____ Contract: 01667_____

Lab Code: RECRA_ Case No.: SH899 SAS No.: _____ SDG No.:12206_

SOW No.: ILM04

EPA Sample No.	Lab Sample ID
_B70601_____	_9912L973-005___
_B70601S_____	_9912L973-005S__
_B70602_____	_9912L973-006___
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____

Were ICP interelement corrections applied ? Yes/No YES

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

Comments: TCLP Samples

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

Signature: Pat E Name: PATRICIA E Feldman

Date: 12-30-99 Title: Data Mgt Supervisor

U.S. EPA

1

INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

B70601

Lab Name: RECRA_LABNET_____ Contract: 01667_____
Lab Code: RECRA_ Case No.: SH899 SAS No.: _____ SDG No.: 12206_
Matrix (soil/water): WATER Lab Sample ID: 9912L973-005
Level (low/med): LOW__ Date Received: 12/08/99
% Solids: __0.0

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

CAS No.	Analyte	Concentration	C	Q	M
7440-38-2	Arsenic	34.3	U		P
7440-39-3	Barium	910			P
7440-43-9	Cadmium	3.9	U		P
7440-47-3	Chromium	3.6	U		P
7439-92-1	Lead	57.2			P
7439-97-6	Mercury	0.10	U		AV
7782-49-2	Selenium	66.9	U		P
7440-22-4	Silver	4.0	U		P

Color Before: _____ Clarity Before: _____ Texture: _____
Color After: _____ Clarity After: _____ Artifacts: _____

Comments:
SH899-12206-B706-01
TCLP_OF_001

FORM I - IN

U.S. EPA

1

INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

B70602

Lab Name: RECRA_LABNET Contract: 01667

Lab Code: RECRA Case No.: SH899 SAS No.: SDG No.: 12206

Matrix (soil/water): WATER Lab Sample ID: 9912L973-006

Level (low/med): LOW Date Received: 12/08/99

% Solids: 0.0

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

CAS No.	Analyte	Concentration	C	Q	M
7440-38-2	Arsenic	34.3	U		P
7440-39-3	Barium	381			P
7440-43-9	Cadmium	3.9	U		P
7440-47-3	Chromium	3.6	U		P
7439-92-1	Lead	62.0			P
7439-97-6	Mercury	0.18			AV
7782-49-2	Selenium	66.9	U		P
7440-22-4	Silver	4.0	U		P

Color Before: Clarity Before: Texture:

Color After: Clarity After: Artifacts:

Comments:

SH899-12206-B706-02

TCLP_OF_002

U.S. EPA

3
BLANKS

Lab Name: RECRA_LABNET_____ Contract: 01667_____

Lab Code: RECRA_ Case No.: SH899 SAS No.: _____ SDG No.: 12206_

Preparation Blank Matrix (soil/water): WATER

Preparation Blank Concentration Units (ug/L or mg/kg): UG/L_

Analyte	Initial Calib. Blank (ug/L)	C	Continuing Calibration Blank (ug/L) 1	C	2	C	3	C	Prepa-ration Blank	C	M
Arsenic	34.3	U	34.3	U	34.3	U	-34.3		34.300	U	P
Barium	5.6	U	5.6	U	5.6	U	5.6	U	5.600	U	P
Cadmium	3.9	U	3.9	U	3.9	U	3.9	U	3.900	U	P
Chromium	3.6	U	3.6	U	3.6	U	3.6	U	3.600	U	P
Lead	29.5	U	29.5	U	29.5	U	29.5	U	29.500	U	P
Mercury	0.1	U	0.1	U	-0.1		-0.1		0.100	U	AV
Selenium	66.9	U	66.9	U	66.9	U	66.9	U	66.900	U	P
Silver	4.0	U	4.0	U	4.0	U	4.0	U	4.000	U	P

FORM III - IN

U.S. EPA

3
BLANKS

Lab Name: RECRA_LABNET_____ Contract: 01667_____

Lab Code: RECRA_ Case No.: SH899 SAS No.: _____ SDG No.: 12206_

Preparation Blank Matrix (soil/water): WATER

Preparation Blank Concentration Units (ug/L or mg/kg): UG/L_

Analyte	Initial Calib. Blank (ug/L)	C	Continuing Calibration Blank (ug/L) 1	C	2	C	3	C	Prepa-ration Blank	C	M
Arsenic									34.300	U	P
Barium									5.600	U	P
Cadmium									3.900	U	P
Chromium									3.600	U	P
Lead									40.064		P
Mercury			0.1	U	-0.1				0.100	U	AV
Selenium									66.900	U	P
Silver									4.000	U	P

FORM III - IN

U.S. EPA

5A
SPIKE SAMPLE RECOVERY

EPA SAMPLE NO.

Lab Name: RECRA_LABNET Contract: 01667 | B70601S

Lab Code: RECRA Case No.: SH899 SAS No.: SDG No.: 12206
Matrix: WATER Level (low/med): LOW
% Solids for Sample: 0.0

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

Analyte	Control Limit %R	Spiked Sample Result (SSR)	C	Sample Result (SR)	C	Spike Added (SA)	%R	Q	M
Arsenic		4863.0190		34.3000	U	5000.00	97.3		P
Barium		97635.3200		910.1550		100000.00	96.7		P
Cadmium		908.1610		3.9000	U	1000.00	90.8		P
Chromium		4515.6540		3.6000	U	5000.00	90.3		P
Lead		4884.0580		57.1950		5000.00	96.5		P
Mercury									NR
Selenium		1015.3440		66.9000	U	1000.00	101.5		P
Silver		4507.6850		4.0000	U	5000.00	90.2		P

Comments:
SH899-12206-B706-01
TCLP_OF_001

FORM V (Part 1) - IN

070

RECRA ENVIRONMENTAL INC.

Chemical and Environmental Measurement Information

Recra LabNet Philadelphia
Analytical Report

Client: NYSDEC
RFW #: 9912L973 (Relogged)
ELAP #: 10752

W.O.#: 01667-600-001-9999-00
Date Received: 12-08-99

SEMIVOLATILE-TCLP

Two (2) leachate samples were generated on 12-15-99 from soil samples collected on 12-06-99.

The samples and their associated QC samples were extracted on 12-21-99 and analyzed according to criteria set forth in Recra OPs based on NYSDEC ASP (Rev. 10-95) for TCLP Semivolatile target compounds on 01-03,04-2000.

The following is a summary of the QC results accompanying the sample results and a description of any problems encountered during their analyses:

1. This set of samples has been relogged from RFW lot 9912L959.

2. The samples were extracted at five-fold dilution due to the leachate matrix.

3. All required holding times for extraction and analysis were met.

4. All surrogate recoveries were within EPA QC limits.

5. All blank spike recoveries were within EPA QC limits.

6. Internal standard area criteria were not met for the method blank spike 99LE1549-MB1 BS. The analysis of associated blank spike duplicate 99LE1549-MB1 BSD fulfills the reanalysis requirement.

for STD Welsh

01-19-00

J. Michael Taylor
Vice President
Philadelphia Analytical Laboratory

Date

som\group\data\bna\nys12t973.doc

208 Welsh Pool Road • Lionville, PA 19341-1333 • (610) 280-3000 • Fax (610) 280-3041

GLOSSARY OF BNA 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 under the following circumstances: 1) when estimating a concentration for tentatively identified compounds (TICs) where a 1:1 response is assumed; or 2) 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.
D	=	Identifies all compounds identified in an analysis at a secondary dilution factor.
I	=	Interference.
NQ	=	Result qualitatively confirmed but not able to quantify.
A	=	Indicates that a TIC is a suspected aldol-condensation product.
N	=	Indicates presumptive evidence of a compound. This flag is only used for tentatively identified compounds (TICs), where the identification is based on a mass spectral library search. It is applied to all TIC results. For generic characterization of a TIC, such as chlorinated hydrocarbon, the N code is not used.
X	=	This flag is used for a TIC compound which is quantified relative to a response factor generated from a daily calibration standard (rather than quantified relative to the closest internal standard).
Y	=	Additional qualifiers used as required are explained in the case narrative.

GLOSSARY OF BNA DATA

ABBREVIATIONS

BS	=	Indicates blank spike in which reagent grade water is spiked with the CLP matrix spike 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	=	Suffix added to sample number to indicate that results are from a diluted analysis.
NA	=	Not Applicable.
DF	=	Dilution Factor.
NR	=	Not Required.
SP, Z	=	Indicates Spiked Compound.

TECHNICAL FLAGS FOR MANUAL INTEGRATION

Manual quan modifications or integrations are performed routinely to improve the data quality for a variety of technical reasons. Documentation of these modifications should be clear and concise. The following "flags" are used to indicate the technical reasons for quan modifications:

MP - Missed Peak: manually added peak not found by automatic quan program.

PA - Peak Assignment: quan report was changed to reflect correct peak assignment.

RI - Routine Integration: routine integrations are performed for some analytes that are consistently integrated improperly by the automatic integration programs. Examples are the dichlorobenzene isomers on the VOA packed column and benzo(b)fluoranthene/benzo(k)fluoranthene which are poorly resolved on the BNA column.

SP - Split Peak: the automatic integration improperly split the peak; a manual integration was performed to get the correct area.

CB - Coelution/Background: peak was manually integrated to eliminate contribution from coeluting compounds, background signal, or other interference.

PI - Proper Integration: a peak with poor or inconsistent integration (e.g., excessive tail) was properly integrated manually.

RECRA LabNet Use Only

99121973

Custody Transfer Record/Lab Work Request

Page 1 of 1

RECRA LabNet

FIELD PERSONNEL: COMPLETE ONLY SHADED AREAS

Client: Nysdec

Est. Final Proj. Sampling Date:

Project #: 01667-600-001-9999-00

Project Contact/Phone #:

RECRA Project Manager: T.S.

QC: Clp Del: Clp TAT: 7 ~~5 Days~~ 10 Days

Date Rec'd: 12-8-99 Date Due: ~~12-7-99~~ 12/15/99

Account #:

		Refrigerator #		1	3	3					3	3	3	3				
		#/Type Container	Liquid															
			Solid	1gl	1gl	1					1gl		1	1				
		Volume	Liquid															
			Solid	125	250	1					125		1	1				
		Preservatives																
		ANALYSES REQUESTED →		ORGANIC							INORG							
				VOA	BNA	Pest/ PCB	Herb				Metal	CN						
				↓ RECRA LabNet Use Only ↓														
				0624C	0625C	0608C		0324T			MASTO	ICMTO	ITALV	ITCLO		CR2ST CR3ST	CR6ST RCRATCR	
001	SH899-12206-B706-01			S	12/6/99	1000	1	1	✓				✓	✓	✓	✓			
002	1 1 02			S	1	1007	1	1	✓				✓	✓	✓	✓			
003	01 telephone			L	*	-				✓									
004	02	1		2	1	1				✓							✓	✓	
005	01 telephone	1		1	1	1											✓	✓	
006	02	1		2	1	1											✓	✓	
007	Nysdec-fridge blank			W	12/10/99	1619	✓												

MATRIX CODES: S - Soil, SE - Sediment, SO - Solid, SL - Sludge, W - Water, O - Oil, A - Air, DS - Drum Solids, DL - Drum Liquids, L - EP/TCLP Leachate, WI - Wipe, X - Other, F - Fish

Special Instructions:

DATE/REVISIONS:

1. Relog from 99121959-001+002
2. 99PM1292 ~~attached~~
3. 007 → was made on 12/10/99 - but
4. Logged as 12/8/99 to accomodate
5. LIMS
6.

RECRA LabNet Use Only

Samples were: 1) Shipped ___ or Hand Delivered ___ Airbill # ___ 2) Ambient or Chilled 3) Received in Good Condition Y or N 4) Labels Indicate Properly Preserved Y or N 5) Received Within Holding Times Y or N

COC Tape was: 1) Present on Outer Package Y or N 2) Unbroken on Outer Package Y or N 3) Present on Sample Y or N 4) Unbroken on Sample Y or N

COC Record Present Upon Sample Rec't Y or N

Cooler Temp. ___ °C

Discrepancies Between Samples Labels and COC Record? Y or N

NOTES:

Relinquished by	Received by	Date	Time
Relog	Janson	12/10/99	-

Relinquished by	Received by	Date	Time
	ORIGINAL		
	REWRITTEN		

Data Summary/Semivolatile Sample QC

	Cust ID:	SH899-12206-B706-01		SH899-12206-B706-02		SBLKIV		SBLKIV BS		SBLKIV BSD		LCHBLK	
Sample	RFW#:	005		006		99LE1549-MB1		99LE1549-MB1		99LE1549-MB1		99LTO132-LB1	
Information	Matrix:	WATER		WATER		WATER		WATER		WATER		WATER	
	D.F.:	1.00		1.00		1.00		1.00		1.00		1.00	
	Units:	MG/L		MG/L		MG/L		MG/L		MG/L		MG/L	
	Nitrobenzene-d5	71	%	68	%	76	%	69	%	73	%	75	%
Surrogate	2-Fluorobiphenyl	62	%	62	%	56	%	52	%	61	%	67	%
Recovery	p-Terphenyl-d14	57	%	72	%	84	%	84	%	78	%	87	%
	Phenol-d5	68	%	57	%	49	%	65	%	65	%	65	%
	2-Fluorophenol	75	%	64	%	72	%	63	%	74	%	71	%
	2,4,6-Tribromophenol	71	%	65	%	80	%	89	%	84	%	56	%
Pyridine		0.050	U	0.050	U	0.050	U	28	%	36	%	0.050	U
1,4-Dichlorobenzene		0.050	U	0.050	U	0.050	U	41	%	36	%	0.050	U
2-Methylphenol		0.050	U	0.050	U	0.050	U	48	%	54	%	0.050	U
3- and/or 4-Methylphenol		0.050	U	0.050	U	0.050	U	68	%	76	%	0.050	U
Hexachloroethane		0.050	U	0.050	U	0.050	U	44	%	31	%	0.050	U
Nitrobenzene		0.050	U	0.050	U	0.050	U	68	%	72	%	0.050	U
Hexachlorobutadiene		0.050	U	0.050	U	0.050	U	54	%	32	%	0.050	U
2,4,6-Trichlorophenol		0.050	U	0.050	U	0.050	U	50	%	50	%	0.050	U
2,4,5-Trichlorophenol		0.12	U	0.12	U	0.12	U	51	%	47	%	0.12	U
2,4-Dinitrotoluene		0.050	U	0.050	U	0.050	U	61	%	57	%	0.050	U
Hexachlorobenzene		0.050	U	0.050	U	0.050	U	69	%	64	%	0.050	U
Pentachlorophenol		0.12	U	0.12	U	0.12	U	25	%	25	%	0.12	U

*= Outside of EPA CLP QC limits.

3C

WATER SEMIVOLATILE BLANK SPIKE/BLANK SPIKE DUPLICATE RECOVERY

Lab Name: Recra.LabNet Contract: 1667-00-01

Case No.: NYSDEC RFW Lot No.: 9912L973

BLANK Spike - Sample No.: SBLKIVLE1549-MB1 Level:(low/med) LOW

COMPOUND	SPIKE ADDED (MG/L)	SAMPLE CONCENTRATION (MG/L)	BS CONCENTRATION (MG/L)	BS % REC #	QC LIMITS REC
Pyridine	0.250	0	0.0699	28	9 -141
1,4-Dichlorobenzene	0.125	0	0.0512	41	36 - 97
2-Methylphenol	0.250	0	0.119	48	9 -141
3- and/or 4-Methylphenol	0.250	0	0.170	68	9 -141
Hexachloroethane	0.125	0	0.0550	44	9 -141
Nitrobenzene	0.125	0	0.0849	68	9 -141
Hexachlorobutadiene	0.125	0	0.0671	54	9 -141
2,4,6-Trichlorophenol	0.250	0	0.125	50	9 -141
2,4,5-Trichlorophenol	0.250	0	0.127	51	9 -141
2,4-Dinitrotoluene	0.125	0	0.0759	61	24 - 96
Hexachlorobenzene	0.125	0	0.0867	69	9 -141
Pentachlorophenol	0.250	0	0.0614	25	9 -103

COMPOUND	SPIKE ADDED (MG/L)	BSD CONCENTRATION (MG/L)	BSD % REC #	% RPD #	QC LIMITS RPD	QC LIMITS REC
Pyridine	0.250	0.0897	36	25	50	9 -141
1,4-Dichlorobenzene	0.125	0.0450	36	13	28	36 - 97
2-Methylphenol	0.250	0.134	54	11	50	9 -141
3- and/or 4-Methylphenol	0.250	0.190	76	11	50	9 -141
Hexachloroethane	0.125	0.0392	31	35	50	9 -141
Nitrobenzene	0.125	0.0899	72	5	50	9 -141
Hexachlorobutadiene	0.125	0.0399	32	51 *	50	9 -141
2,4,6-Trichlorophenol	0.250	0.125	50	0	50	9 -141
2,4,5-Trichlorophenol	0.250	0.118	47	8	50	9 -141
2,4-Dinitrotoluene	0.125	0.0713	57	6	38	24 - 96
Hexachlorobenzene	0.125	0.0802	64	7	50	9 -141
Pentachlorophenol	0.250	0.0619	25	0	50	9 -103

Column to be used to flag recovery and RPD values with an asterisk
* Values outside of QC limits

RPD: 1 out of 12 outside limits
Spike Recovery: 0 out of 24 outside limits

COMMENTS:

CASE NARRATIVE

RECRA ENVIRONMENTAL INC.
Chemical and Environmental Measurement Information

Recra LabNet Philadelphia
Analytical Report

Client: NYSDEC
RFW#: 9912L973
ELAP#: 10752

W.O.#: 01667-600-001-9999-00
Date Received: 12-08-99

PESTICIDE-TCLP

The set of samples consisted of two (2) leachate samples generated on 12-15-99 from soil samples collected on 12-06-99.

The samples and their associated QC samples were extracted on 12-17-99 and analyzed according to Recra OPs based on SW846, 3rd Edition procedures on 12-22-99. The extraction procedure was based on method 3520 and the extracts were analyzed based on method 8081 for TCLP pesticides.

The following is a summary of the QC results accompanying the sample results and a description of any problems encountered during their analyses:

1. The cooler temperature has been recorded on the chain-of-custodies.
2. All required holding times for extraction and analysis have been met.
3. All method blanks were below the reporting limits for all target compounds.
4. All surrogate recoveries were within acceptance criteria.
5. All blank spike recoveries were within acceptance criteria.
6. All initial calibrations associated with this data set were within acceptance criteria.
7. All continuing calibration standards analyzed prior to sample extracts were within acceptance criteria.

J. Michael Taylor
Vice President
Philadelphia Analytical Laboratory

01-03-00
Date

per\r:\group\data\pesr\11L-832t.pes

208 Welsh Pool Road • Lionville, PA 19341-1333 • (610) 280-3000 • Fax (610) 280-3041

GLOSSARY OF PESTICIDE/PCB DATA

DATA QUALIFIERS

U = Indicates that the compound was analyzed for but not detected. The minimum detection limit for the sample (not the method detection limit) is reported with the U (e.g., 10U).

J = Indicates an estimated value. This flag is used in cases where a target analyte is detected at a level less than the lower quantification level. If the limit of quantification 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.

E = Indicates that the compound was detected beyond the calibration range and was subsequently analyzed at a dilution.

I = Interference.

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 recoveries were not obtained because the extract had to be diluted for analysis.

NA = Not Applicable.

DF = Dilution Factor.

NR = Not Required.

SP = Indicates Spiked Compound.

GLOSSARY OF PESTICIDE/PCB DATA

P = This flag is used for a pesticide/Aroclor target analyte when there is greater than 25% difference for detected concentrations between the two GC columns (see Form X). The lower of the two values is reported on Form I and flagged with a "P".

D = This flag identifies all compounds identified in an analysis at a secondary dilution factor.

C = This flag applies to a compound that has been confirmed by GC/MS.

RECRA LabNet Use Only

99121973

Custody Transfer Record/Lab Work Request

Page 1 of 1

FIELD PERSONNEL: COMPLETE ONLY SHADED AREAS

RECRA LabNet

Client: Nysdec
Est. Final Proj. Sampling Date:
Project #: 01667-600-001-9999-00
Project Contact/Phone #:
RECRA Project Manager: J. S.
QC: Clp Del: Clp TAT: 7 ~~30 day~~ day
Date Rec'd: 12-8-99 Date Due: ~~1-7-99~~ 12/15/99
Account #:

	VOA	BNA	Pest/PCB	Herb				Metal	CN					
Refrigerator #	1	3	3					3	3	3	3			003
#/Type Container Liquid														
#/Type Container Solid	1gl	1gl						1gl						
Volume Liquid														
Volume Solid	125	250						125						
Preservatives														
RECRA LabNet Use Only	0624E	0625C	0608C		C024T			MHSLTO	1CNTO	1TCLV	1TCLP		C025T C008T	CHBGT ROTATION

MATRIX CODES: S - Soil; SE - Sediment; SO - Solid; SL - Sludge; W - Water; O - Oil; A - Air; DS - Drum Solids; DL - Drum Liquids; L - EP/TCLP Leachate; WI - Wipe; X - Other; F - Fish

Lab ID	Client ID/Description	MS	MSD	Matrix	Date Collected	Time Collected	VOA	BNA	Pest/PCB	Herb	C024T			Metal	CN	TCLV	TCLP		C025T C008T	CHBGT ROTATION
001	SH899-12206-B706-01			S	12/6/99	1000	1	1	✓					✓	✓	✓	✓			
002	↓ ↓ 02			S	↓	1007	1	1	✓					✓	✓	✓	✓			
003	01 televafoor			L	*	-					✓									
004	02	↓		2							✓								✓	✓
005	01 telpafoor																		✓	✓
006	02	↓		2	↓	↓													✓	✓
007	Nysdec-fridge blank			W	12/10/99	1619	✓													

Special Instructions:

DATE/REVISIONS:
1. Relog from 99121959-001+002
2. 99PM292
3. 007 → was made on 12/10/99 - but
4. Logged as 12/8/99 to accommodate
5. Lims
6.

RECRA LabNet Use Only
Samples were: 1) Shipped ___ or Hand Delivered ___
Airbill # ___
2) Ambient or Chilled
3) Received in Good Condition Y or N
4) Labels Indicate Properly Preserved Y or N
5) Received Within Holding Times Y or N
COC Tape was: 1) Present on Outer Package Y or N
2) Unbroken on Outer Package Y or N
3) Present on Sample Y or N
4) Unbroken on Sample Y or N
COC Record Present Upon Sample Rec't Y or N
Cooler Temp. °C

Relinquished by	Received by	Date	Time	Relinquished by	Received by	Date	Time
Relog	Janson	12/10/99	-		ORIGINAL REWRITTEN		

Discrepancies Between Samples Labels and COC Record? Y or N
NOTES:

RECRA LabNet Use Only

99121973

Custody Transfer Record/Lab Work Request

Page 1 of 1

FIELD PERSONNEL: COMPLETE ONLY SHADED AREAS

RECRA LabNet

Client: Nysdec

Est. Final Proj. Sampling Date:

Project #: 01667-600-001-9999-00

Project Contact/Phone #:

RECRA Project Manager: T.S. Day

QC: Clp Del: Clp TAT: 7 ~~Days~~ 5 12 Holding

Date Rec'd: 12-8-99 Date Due: ~~12-7-99~~ 12/15/99

Account #:

Refrigerator #		1	3	3					3	3	3	3				003		
#/Type Container	Liquid																	
	Solid	1gl	1gl	1					1gl	—	1	1						
Volume	Liquid																	
	Solid	125	250	1					125	—	1	1						
Preservatives																		

ANALYSES REQUESTED → ORGANIC: VOA, BNA, Pest/PCB, Herb; INORG: Metal, CN

RECRA LabNet Use Only

MATRIX CODES: S - Soil; SE - Sediment; SO - Solid; SL - Sludge; W - Water; O - Oil; A - Air; DS - Drum Solids; DL - Drum Liquids; L - EP/TCLP Leachate; WI - Wipe; X - Other; F - Fish

Lab ID	Client ID/Description	Matrix QC Chosen (✓) MS	MSD	Matrix	Date Collected	Time Collected	0624C	0625C	0608C		6324T			MHSETO	ICMTO	MTCLV	ITCLO		6325T	6361T
001	SH899-12206-B706-01			S	12/6/99	1000	1	1	✓					✓	✓	✓	✓			
002	〃 〃 02			S	〃	1007	1	1	✓					✓	✓	✓	✓			
003	〃 〃 01 tetraflora			L	*	-					✓									
004	〃 〃 02	〃		2	〃	〃					✓									
005	〃 〃 01 tetraflora	〃		1	〃	〃													✓	✓
006	〃 〃 02	〃		2	〃	〃													✓	✓
007	Nysdec-fridge blank			W	12/10/99	1619	✓													

Special Instructions:

DATE/REVISIONS:

1. Relog from 99121959-001+002
2. 99PM292
3. 007 → was made on 12/10/99 - but
4. Logged as 12/8/99 to accommodate
5. LIMS
6.

RECRA LabNet Use Only

Samples were: 1) Shipped ___ or Hand Delivered ___; Airbill # ___; 2) Ambient or Chilled; 3) Received in Good Condition Y or N; 4) Labels Indicate Properly Preserved Y or N; 5) Received Within Holding Times Y or N

COC Tape was: 1) Present on Outer Package Y or N; 2) Unbroken on Outer Package Y or N; 3) Present on Sample Y or N; 4) Unbroken on Sample Y or N

COC Record Present Upon Sample Rec't Y or N

Cooler Temp. ___ C

Discrepancies Between Samples Labels and COC Record? Y or N

NOTES:

Relinquished by	Received by	Date	Time
Kelog	Jansen	12/10/99	-

Relinquished by	Received by	Date	Time
	ORIGINAL		
	REWRITTEN		

DATA SUMMARY/SAMPLE QC

Recra LabNet - Lionville Laboratory

Pesticide by GC, TCLP Leachate

Report Date: 12/29/99 09:29

RFW Batch Number: **9912L973** Client: **NYSDEC** Work Order: 01667600001 Page: 1

011

Sample Information	Cust ID:	SH899-12206-B706-01	SH899-12206-B706-02	PBLKCB	PBLKCB BS	PBLKCB BSD	LCHBLK
	RFW#:	005	006	99LE1533-MB1	99LE1533-MB1	99LE1533-MB1	99LTO132-LB1
	Matrix:	WATER	WATER	WATER	WATER	WATER	WATER
	D.F.:	1.00	1.00	1.00	1.00	1.00	1.00
	Units:	UG/L	UG/L	UG/L	UG/L	UG/L	UG/L
Surrogate: Decachlorobiphenyl		85 %	94 %	90 %	87 %	83 %	85 %
Tetrachloro-m-xylene		62 %	60 %	75 %	70 %	70 %	65 %
		fl	fl	fl	fl	fl	fl
Heptachlor		0.50 U	0.50 U	0.50 U	95 %	95 %	0.50 U
alpha-Chlordane		0.50 U	0.50 U	0.50 U	95 %	95 %	0.50 U
gamma-Chlordane		0.50 U	0.50 U	0.50 U	90 %	90 %	0.50 U
gamma-BHC (Lindane)		0.50 U	0.50 U	0.50 U	90 %	90 %	0.50 U
Endrin		1.0 U	1.0 U	1.0 U	125 %	120 %	1.0 U
Methoxychlor		5.0 U	5.0 U	5.0 U	106 %	106 %	5.0 U
Toxaphene		50 U	50 U	50 U	50 U	50 U	50 U
Heptachlor Epoxide		0.50 U	0.50 U	0.50 U	85 %	85 %	0.50 U

12-30-99

U= Analyzed, not detected. J= Present below detection limit. B= Present in blank. NR= Not reported. NS= Not spiked.
%= Percent recovery. D= Diluted out. I= Interference. NA= Not Applicable. *= Outside of EPA CLP QC

3E

WATER PESTICIDE MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

Lab Name: Recra.LabNet Contract: 1667-00-01

Case No.: NYSDEC RFW Lot No.: 9912L973

MATRIX Spike - Sample No.: PBLKCBLE1533-MB1 Level:(low/med) LOW

COMPOUND	SPIKE ADDED UG/L	SAMPLE CONCENTRATION UG/L	MS CONCENTRATION UG/L	MS % REC #	QC LIMITS REC
Heptachlor	2.00	0	1.90	95	34 -111
alpha-Chlordane	2.00	0	1.90	95	45 -119
gamma-Chlordane	2.00	0	1.80	90	45 -119
gamma-BHC (Lindane)	1.00	0	0.900	90	19 -140
Endrin	2.00	0	2.50	125	30 -147
Methoxychlor	20.0	0	21.2	106	30 -147
Heptachlor Epoxide	2.00	0	1.70	85	37 -142

COMPOUND	SPIKE ADDED UG/L	MSD CONCENTRATION UG/L	MSD % REC #	% RPD #	QC LIMITS RPD	QC LIMITS REC
Heptachlor	2.00	1.90	95	0	NA	34 -111
alpha-Chlordane	2.00	1.90	95	0	NA	45 -119
gamma-Chlordane	2.00	1.80	90	0	NA	45 -119
gamma-BHC (Lindane)	1.00	0.900	90	0	NA	19 -140
Endrin	2.00	2.40	120	4	NA	30 -147
Methoxychlor	20.0	21.3	107	0	NA	30 -147
Heptachlor Epoxide	2.00	1.70	85	0	NA	37 -142

Column to be used to flag recovery and RPD values with an asterisk
* Values outside of QC limits

RPD: 0 out of 7 outside limits
Spike Recovery: 0 out of 14 outside limits

COMMENTS:

CASE NARRATIVE

RECRA ENVIRONMENTAL INC.

Chemical and Environmental Measurement Information

Recra LabNet Philadelphia
Analytical Report

Client: NYSDEC
RFW#: 9912L973
ELAP#: 10752

W.O.#: 01667-600-001-9999-00
Date Received: 12-08-99

HERBICIDE-TCLP

Two (2) leachate samples were generated on 12-15-99 from soil samples collected on 12-06-99.

The samples and their associated QC samples were extracted on 12-21-99 and analyzed on 12-30-99 according to criteria set forth in NYSDEC September 1989 ASP (Revision 10/95) for Herbicide target compounds.

The following is a summary of the QC results accompanying the sample results and a description of any problems encountered during their analyses:

1. All required holding times for extraction and analysis have been met.

2. All method blanks were below the reporting limits for all target compounds.

3. One (1) of six (6) surrogate recoveries were outside acceptance criteria. A copy of the Sample Discrepancy Report (SDR) has been enclosed.

4. All blank spike recoveries were within acceptance criteria. The blank spikes appear to have been double spiked. The results have been adjusted accordingly. A copy of the Sample Discrepancy Report (SDR) has been enclosed.

5. All initial calibrations associated with this data set were within acceptance criteria.

6. All continuing calibration standards analyzed prior to sample extracts were within acceptance criteria.

For S D Welsh

J. Michael Taylor
Vice President
Philadelphia Analytical Laboratory

01-12-00
Date

pef:n:\group\data\herb\12L-973.her

GLOSSARY OF HERBICIDE DATA

DATA QUALIFIERS

U = Indicates that the compound was analyzed for but not detected. The minimum detection limit for the sample (not the method detection limit) is reported with the U (e.g., 10U).

J = Indicates an estimated value. This flag is used in cases where a target analyte is detected at a level less than the lower quantification level. If the limit of quantification 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.

E = Indicates that the compound was detected beyond the calibration range.

I = Interference.

SUFFIXES

BS = Indicates blank spike in which reagent grade water is spiked with the 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.

ABBREVIATIONS

D = Indicates that recoveries were not obtained because the extract had to be diluted for analysis.

NA = Not Applicable.

DF = Dilution Factor.

NR = Not Reported.

SP = Indicates spiked compound.

Recra LabNet Philadelphia Sample Discrepancy Report (SDR) SDR #: 00GC005

Initiator: Laura Kissinger RFW Batch: 9912L973, 945 Parameter: OHBGT
Date: 1/4/00 Samples: 99LE1543-MBIS, 99LT0132-LBI Matrix: W
Client: NYSDEC Method: SW846/MCAWW/CLP/ Prep Batch: 99LE1543

1. Reason for SDR

a. COC Discrepancy __ Tech Profile Error __ Client Request __ Sampler Error on C-O-C __ Transcription Error __ Wrong Test Code __ Other _____

b. General Discrepancy

__ Missing Sample/Extract __ Container Broken __ Wrong Sample Pulled __ Label ID's Illegible
__ Hold Time Exceeded __ Insufficient Sample __ Preservation Wrong __ Received Past Hold
__ Improper Bottle Type __ Not Amenable to Analysis

Note: Verified by [Log-In] or [Prep Group] (circle)...signature/date: _____

c. QC Problem (Include all relevant specific results; attach data if necessary)

-99LE1543-MBIS - Blank spike double-spiked.

-99LT0132-LBI - Leachate Blank: low surrogate recovery

2. Known or Probable Causes(s)

-99LE1543-MBIS - Double-spiked, the BSD was OK

-99LT0132-LBI - low surr recovery

3. Discussion and Proposed Action

__ Re-log
__ Entire Batch
__ Following Samples: _____
__ Re-leach
__ Re-extract
__ Re-digest
__ Revise EDD
__ Change Test Code to _____
__ Place On/Take Off Hold (circle)

Other Description:

All calculations for the BS took into account the double spike

4. Project Manager Instructions...signature/date: jer 1/4/00

__ Concur with Proposed Action
__ Disagree with Proposed Action; See Instruction
✓ Include in Case Narrative
__ Client Contacted:
Date/Person _____
__ Add
__ Cancel

5. Final Action...signature/date: _____ Other Explanation:

__ Verified re-[log][leach][extract][digest][analysis] (circle)
__ Included in Case Narrative
__ Hard Copy COC Revised
__ Electronic COC Revised
__ EDD Corrections Completed

When Final Action has been recorded, forward original to QA Specialist for distribution and filing.

Route	Distribution of Completed SDR	Route	Distribution of Completed SDR
__	X Initiator	__	__ Metals: Doughty
__	X Lab Manager: M. Taylor	__	__ Inorganic: Perrone
__	X Project Mgr: Stone/Carey/Schrenkel/Johnson	__	__ GC/LC: Schnell
__	X Section Mgr: Wesson/Daniels	__	__ MS: Taylor
__	X QA (file): Racioppi	__	__ Log-in: Janson
__	__ Data Management: Feldman	__	__ Admin: Soos
__	__ Sample Prep: Doughty/Kauffman	__	__ Other: _____

L-WI-006/E-03/99

RECRA LabNet Use Only
99121973

Custody Transfer Record/Lab Work Request

Page 1 of 1

FIELD PERSONNEL: COMPLETE ONLY SHADED AREAS

RECRA LabNet

Client: Nysdec
Est. Final Proj. Sampling Date:
Project #: 01667-600-001-9999-00
Project Contact/Phone #:
RECRA Project Manager: J.S.
QC: Clp Del: Clp TAT: 7 ~~[illegible]~~ day
Date Rec'd: 12-8-99 Date Due: ~~1-7-99~~ ~~12/10/99~~ 12/15/99
Account #:

		VOA	BNA	Pest/PCB	Herb				Metal	CN						
Refrigerator #		1	3	3					3	3	3	3				
#/Type Container	Liquid															
	Solid	1gl	1gl	↓					1gl	↓	↓	↓				
Volume	Liquid															
	Solid	125	250	↓					125	↓	↓	↓				
Preservatives																

ANALYSES REQUESTED → ORGANIC: VOA, BNA, Pest/PCB, Herb; INORG: Metal, CN

RECRA LabNet Use Only

MATRIX CODES:
S - Soil
SE - Sediment
SO - Solid
SL - Sludge
W - Water
O - Oil
A - Air
DS - Drum Solids
DL - Drum Liquids
L - EP/TCLP Leachate
WI - Wipe
X - Other
F - Fish

Lab ID	Client ID/Description	MS	MSD	Matrix	Date Collected	Time Collected	0624C	0625C	0608C	(blank)	C024T			MHSLTO	ICNTO	TCLV	TCLP		C025T / CL03T	CHBGT / RCRATCL	
001	SH899-12206-B706-01			S	12/6/99	1000	1	1	✓					✓	✓	✓	✓				
002	↓ ↓ 02			S	↓	1007	1	1	✓					✓	✓	✓	✓				
003	01 teleafor			L	*	-					✓										
004	02	↓		2							✓										
005	01 telpafor																		✓	✓	
006	02	↓		2	↓	↓													✓	✓	
007	Nysdec-fridge blank			W	12/10/99	1619	✓														

Special Instructions:

DATE/REVISIONS:
1. Reloy from 99121959-001+002
2. 99PM292
3. 007 → was made on 12/10/99 - but
4. Logged as 12/8/99 to accommodate
5. LIMS
6.

Relinquished by	Received by	Date	Time	Relinquished by	Received by	Date	Time
Reloy	Janson	12/10/99	-		ORIGINAL REWRITTEN		

Discrepancies Between Samples Labels and COC Record? Y or N
NOTES:

RECRA LabNet Use Only

Samples were:
1) Shipped ___ or Hand Delivered ___
Airbill # ___
2) Ambient or Chilled
3) Received in Good Condition Y or N
4) Labels Indicate Properly Preserved Y or N
5) Received Within Holding Times Y or N

COC Tape was:
1) Present on Outer Package Y or N
2) Unbroken on Outer Package Y or N
3) Present on Sample Y or N
4) Unbroken on Sample Y or N
COC Record Present Upon Sample Rec't Y or N
Cooler Temp. ___ °C

DATA SUMMARY/SAMPLE QC

Recra LabNet - Lionville Laboratory

HERBICIDES BY GC, TCLP LEACHATE

Report Date: 01/04/00 08:31

RFW Batch Number: **9912L973** Client: **NYSDEC** Work Order: 01667600001 Page: 1

0110

Sample Information	Cust ID:	SH899-12206-B706-01	SH899-12206-B706-02	PBLKCS	PBLKCS BS	PBLKCS BSD	LCHBLK
	RFW#:	005	006	99LE1543-MB1	99LE1543-MB1	99LE1543-MB1	99LTO132-LB1
	Matrix:	WATER	WATER	WATER	WATER	WATER	WATER
	D.F.:	1.00	1.00	1.00	1.00	1.00	1.00
	Units:	UG/L	UG/L	UG/L	UG/L	UG/L	UG/L
Surrogate:	DCAA	105 %	101 %	75 %	102 %	92 %	39 * %
2,4-D		10 U	10 U	10 U	114 %	108 %	10 U
2,4,5-TP (Silvex)		5.0 U	5.0 U	5.0 U	108 %	97 %	5.0 U

JW 01-07-00

U= Analyzed, not detected. J= Present below detection limit. B= Present in blank. NR= Not reported. NS= Not spiked.
%= Percent recovery. D= Diluted out. I= Interference. NA= Not Applicable. *= Outside of EPA CLP QC

3E

WATER PESTICIDE MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

Lab Name: Recra.LabNet Contract: 1667-00-01

Case No.: NYSDEC RFW Lot No.: 9912L973

MATRIX Spike - Sample No.: PBLKCSLE1543-MB1 Level:(low/med) LOW

COMPOUND	SPIKE ADDED UG/L	SAMPLE CONCENTRATION UG/L	MS CONCENTRATION UG/L	MS % REC #	QC LIMITS REC
2,4-D	100	0	114	114	28 -154
2,4,5-TP (Silvex)	50.0	0	53.8	108	30 -150

COMPOUND	SPIKE ADDED UG/L	MSD CONCENTRATION UG/L	MSD % REC #	% RPD #	QC LIMITS RPD	QC LIMITS REC
2,4-D	50.0	54.2	108	5	NA	28 -154
2,4,5-TP (Silvex)	25.0	24.2	97	10	NA	30 -150

Column to be used to flag recovery and RPD values with an asterisk
* Values outside of QC limits

RPD: 0 out of 2 outside limits
Spike Recovery: 0 out of 4 outside limits

COMMENTS:

APPENDIX D

APPENDIX D

SUMMARY OF CITY OF 1989 ROCHESTER SITE INVESTIGATION

OIL & HAZARDOUS MATERIAL SITE EVALUATION FLINT-EXCHANGE SITE ROCHESTER, NEW YORK

by

H&A of New York
Rochester, New York

for

Rochester City School District
Rochester, New York

File No. 70082-40

August 1989

EXECUTIVE SUMMARY

This investigation is a preliminary evaluation of the potential for oil and hazardous material to exist on the subject property, and potential site construction considerations (foundation types and disposal of site materials) so as to assist RCSD in evaluating the potential liability associated with ownership, financing and development of a school on the property. The site consists of an area generally bounded by the Genesee River, Violetta St., Exchange St., Fenwick St., Plymouth Ave., and Flint St. in Rochester, New York. The investigation consisted of a review of readily available information in public files; interviews with individuals familiar with the site use and history; limited subsurface exploration on the site consisting of 28 soil vapor sampling locations and 3 test borings; limited analyses of site soils; and visual observation of readily apparent surface and environmental conditions. Based on a review of this information, H&A has the following conclusions and recommendations:

- The Vacuum Oil Company was located on most of the site from 1866 to 1936. Vacuum Oil performed distillation of unrefined oil to produce petroleum products and derivatives. Available site historical information indicates the site was also used for the storage (in above ground tanks) and disposal of these products. Since 1936 the site has been used for warehouse, manufacturing and tool and die operations. Several underground storage tanks are reported to exist on the site; the locations and/or condition of the tanks could not be determined from available records.

- Twenty-eight soil vapor samples were analyzed and three test boring explorations completed on the site. Each of the borings was located within the former Genesee Valley Canal. The borings were terminated at the apparent top of bedrock, approximately 11-13 feet below the ground surface. Fill materials encountered in the borings generally consisted of sand, cinders, brick and concrete.

- Laboratory analyses for volatiles, semi-volatiles, priority pollutant metals, petroleum hydrocarbons and hazardous waste characteristics were conducted on site soils. A fill sample which had a petroleum odor was analyzed for volatile organics and petroleum hydrocarbons. No petroleum hydrocarbon compounds or volatile organic compounds were detected above the laboratory detection limits (0.0003

parts per million or less). A composite soil sample from site borings was analyzed for semi-volatile organic compounds. Ten compounds were possibly present at the detection limit (0.00033 ppm) but could not be quantified. The compounds detected are common by-products of fossil fuel combustion and, where criteria have been established, sample concentrations fall below published USEPA Health Based Criteria for residues in soil. A composite of surficial soils was submitted for analysis for priority pollutant metals because of the higher likelihood of human contact with shallow soils. Each metal concentration detected in the sample fell below the reported average for metal compounds naturally present in soils. Analysis for hazardous waste characteristics (EP Toxicity, Reactivity, Corrosivity, Ignitability) was also performed on a shallow soil sample. The sample was not hazardous based on these characteristics.

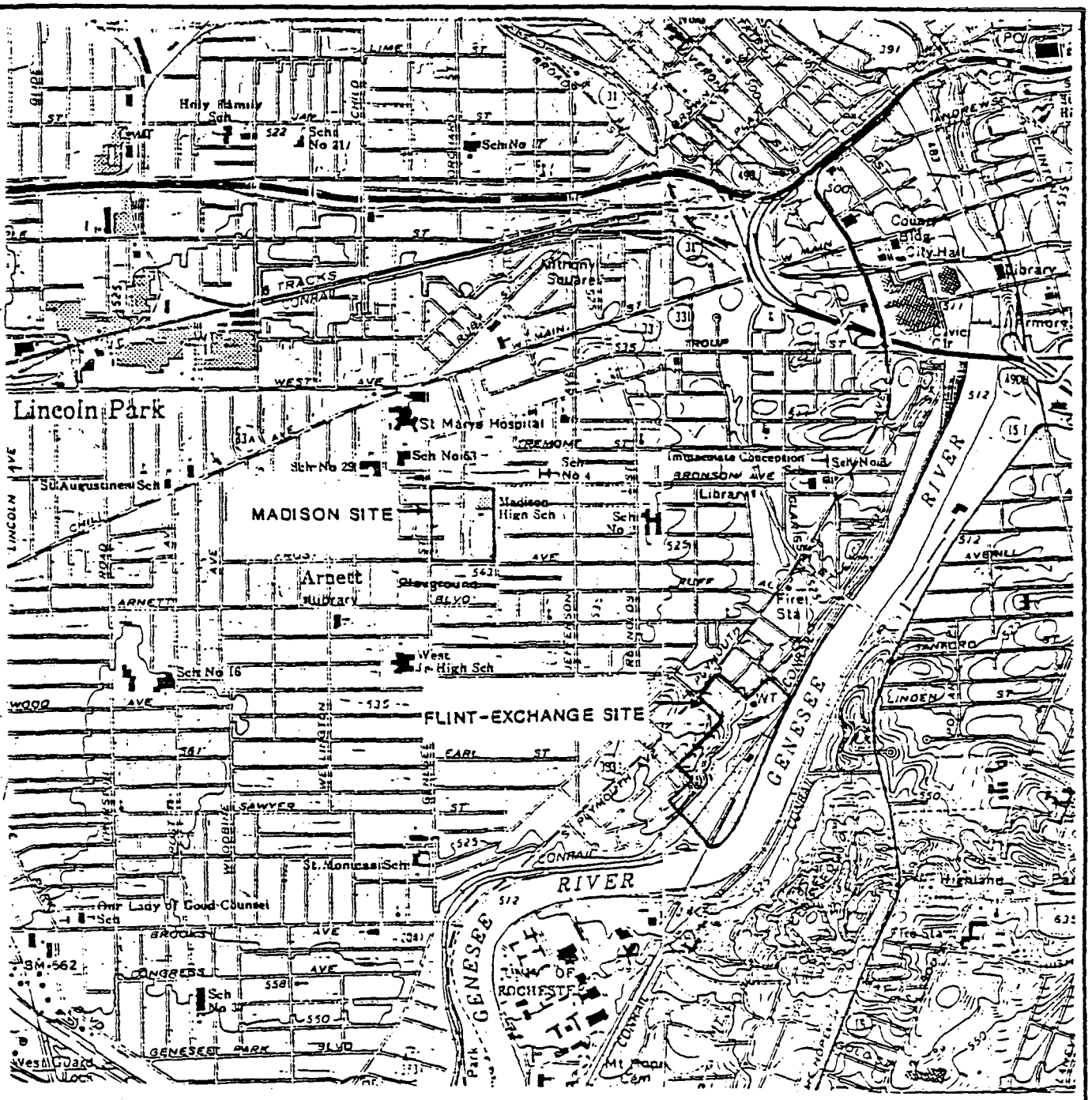
- Loose fill was encountered in all three site borings up to a depth of 11± ft. below ground surface and approximately 1 to 2± ft. above the apparent top of bedrock. Depending on the building configuration considered for the site, recommended foundation types appropriate for this site may include drilled-in piers with slab-on-grade floors or spread footings. These may require partial or total removal of site fill. Relatively high groundwater conditions were also encountered which should be considered if a basement is contemplated.

- Removal of site fill may require one or more types of special handling. Cinder fill from the Genesee Valley Canal area is classified as a solid waste and would likely require disposal at a sanitary landfill. If site soils are found to contain petroleum products or derivatives (from Vacuum Oil operations) they may require disposal as a hazardous waste (if reactive, ignitable, corrosive, EP toxic, or containing a listed organic substance), or a special waste (if found to contain a petroleum product but not exhibit hazardous characteristics). Hazardous waste would have to be disposed at a NYSDEC permitted hazardous waste treatment storage and disposal facility; petroleum stained soils could be landfilled at a NYSDEC permitted sanitary landfill.

- The walkover and subsurface investigations were limited to the city owned, vacant portion of the site from the end of Flint and Violetta Streets to the Genesee River. The remainder of the site is privately owned warehouse,

industrial and manufacturing properties where many of the Vacuum Oil Company tanks and buildings formerly were located. Neither a walkover nor subsurface investigations were performed on the portion of the site where the highest potential for oil or hazardous materials appears to be present. Vacuum Oil operations and subsequent permitted underground storage tanks are or were on the portions of the site H&A personnel were unable to view. A thorough walkover and additional subsurface investigations (test borings and soil vapor sample locations) should be conducted on the remainder of the site with particular emphasis on the portion of the site considered for the school building location.

In summary, based on the scope of work performed, and our conclusions and recommendations described above, the property evaluated appears to be capable of undergoing re-development provided that prior to development evaluation of and accommodations for the fill material and soils potentially containing petroleum derivatives are made. Of the compounds detected on site (volatile organics, semi-volatile organics and metals), none appear to be present in concentrations above USEPA Health Based Criteria or levels naturally expected to occur in soil at the limited locations sampled. However, the potential for hazardous materials to be present in areas not explored during this investigation appears to be high based on past and present site land use.



USGS QUADRANGLES
ROCHESTER, EAST AND
ROCHESTER, WEST

H & A of New York
Consulting Geotechnical Engineers, Geologists and Hydrogeologists

MADISON/FLINT-EXCHANGE SITES
ROCHESTER, NEW YORK

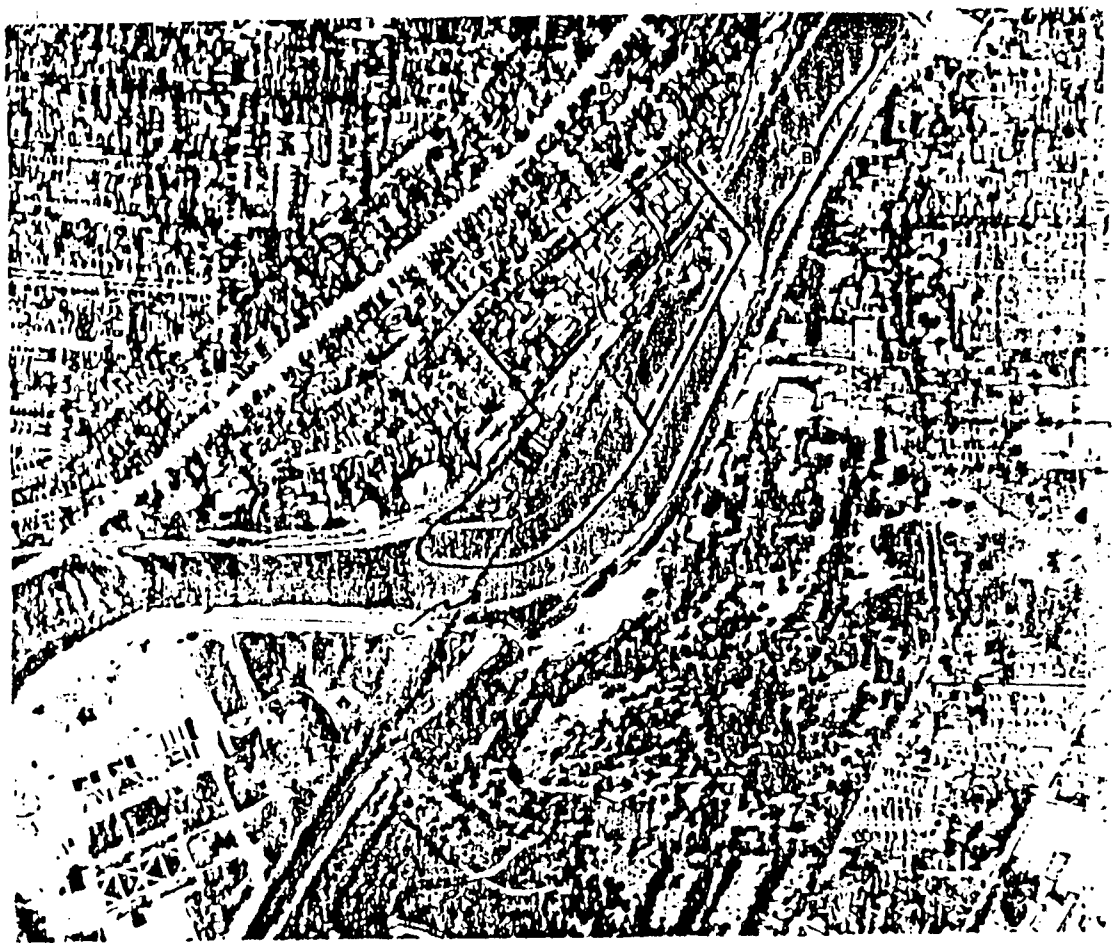
PROJECT LOCUS

SCALE: 1IN=2000FT

JULY 1989

FILE NO. 70082-40

FIGURE 1



N

LEGEND:

A — VACUUM OIL COMPANY (NOTE STORAGE TANKS AND APPARENT ELEVATED PIPELINE/BARREL CONVEYOR)

B GENESEE RIVER

C RAILROAD BRIDGE

D - - APPROXIMATE SITE BOUNDARY

NOTES:

1. AIR PHOTO SUPPLIED BY MONROE COUNTY ENVIRONMENTAL MANAGEMENT COUNCIL, ROCHESTER, NEW YORK.
2. AIR PHOTO TAKEN IN 1930.
3. ALL SITE BOUNDARIES AND SITE FEATURE LOCATIONS APPROXIMATE.
4. SEE ACCOMPANYING REPORT FOR ADDITIONAL INFORMATION.

0 500 1000

SCALE IN FEET

H&A of New York

FLINT-EXCHANGE SITE
ROCHESTER, NEW YORK

1930 SITE AERIAL PHOTOGRAPH

SCALE AS SHOWN JULY 1989

FILE NO. 70082-40

CHARLOTTE

FIGURE 2

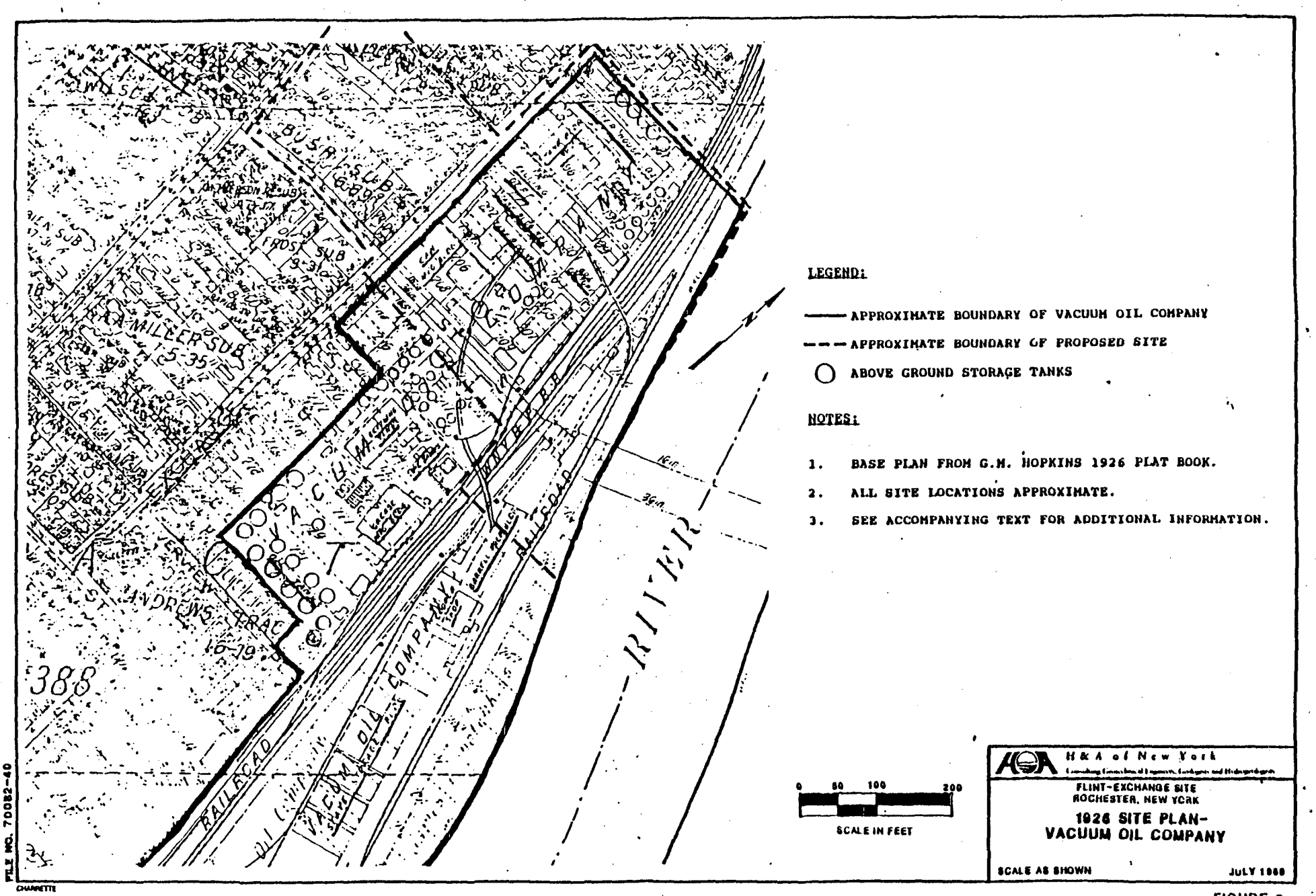
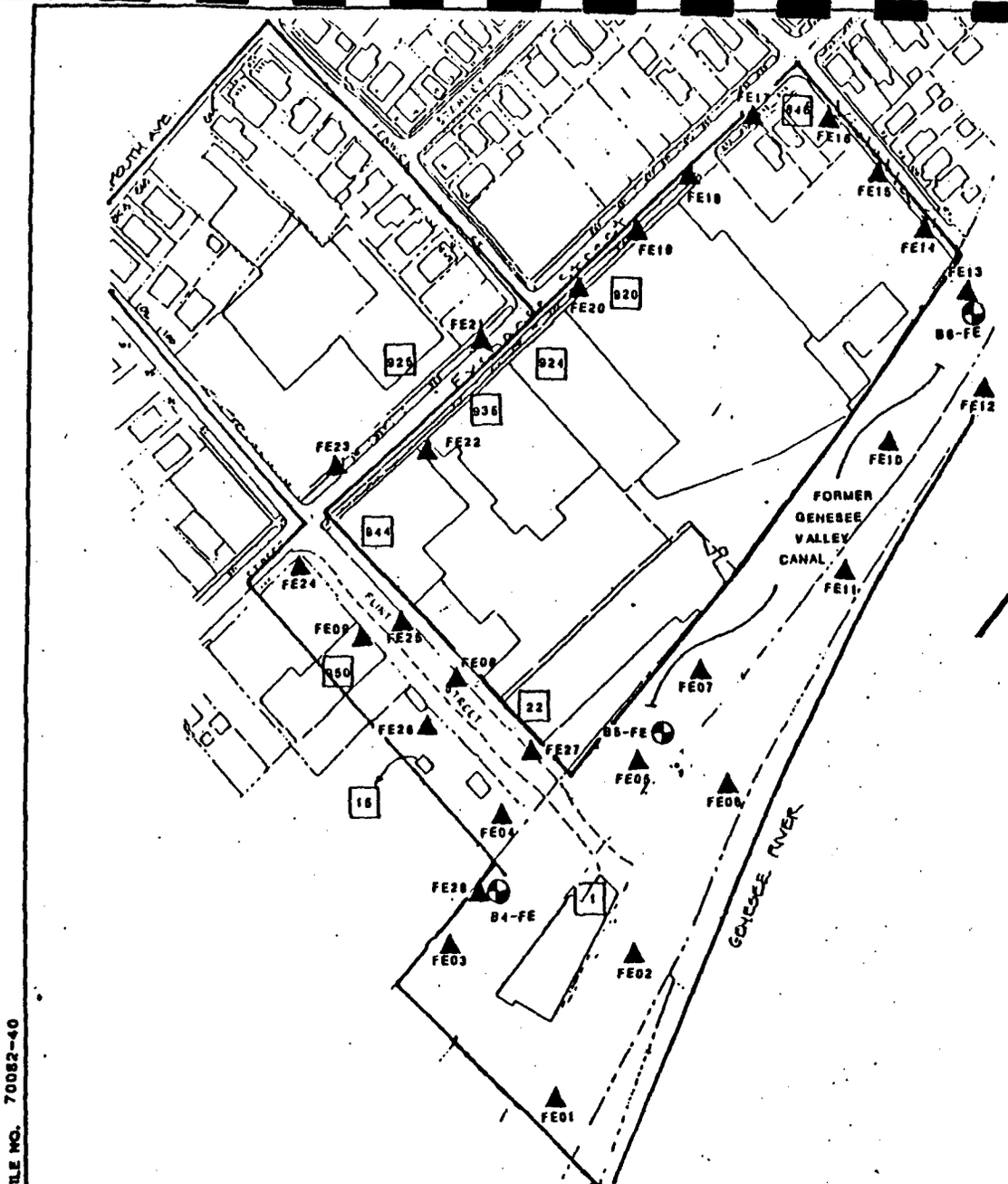

LEGEND:
APPROXIMATE BOUNDARY OF VACUUM OIL COMPANY
APPROXIMATE BOUNDARY OF PROPOSED SITE
ABOVE GROUND STORAGE TANKS
NOTES:
1. BASE PLAN FROM G.M. HOPKINS 1926 PLAT BOOK.
2. ALL SITE LOCATIONS APPROXIMATE.
3. SEE ACCOMPANYING TEXT FOR ADDITIONAL INFORMATION.
RIVER
RAILROAD
VACUUM OIL COMPANY
ST. ANDREWS TRACT
0 50 100 200
SCALE IN FEET
H&A of New York
FLINT-EXCHANGE SITE
ROCHESTER, NEW YORK
1926 SITE PLAN-
VACUUM OIL COMPANY
SCALE AS SHOWN
JULY 1988
FILE NO. 70082-40
CHARETTE

FIGURE 3



LEGEND:

- APPROXIMATE SITE BOUNDARY
- 920 SITE ADDRESS
- FE06 LOCATION AND NUMBER OF SOIL VAPOR SAMPLE POINT
- B6-FE APPROXIMATE LOCATION AND NUMBER OF TEST BORING EXPLORATION
- EXISTING STRUCTURE

NOTES:

1. BASE PLAN FROM 1986 PROVIDED BY CITY OF ROCHESTER, DEPARTMENT OF PLANNING.
2. ALL SITE LOCATIONS APPROXIMATE.
3. SOIL VAPOR SAMPLING PERFORMED BY H&A OF NEW YORK PERSONNEL BETWEEN 24 MAY AND 12 JUNE 1989 USING A PHOTOVAC 10S50 PORTABLE GAS CHROMATOGRAPH. SEE TABLE II FOR RESULTS.
4. TEST BORINGS PERFORMED BY ROCHESTER DRILLING CO., INC. ON 7 AND 8 JUNE 1989. SEE FIGURE 4 FOR BORING INFORMATION SUMMARY.
5. SITE AND ADJACENT PROPERTIES ARE LISTED BY ADDRESS ON TABLE I.
6. SEE ACCOMPANYING TEXT FOR ADDITIONAL INFORMATION.

0 60 100 200

SCALE IN FEET

H&A of New York

FLINT-EXCHANGE SITE

ROCHESTER, NEW YORK

SITE PLAN

SCALE AS SHOWN JULY 1989

FILE NO. 70082-40

CHARRETTE

FIGURE 4

TABLE I
SITE USAGE
FLINT-EXCHANGE SITE
ROCHESTER, NEW YORK

ADDRESS	YEAR	NAME	USAGE (POSSIBLE/DOCUMENTED O&HM USAGE)
932-948 EXCHANGE	1945-1947?	GENESEE BREWING	INDUSTRIAL ALCOHOL (BULK STORAGE OF 10,000 GAL. ALCOHOL FOR DISTILLING USE, FIRE MARSHAL)
" "	1950	RG&E WAREHOUSE	
		BACUM CORP.	WAREHOUSE
		CHAMBERLAIN CO.	WEATHER STRIPPING
		GENESEE TILE	WAREHOUSE
		STROMBERG/CARLSON	
		ROCHESTER CONVEYOR	
		MACHINE MFG.	MANUFACTURING
		ROCHESTER DISTILLING	PETROLEUM DISTILLING (POSSIBLE PETROLEUM PRODUCT STORAGE)
" "	1960	WEATHER MASTER	WEATHER STRIPPING
		ONTARIO LIQUOR	DISTRIBUTOR
		ALLISON CORP.	FURNITURE WHOLESALE
" "	1969-1983	KOLKO PAPER	(2000 GAL. GAS, FIRE MARSHAL)
" "	1970	KOLKO PAPER	
		ROCH. MUNICIPAL	WAREHOUSE
		ALLISON CORP.	FURNITURE WHOLESALE
" "	1978	KOLKO PAPER	1000 GAL. GAS REMOVED, (FIRE MARSHAL) FURNITURE WAREHOUSE
		ALLISON CORP.	
" "	1983	KOLKO PAPER	
		VACANT	
" "	1985	KOLKO PAPER	(2000 GAL. GAS REMOVED, FIRE MARSHAL)
" "	1989	H.P. NEUN	
		KOLKO PAPER	
		ALLISON CORP.	FURNITURE WAREHOUSE
950 EXCHANGE	1950	LUCAS SCREW	SCREW PRODUCTS (POSSIBLE OILS AND METAL CLEANING SOLVENTS)
" "	1960-1970	ONTARIO MACH.	TOOL & DIE (POSSIBLE OILS AND METAL CLEANING SOLVENTS)
" "	1978-1989	XL TOOL & DIE	(POSSIBLE OILS AND METAL CLEANING SOLVENTS)

TABLE I
SITE USAGE
FLINT-EXCHANGE SITE
ROCHESTER, NEW YORK

ADDRESS	YEAR	NAME	USAGE (POSSIBLE/DOCUMENTED O&HM USAGE)
925 EXCHANGE	1960	TALLMAN TOOL AND MACHINE	MANUFACTURER (POSSIBLE SOLVENTS AND OILS)
" "	1970	WOODHILL PRODUCTS	
" "	1978	PRECISION PRODUCTS	
" "	1983	NATIONWIDE PRECISION PRODUCTS	
" "	1989	CANFIELD & TACK	
926 EXCHANGE	1936	VACUUM OIL ROCHESTER DISTILLING	PETROLEUM DISTILLATE PRODUCTS
" "	1950	GENERAL SOLVENTS	(POSSIBLE SOLVENT STORAGE)

TABLE I
SITE USAGE
FLINT-EXCHANGE SITE
ROCHESTER, NEW YORK

ADDRESS	YEAR	NAME	USAGE (POSSIBLE/DOCUMENTED O&HM USAGE)
846 EXCHANGE	1960-1989	ROCHESTER SANITARY PRODUCTS	DISINFECTANT SALES/DISTRIBUTION
920 EXCHANGE	1960-1970	SEARS	SERVICE CENTER
" "	1971	BEVACO FOOD	FREEZER/WAREHOUSE (1000 GAL., 2000 GAL AND 3000 GAL. GAS TANKS, FIRE MARSHAL)
" "	1978	EGAN FOOD	FREEZER/WAREHOUSE
" "	1979	NORTH ATLANTIC FISHERIES	(2000 GAL. GAS TANK REMOVED, FIRE MARSHAL)
" "	1983	BEVACO FOOD	FREEZER/WAREHOUSE
" "	1986	EGAN FOOD	(3000 GAL. GAS TANK, FIRE MARSHAL)
		NORTH ATLANTIC FISHERIES	(2 FUEL OIL TANKS FILLED WITH CONCRETE, FIRE MARSHAL)
" "	1989	NORTH ATLANTIC FISHERIES BUDGET BALANCER FOOD CLUB	FREEZER/WAREHOUSE (GAS PUMP OBSERVED)
924 EXCHANGE	1950-1970	SEARS	WHOLESALE, REPAIRS (POSSIBLE OILS AND SOLVENTS)
" "	1971	EGAN FOOD	(3000 GAL. GAS TANK, FIRE MARSHAL)
" "	1978	SPECIALIZED	WAREHOUSE
" "	1983	VACANT	

TABLE I
SITE USAGE
FLINT-EXCHANGE SITE
ROCHESTER, NEW YORK

ADDRESS	YEAR	NAME	USAGE (POSSIBLE/DOCUMENTED O&HM USAGE)
22 FLINT STREET	1950	SCHWARTZ	ELECTRICAL EQUIPMENT (POSSIBLE METAL CLEANING SOLVENTS OR PCBS)
" "	1960	MILLS TALBOT	ELECTRICAL EQUIPMENT (POSSIBLE METAL CLEANING SOLVENTS OR PCBS)
" "	1960-1967	?	(1000 GAL. GAS TANK, FIRE MARSHAL)
" "	1970	EAT CORP.	WAREHOUSE
" "	1974	?	(MAINTAIN 1000 GAL. GAS TANK, FIRE MARSHAL)
" "	1978	SPECIALIZED	WAREHOUSE
" "	1983	NIBLACK	FOOD WAREHOUSE
" "	1983	NIBLACK	BULK FOODS
		TADCO	
		CORN HILL EX.	
		PRINTER'S WRHSE	WAREHOUSE (POSSIBLE INKS, SOLVENTS)
		UPSTATE TRADING	

FILE NO 70082-40

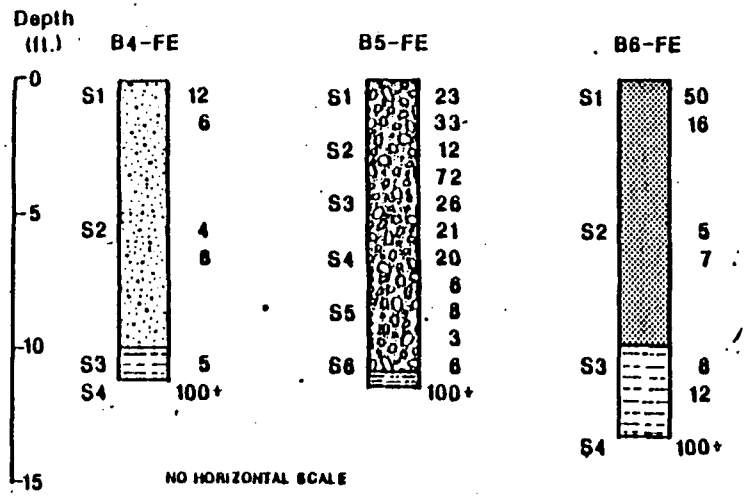
TABLE I
SITE USAGE
FLINT-EXCHANGE SITE
ROCHESTER, NEW YORK

ADDRESS	YEAR	NAME	USAGE (POSSIBLE/DOCUMENTED O&HM USAGE)
AREA BOUND BY GENESEE RIVER, VIOLETTA, EXCHANGE AND FLINT STREETS	1866-1936	VACUUM OIL CO.	PETROLEUM DISTILLING PLANT (PRODUCTS INCLUDED NAPTHA, KEROSENE AND OILS; NEWS ACCOUNTS REFER TO DISPOSAL OF PROCESS WASTES BY DUMPING INTO THE GENESEE VALLEY CANAL, GENESEE RIVER, AND BY LAND BURIAL
1 FLINT STREET	1950	VACUUM OIL CO.	VACANT BARREL BUILDING
" "	1960	DANNEMILLER	COFFEE WAREHOUSE
" "	1970	FASCO	WAREHOUSE
" "	1978	VACANT	VACANT WAREHOUSE
" "	1983	KNEPPAR METAL	METAL BUYERS
" "	1989	KNEPPAR	LICENSED HAZARDOUS WASTE TRANSPORTER
15 FLINT STREET	1950	ROCHESTER SCRAP BAILING CO.	METAL DEALERS
" "	1960	" " "	
" "	1946-1961?	"	METAL DEALERS (1000 GAL. GAS TANK, FIRE MARSHAL)
" "	1970	VACANT	VACANT
" "	1978-1989	FLINT AUTO WRECKERS	AUTO JUNKYARD (POSSIBLE PETROLEUM PRODUCT STORAGE)

TABLE II
SOIL VAPOR SURVEY RESULTS
FLINT-EXCHANGE SITE
ROCHESTER CITY SCHOOL DISTRICT

Sample	Date	Depth (ft.)	HEX	BNZ	TOL	EBZ	M-XYL	O-XYL	Unknowns**	Total Detected
Probe Blank	6-7-89	--	--	--	--	--	--	--	--	--
FE01		3.25	--	--	--	--	--	--	0.077	0.077
FE02		3.25	--	--	--	--	--	--	0.159*	0.159
FE02D		3.25	--	--	--	--	--	--	0.145*	0.145
FE03		3.25	--	--	--	--	--	.049	0.625	0.674
FE03D		3.25	--	--	--	--	--	.062	0.861	0.923
FE04		3.25	--	--	--	--	--	--	TR	0.012
FE05		3.25	--	--	--	--	--	--	TR	0.019
FE06		3.25	--	--	--	--	--	--	0.040	0.040
FE07		3.25	--	--	--	--	--	--	0.033	0.033
FE08		3.25	--	--	--	--	--	--	TR	0.027
FE09		3.25	--	--	--	--	--	--	0.030	0.030
Probe Blank	6-8-89	--	--	--	--	--	--	--	0.040	0.040
Probe Blank		--	--	--	--	--	--	--	TR	0.015
FE10		3.25	--	--	--	--	--	--	0.060*	0.060
FE11		3.25	--	--	TR	--	--	--	0.179*	0.193
FE11D		3.25	--	--	TR	--	--	--	0.190*	0.204
FE12		3.25	--	--	--	--	--	--	0.057*	0.057
Carrier Gas	6-12-89	--	--	--	--	--	--	--	--	--
Probe Blank		--	--	--	--	--	--	--	--	--
FE13		3.25	--	--	--	--	--	--	0.143*	0.143
FE14		3.25	--	--	--	--	--	--	TR	0.014
FE15		3.25	--	--	--	--	--	--	0.036	0.036
FE16		3.25	--	--	--	--	--	--	0.034	0.034
FE17		3.25	--	--	--	--	--	--	TR	0.018
FE17D		3.25	--	--	--	--	--	--	TR	0.019
FE18		3.25	--	--	--	--	--	--	TR	0.020
FE19		3.25	--	--	--	--	--	--	0.042	0.042
FE20		3.25	--	--	--	--	--	--	0.054	0.054
Probe Blank	6-13-89	--	--	--	--	--	--	--	TR	0.012
FE21		3.25	--	--	--	--	--	--	TR	0.012
FE22		3.25	--	--	--	--	--	--	--	--
FE23		3.25	--	--	--	--	--	--	--	--
FE24		3.25	--	--	--	--	--	--	--	--
FE25		3.25	--	--	--	--	--	--	0.034	0.034
FE26		3.25	--	--	--	--	--	--	0.051	0.051
FE27		3.25	--	--	--	--	--	--	TR	0.015
FE28		3.25	--	--	--	--	--	--	TR	0.022

Notes:
1. All concentrations listed in parts per million (ppm).
2. Compound Abbreviations:
   HEX = hexane TOL = toluene M-XYL = m-xylene
   BNZ = benzene EBZ = ethyl benzene O-XYL = o-xylene
3. ** Unknown volatile compounds quantified as sum of unidentified peak areas compared to the signal response of toluene.
4. * Possible presence of methane.
5. TR Trace (concentration between 0.01 and 0.03 ppm).
   -- Not detected (concentrations less than 0.01 ppm).
6. D Duplicate Sample.
7. See Figure 2, Site and Subsurface Exploration Plan, for sample locations.
8. Soil vapor sampling performed by H&A of New York personnel between 7 and 13 June 1989 using a Photovac 10S50 Portable Gas Chromatograph.
9. See accompanying text for additional information.



NOTES:

1. SUBSURFACE CONDITIONS DEPICTED IN THE BORING REPRESENTATIONS ABOVE:
   - SANDY FILL
   - FLUVIAL SILT
   - CINDER, SAND & GRAVEL FILL
   - SILT, SAND & GRAVEL FILL
2. EACH TWO FOOT SPLIT-SPOON SAMPLE IS INDICATED BY THE LETTER "S" FOLLOWED BY THE SAMPLE NUMBER, SHOWN TO THE LEFT OF EACH BORING REPRESENTATION ABOVE.
3. THE NUMBERS TO THE RIGHT OF EACH BORING REPRESENTATION ARE THE STANDARD PENETRATION RESISTANCE, THE NUMBER OF BLOWS NEEDED TO ADVANCE THE STANDARD SPLIT SPOON SAMPLER 1.0 FT. INTO UNDISTURBED SOIL WITH A 140-LB. WEIGHT FALLING FREELY FOR 30 INCHES.
4. SEE ACCOMPANYING REPORT FOR ADDITIONAL INFORMATION AND TEST BORING REPORTS.

SAMPLE NAME	SAMPLE COMPOSITION	ANALYSES CONDUCTED	ANALYTICAL RESULTS (COMPARISON VALUES)
FEXMET	B4-FE, S1 B2-H, S1 B3-H, S1	Priority Pollutant Metals	Arsenic 0.0095 (5.0) Lead 0.3 (10.0) Cadmium 0.0007 (0.06) Mercury 0.00024 (0.03) Chromium 0.011 (0.4) Nickel 0.011 (2.0) Copper 0.029 (20.0) Zinc 0.11 (50.0)
B4-S3	B4-FE, S3	Volatile Organic Compounds	Methylene Chloride ≤0.0003 (93.0) Toluene ≤0.0007 (20.0)
B4-S3	B4-FE, S3	Petroleum Hydrocarbons	None detected
FEXABN	B4-FE, S1 B4-FE, S2 B5-FE, S2 B6-FE, S2	Semi-Volatile Organic Compounds	Acenaphthene ≤0.0003 Anthracene ≤0.0003 Benzo(A)arthracene ≤0.0003 (0.224) Benzo(A)pyrene ≤0.0003 (0.0609) Benzo(B)fluoranthene ≤0.0003 Chrysene ≤0.0003 Fluoranthene ≤0.0003 Fluorene ≤0.0003 Phenanthrene ≤0.0003 Pyrene ≤0.0003
FEXABN	B4-FE, S1 B4-FE, S2 B5-FE, S2 B6-FE, S2	Hazardous Waste Characteristics	Extractable Barium 0.16 (100.0) Extractable Cadmium 0.011 (1.0) Extractable Lead 0.16 (5.0)

Notes:

1. All concentrations above in parts per million (ppm). Note, most concentrations in lab report, Appendix B, are in parts per billion (ppb).
2. NA Comparison value not available.
3. See References at end of report text for comparison criteria sources.

H&A of New York

FLINT-EXCHANGE SITE
ROCHESTER, NEW YORK

SUMMARY OF SUBSURFACE CONDITIONS AND LABORATORY ANALYTICAL RESULTS

SCALE AS SHOWN JULY 1989

TABLE III

FILE NO. 70082-40

CHARRETTE

APPENDIX A

Test Boring Reports

H&A OF NEW YORK, ROCHESTER, NEW YORK Consulting Geotechnical Engineers, Geologists and Hydrogeologists	TEST BORING REPORT	BORING NO. B4-FE

PROJECT:	FLINT-EXCHANGE SITE	FILE NO. 70082-40
CLIENT:	ROCHESTER CITY SCHOOL DISTRICT	SHEET NO. 1 OF 1
CONTRACTOR:	ROCHESTER DRILLING CO., INC.	LOCATION: See Plan

ITEM	CASING	DRIVE SAMPLER	CORE BARREL
TYPE	AUGER	SS	---
INSIDE DIAMETER (IN)	4-1/4	1-3/8	---
HAMMER WEIGHT (LB)	---	140	---
HAMMER FALL (IN)	---	30	---

DRILLING EQUIPMENT & PROCEDURES

RIG TYPE: CME 75, Truck-Mounted
BIT TYPE: ---
DRILL MUD: ---
OTHER: Advanced augers to 11.1 ft.

ELEVATION: ---
DATUM: ---
START: 8 June 1989
FINISH: 8 June 1989
DRILLER: T. Smith
H&A REP: W. Lanik

DEPTH (FT)	CASING BLOWS PER FT	SAMPLER BLOWS PER 6 IN	SAMPLE NUMBER & RECOVERY	SAMPLE DEPTH (FT)	STRATA CHANGE (FT)	VISUAL CLASSIFICATION AND REMARKS
0		7 5 3 3	S1 4"/24"	0.0 2.0		Loose light brown coarse to fine SAND, little fine gravel with asphalt fragments. -FILL-
5		2 2 3 5	S2 8"/24"	5.0 7.0		Loose dark brown to black coarse to medium SAND, trace fine gravel, with brick fragments, wet. Slight petroleum odor.
10		2 3 100/0.1	S3 13"/13"	10.0 11.1	10.0 11.1	Loose dark gray fine sandy SILT, little gravel, trace clay. Slight petroleum odor. -FLUVIAL- Top of rock at 11.1 ft.
15		100/0.1	S4 1"/1"	11.1 11.2		Very dense dark gray DOLOMITE FRAGMENTS, little silt. -SEVERELY WEATHERED BEDROCK- Notes: 1. Completed borehole backfilled with borehole cuttings.
20						
25						

WATER LEVEL DATA					
DATE	TIME	ELAPSED TIME (HR)	DEPTH (FT) TO: BOTTOM OF CASING	DEPTH (FT) TO: BOTTOM OF HOLE	DEPTH (FT) TO: WATER
6/8/89	1600	0.5	11.0	11.2	4.6

SAMPLE IDENTIFICATION

O Open End Rod
T Thin Wall Tube
U Undisturbed Sample
S Split Spoon

SUMMARY

OVERBURDEN (LIN FT):	11.2 ft.
ROCK CORED (LIN FT):	---
SAMPLES:	4S
BORING NO.	B4-FE

H&A OF NEW YORK, ROCHESTER, NEW YORK Consulting Geotechnical Engineers, Geologists and Hydrogeologists	TEST BORING REPORT	BORING NO. 85-FE

PROJECT: FLINT-EXCHANGE SITE
CLIENT: ROCHESTER CITY SCHOOL DISTRICT
CONTRACTOR: ROCHESTER DRILLING CO., INC.

FILE NO. 70082-40
SHEET NO. 1 OF 1
LOCATION: See Plan

ITEM	CASING	DRIVE SAMPLER	CORE BARREL
TYPE	AUGER	SS	---
INSIDE DIAMETER (IN)	4-1/4	1-3/8	---
HAMMER WEIGHT (LB)	---	140	---
HAMMER FALL (IN)	---	30	---

DRILLING EQUIPMENT & PROCEDURES

RIG TYPE: CME 75, Truck-Mounted
BIT TYPE: ---
DRILL MUD: ---
OTHER: Advanced augers to 11.4 ft.

ELEVATION: ---
DATUM: ---
START: 9 June 1989
FINISH: 9 June 1989
DRILLER: T. Smith
H&A REP: W. Lanik

DEPTH (FT)	CASING BLOWS PER FT	SAMPLER BLOWS PER 6 IN	SAMPLE NUMBER & RECOVERY	SAMPLE DEPTH (FT)	STRATA CHANGE (FT)	VISUAL CLASSIFICATION AND REMARKS
		7 16 23 10	S1 7"/24"	0.0 2.0		Dense light brown gravelly coarse to fine SAND, trace roots. -FILL-
		6 6 42 30	S2 15"/24"	2.0 4.0		Dense black CINDER PARTICLES and red BRICK FRAGMENTS.
5		12 14 11 10	S3 13"/24"	4.0 6.0		Medium dense dark brown to black CINDER PARTICLES. -FILL-
		10 10 4 2	S4 6"/24"	6.0 8.0		Medium dense dark brown coarse sandy coarse to fine GRAVEL, wet.
		4 4 1 2	S5 6"/24"	8.0 10.0		Loose dark brown coarse to fine GRAVEL, trace coarse sand. -FILL-
10		4 2 100/0.4	S6 12"/17"	10.0 11.4	11.0 11.4	Same. Dark gray fine sandy SILT. -FLUVIAL-
						Top of Rock at 11.4 ft.
						Note: 1. Completed borehole backfilled with borehole cuttings.
15						
20						
25						

WATER LEVEL DATA

DATE	TIME	ELAPSED TIME (HR)	DEPTH (FT) TO: BOTTOM OF CASING	DEPTH (FT) TO: BOTTOM OF HOLE	DEPTH (FT) TO: WATER
6/9/89	0900	0.5	8.0	11.4	7.7

SAMPLE IDENTIFICATION

O Open End Rod
T Thin Wall Tube
U Undisturbed Sample
S Split Spoon

SUMMARY

OVERBURDEN (LIN FT): 11.4 ft.
ROCK CORED (LIN FT): ---
SAMPLES: 6S
BORING NO. 85-FE

H&A OF NEW YORK, ROCHESTER, NEW YORK Consulting Geotechnical Engineers, Geologists and Hydrogeologists	TEST BORING REPORT	BORING NO. B6-FE

PROJECT: FLINT-EXCHANGE SITE
CLIENT: ROCHESTER CITY SCHOOL DISTRICT
CONTRACTOR: ROCHESTER DRILLING CO., INC.

FILE NO. 70082-40
SHEET NO. 1 OF 1
LOCATION: See Plan

ITEM	CASING	DRIVE SAMPLER	CORE BARREL
TYPE	AUGER	SS	---
INSIDE DIAMETER (IN)	4-1/4	1-3/8	---
HAMMER WEIGHT (LB)	---	140	---
HAMMER FALL (IN)	---	30	---

DRILLING EQUIPMENT & PROCEDURES
RIG TYPE: CME 75, Truck-Mounted
BIT TYPE: ---
DRILL MUD: ---
OTHER: Advanced augers to 13.0 ft.

ELEVATION: ---
DATUM: ---
START: 9 June 1989
FINISH: 9 June 1989
DRILLER: T. Smith
H&A REP: W. Lanik

DEPTH (FT)	CASING BLOWS PER FT	SAMPLER BLOWS PER 6 IN	SAMPLE NUMBER & RECOVERY	SAMPLE DEPTH (FT)	STRATA CHANGE (FT)	VISUAL CLASSIFICATION AND REMARKS
0		23 27 10 6	S1 8"/24"	0.0 2.0		Dense gray to black coarse to fine gravelly coarse to medium SAND, with concrete fragments. -FILL-
5		2 3 3 4	S2 10"/24"	5.0 7.0		Loose brown fine sandy SILT, trace gravel, trace coarse sand. -FILL-
10		3 5 6 6	S3 14"/24"	10.0 12.0	10.0	Medium dense gray fine sandy SILT, trace clay, wet. -FLUVIAL-
15		100/0.2	S4 2"/2"	13.0 13.2	13.0	Top of Rock at 13.0 ft. Very dense dark gray silty DOLOMITE FRAGMENTS. Notes: 1. Completed borehole backfilled with borehole cuttings.
20						
25						

WATER LEVEL DATA

DATE	TIME	ELAPSED TIME (HR)	DEPTH (FT) TO: BOTTOM OF CASING	DEPTH (FT) TO: BOTTOM OF HOLE	DEPTH (FT) TO: WATER
6/9/89	1100	1.0	12.5	13.2	9.2

SAMPLE IDENTIFICATION
O Open End Rod
T Thin Wall Tube
U Undisturbed Sample
S Split Spoon

SUMMARY
OVERBURDEN (LIN FT): 13.2
ROCK CORED (LIN FT): ---
SAMPLES: 4S
BORING NO. B6-FE

APPENDIX E

APPENDIX E

1999 SOIL GAS SURVEY REPORT

EMFLUX® Report No. EM1138

EMFLUX® Passive, Non-Invasive Soil-Gas Survey

FORMER VACUUM OIL FACILITY ROCHESTER, NY

Prepared for

International Technology Corporation
2200 Cottontail Lane
Somerset, NJ 08873-1248

by

BEACON Environmental Services, Inc.
2000 Grafton Shop Road
Forest Hill, MD 21050

November 19, 1999

Applying Results from Soil-Gas Surveys

The utility of soil-gas surveys is directly proportional to their accuracy in reflecting and representing changes in the subsurface concentrations of source compounds. An EMFLUX® soil-gas survey measures the mass collected from the vapor-phase of the source. The vapor-phase is merely a fractional trace of the source, so, as a matter of convenience, the units used in reporting detection values from EMFLUX® surveys are smaller than those employed for source-compound concentrations.

The critical fact is that, whatever the relative concentrations of source and associated soil gas, best results are realized when the ratio of soil-gas measurements to actual subsurface concentrations remains as close to constant as the real world permits. It is the reliability and consistency of this ratio, not the particular units of mass (*e.g.*, nanograms) that determine usefulness. Thus, BEACON emphasizes the necessity of conducting -- at minimum -- follow-on intrusive sampling at one or two points which show relatively high EMFLUX® values to obtain corresponding concentrations of soil and ground-water contaminants. These correspondent values furnish the basis for approximating the required ratio. Once that ratio is established, it can be used in conjunction with EMFLUX® measurements (regardless of the units adopted) to estimate subsurface contaminant concentrations across the survey field. It is important to keep in mind, however, that specific conditions at individual sample points, including soil porosity and permeability, depth to contamination, and perched ground water, can have significant impact on soil-gas measurements at those locations.

When EMFLUX® Surveys are handled in this way, the data provide information which can yield substantial savings in drilling costs and in time. They furnish, among other things, a checklist of compounds expected at each survey location and help to determine how and where drilling budgets can most effectively be spent.

EMFLUX® Survey Number: EM1138

Former Vacuum Oil Facility
Rochester, NY

This EMFLUX® Soil-Gas Survey Report has been prepared for International Technology Corporation (IT) by Beacon Environmental Services, Inc. (BEACON) in accordance with the terms of Purchase Order No.127282, dated October 14, 1999. IT performed this project under contract to New York State Department of Environmental Conservation (NYSDEC). BEACON's principal contact at IT for this project has been Mr. Prabal Amin.

1. Objectives

Soil-gas samples were collected to determine the presence, identity, and relative strength of targeted contaminants in soil and/or ground water at the Former Vacuum Oil Facility. Survey results will be used to determine the distribution of contaminants and to guide further site investigation.

2. Target Compounds

This survey targeted the 25 compounds listed in **Attachment 1**, which supplies the resulting laboratory data in nanograms (ng) of specific compound per cartridge.

3. Survey Description

• No. of Field Sample Points:	53
• No. of Trip Blanks:	2
• Total No. of EMFLUX® Cartridges:	55

4. Field Work

NYSDEC was provided an EMFLUX® Field Kit with the equipment needed to conduct a 53-point EMFLUX® Soil-Gas Survey. Collectors were deployed on October 20, 1999 and retrieved November 4, 1999. **Attachment 2** describes the field procedures used. Individual deployment and retrieval times will be found in the Field Deployment Report (**Attachment 3**).

5. Analysis and Reporting Dates

- BEACON's laboratory received 55 sample cartridges for analysis on November 5, 1999.
- BEACON's laboratory analyzed the samples for the specified compounds, using thermal desorption and a capillary-column gas chromatograph (GC) with a photoionization detector

(PID), a flame ionization detector (FID), and a dry electrolytic conductivity detector (DELCD) in accordance with EPA Method 8015B/8021 (Modified), as described in **Attachment 4**.

- Analysis was completed on November 11, 1999, and following a laboratory review, results were provided to IT that same day.

6. Report Notes and Quality Assurance/Quality Control Factors

- **Attachment 1** provides survey results in nanograms per cartridge by sample-point number and compound name. The quantitation levels represent values above which quantitative laboratory results can be achieved within specified limits of precision and with a high degree of confidence. The quantitation level of each compound, therefore, provides a reliable basis for comparison of the relative strength of individual detections of that compound.

- **Data Compatibility**. It is important to note that when sample locations are covered with or near the edge of an artificial surface (*e.g.*, asphalt or concrete), sample measurements are often distorted (increased) significantly. Such distortion can be attributed to the fact that gas rising from sources beneath impermeable caps tends to reach equilibrium in relatively short periods of time and that, once equilibrium is reached, the soil-gas concentration measured at any point in a vertical line between source and cap is theoretically the same. Thus, a reading taken immediately below or near an impermeable surface is much higher than it would be in the absence of such a cap.

- The **Chain-of-Custody** form, which was shipped with the samples for this survey, is supplied as **Attachment 5**.

- **Laboratory QA/QC procedures** consist of control blanks and verifications, as well as system calibration, as specified for EPA Method 8015B/8021. Laboratory personnel conducted internal control blanks and internal control verification analyses daily to ensure that the system was contaminant free and properly calibrated. The system was calibrated using external-standard procedures to at least three different concentrations for each compound targeted.

- **QA/QC Contaminant Corrections.** Following EPA guidelines, EMFLUX® laboratory data is not corrected for method blank and trip blank contamination values; all contamination detected on QA/QC samples is reported in **Attachment 1**. Subsequent handling of QA/QC sample contamination depends upon the circumstances and origin of the sample; any corrective conventions noted below have proved highly useful in deriving accurate and reproducible interpretations of survey data in prior EMFLUX® Surveys. *No other methods thus far tested have produced comparable levels of quality.*

Laboratory method blanks are run each day with project samples to identify contamination present in the laboratory. If contamination is detected on a method blank, detections of identical compounds on samples analyzed the same day are considered to be suspect and are flagged in the laboratory report. The laboratory method blanks analyzed in connection with the present samples revealed no contamination.

Trip blanks are EMFLUX® cartridges prepared, transported, and analyzed with other samples but intentionally not exposed. The trip blanks (labeled Trip-1 and Trip-2 in **Attachment 1**) recorded none of the targeted compounds, indicating that the survey site itself is the source of detected contamination.

- As additional QA/QC, NYSDEC deployed a duplicate field sample for sample **C2** designated **C2D**. Because duplicates cannot be identically located with their base field samples and because it is possible for even small geophysical differences between sample locations to affect soil-gas-emission quantities, comparisons between duplicates and base samples should be made on a qualitative basis, as quantitative results may be subject to random distortions. In general, a duplicate correspondence should be defined as a difference of 50% or less between contaminant data for base and duplicate samples. Also, for the purpose of calculating correspondences, all non-detections should be assigned as a baseline value the quantitation level for the specific contaminant. Based on these assumptions, a 100% correlation was found between the duplicate sample and its base sample.

- **Survey findings** are relative exclusively to this project and should not routinely be compared with results of other EMFLUX® Surveys. *To establish a relationship between reported soil-gas measurements and actual subsurface contaminant concentrations, which will indicate those detections representing significant subsurface contamination, BEACON recommends the guidelines on the inside front cover of this report.*

- The following **Attachments** are included:

  -1- Laboratory Report
  -2- EMFLUX® Field Procedures
  -3- Field Deployment Report
  -4- Laboratory Procedures
  -5- Chain-of-Custody Form

Attachment 1

Laboratory Report

Attachment 1

Laboratory Report
Results in Nanograms (ng)
Analysis Completed: November 11, 1999

EMFLUX Project No. EM1138

In this analysis 55 EMFLUX samples were analyzed under the requirements of EPA Method 8021/8015B using an SRI 8610 Gas Chromatograph equipped with a thermal desorber, a photoionization detector, a flame ionization detector and a dry electrolytic conductivity detector.

SAMPLE NO.	A1	A2	A3	B2	B3	B4	C1	C2
COMPOUNDS								
1,1-Dichloroethene	U	U	U	U	U	U	U	U
Methylene Chloride	U	U	U	U	U	U	U	U
trans-1,2-Dichloroethene	U	U	U	U	U	U	U	U
1,1-Dichloroethane	U	U	U	U	U	U	U	U
cis-1,2-Dichloroethene	U	U	U	U	U	U	U	U
Chloroform	U	U	U	U	U	U	U	U
1,2-Dichloroethane	U	U	U	U	U	U	U	U
1,1,1-Trichloroethane	U	U	U	U	U	U	87	U
Carbon Tetrachloride	U	U	U	U	U	U	U	U
Trichloroethene	U	U	U	U	U	U	U	U
1,1,2-Trichloroethane	U	U	U	U	U	U	U	U
Tetrachloroethene	U	U	U	U	U	U	U	U
Chlorobenzene	U	U	U	U	U	U	U	U
Ethylene Dibromide	U	U	U	U	U	U	U	U
Bromoform	U	U	U	U	U	U	U	U
1,1,2,2-Tetrachloroethane	U	U	U	U	U	U	U	U
MTBE	U	U	U	U	U	U	U	U
Benzene	U	U	U	U	U	U	U	U
Toluene	U	U	U	U	34	U	U	U
Ethylbenzene	U	U	U	26	240	U	U	U
Xylenes (total)	U	40	1,100	74	250	U	U	U
1,3,5-Trimethylbenzene	U	U	170	U	180	180	U	U
1,2,4-Trimethylbenzene	U	U	120	60	93	U	U	U
Naphthalene	U	U	U	40	25	U	U	U
TPH Volatiles	U	U	3,600	1,400	14,000	2,500	U	280

Reported Quantitation Level = 25 nanograms for individual compounds
Reported Quantitation Level = 250 nanograms for TPH Volatiles
U = Below Reported Quantitation Level

Attachment 1
(continued)
Laboratory Report
Results in Nanograms (ng)
Analysis Completed: November 11, 1999

SAMPLE NO.	C2D	C3	C4	D2	D3	D4	D5	D6
COMPOUNDS								
1,1-Dichloroethene	U	27	U	U	U	U	U	U
Methylene Chloride	U	U	U	U	U	U	U	U
trans-1,2-Dichloroethene	U	U	U	U	U	U	U	U
1,1-Dichloroethane	U	62	U	U	U	U	U	U
cis-1,2-Dichloroethene	U	U	U	U	U	U	U	U
Chloroform	U	U	U	U	U	U	U	U
1,2-Dichloroethane	U	U	U	U	U	U	U	U
1,1,1-Trichloroethane	U	980	U	U	140	U	U	29
Carbon Tetrachloride	U	U	U	U	U	U	U	U
Trichloroethene	U	27	U	U	U	U	U	U
1,1,2-Trichloroethane	U	U	U	U	U	U	U	U
Tetrachloroethene	U	U	U	U	54	U	U	U
Chlorobenzene	U	U	U	U	U	U	U	U
Ethylene Dibromide	U	U	U	U	U	U	U	U
Bromoform	U	U	U	U	U	U	U	U
1,1,2,2-Tetrachloroethane	U	U	U	U	U	U	U	U
MTBE	U	U	U	U	U	U	U	U
Benzene	U	U	U	U	U	U	U	U
Toluene	U	35	U	U	U	U	U	U
Ethylbenzene	U	U	U	U	U	U	U	U
Xylenes (total)	U	49	140	U	U	U	U	U
1,3,5-Trimethylbenzene	U	28	U	U	U	U	U	U
1,2,4-Trimethylbenzene	U	U	U	U	U	U	U	U
Naphthalene	U	26	U	U	U	U	U	U
TPH Volatiles	U	1,100	580	U	U	U	U	U

Reported Quantitation Level = 25 nanograms for individual compounds
Reported Quantitation Level = 250 nanograms for TPH Volatiles
U = Below Reported Quantitation Level

Attachment 1
(continued)
Laboratory Report
Results in Nanograms (ng)
Analysis Completed: November 11, 1999

SAMPLE NO.	D7	E1	E2	E3	E4	E5	E6	F2
COMPOUNDS								
1,1-Dichloroethene	U	U	U	U	U	U	U	U
Methylene Chloride	U	U	U	U	U	U	U	U
trans-1,2-Dichloroethene	U	U	U	U	U	U	U	U
1,1-Dichloroethane	U	U	U	U	U	U	U	U
cis-1,2-Dichloroethene	U	U	U	U	U	U	U	U
Chloroform	U	U	U	U	U	U	U	U
1,2-Dichloroethane	U	U	U	U	U	U	U	U
1,1,1-Trichloroethane	U	U	U	U	U	U	U	U
Carbon Tetrachloride	U	U	U	U	U	U	U	U
Trichloroethene	U	U	U	U	U	U	U	U
1,1,2-Trichloroethane	U	U	U	U	U	U	U	U
Tetrachloroethene	U	U	U	U	U	U	U	U
Chlorobenzene	U	U	U	U	U	U	U	U
Ethylene Dibromide	U	U	U	U	U	U	U	U
Bromoform	U	U	U	U	U	U	U	U
1,1,2,2-Tetrachloroethane	U	U	U	U	U	U	U	U
MTBE	U	U	U	U	U	U	U	U
Benzene	U	U	U	U	U	U	U	U
Toluene	U	U	U	U	U	U	U	U
Ethylbenzene	U	U	U	U	U	U	U	U
Xylenes (total)	U	U	U	U	51	U	U	U
1,3,5-Trimethylbenzene	U	U	U	U	U	U	U	U
1,2,4-Trimethylbenzene	U	U	U	U	U	U	U	U
Naphthalene	U	U	U	U	U	U	U	U
TPH Volatiles	U	260	260	U	390	U	U	U

Reported Quantitation Level = 25 nanograms for individual compounds
Reported Quantitation Level = 250 nanograms for TPH Volatiles
U = Below Reported Quantitation Level

Attachment 1
(continued)
Laboratory Report
Results in Nanograms (ng)
Analysis Completed: November 11, 1999

SAMPLE NO.	F3	F4	F5	F6	G2	G3	G4	G5
COMPOUNDS								
1,1-Dichloroethene	U	U	U	U	U	U	U	U
Methylene Chloride	U	U	U	U	U	U	U	U
trans-1,2-Dichloroethene	U	U	U	U	U	U	U	U
1,1-Dichloroethane	U	U	U	U	U	U	U	U
cis-1,2-Dichloroethene	U	U	U	U	U	U	U	U
Chloroform	U	U	U	U	U	U	U	U
1,2-Dichloroethane	U	U	U	U	U	U	U	U
1,1,1-Trichloroethane	U	U	42	U	U	U	U	U
Carbon Tetrachloride	U	U	U	U	U	U	U	U
Trichloroethene	U	U	U	U	U	U	U	U
1,1,2-Trichloroethane	U	U	U	U	U	U	U	U
Tetrachloroethene	U	U	U	U	U	U	U	U
Chlorobenzene	U	U	U	U	U	U	U	U
Ethylene Dibromide	U	U	U	U	U	U	U	U
Bromoform	U	U	U	U	U	U	U	U
1,1,2,2-Tetrachloroethane	U	U	U	U	U	U	U	U
MTBE	U	U	U	U	U	U	U	U
Benzene	U	U	U	U	U	U	U	U
Toluene	U	U	46	U	U	U	U	U
Ethylbenzene	U	U	U	U	U	U	U	U
Xylenes (total)	39	U	3,100	U	U	U	U	U
1,3,5-Trimethylbenzene	U	U	860	U	U	U	U	U
1,2,4-Trimethylbenzene	U	U	2,100	U	38	79	U	U
Naphthalene	27	U	U	U	U	U	U	U
TPH Volatiles	U	U	53,000	1,100	U	2,500	330	430

Reported Quantitation Level = 25 nanograms for individual compounds
Reported Quantitation Level = 250 nanograms for TPH Volatiles
U = Below Reported Quantitation Level

Attachment 1
(continued)
Laboratory Report
Results in Nanograms (ng)
Analysis Completed: November 11, 1999

SAMPLE NO.	G6	H2	H3	H4	H5	H6	H7	H8
COMPOUNDS								
1,1-Dichloroethene	U	U	U	U	U	U	U	U
Methylene Chloride	U	U	U	U	U	U	U	U
trans-1,2-Dichloroethene	U	U	U	U	U	U	U	U
1,1-Dichloroethane	U	U	U	U	U	U	U	U
cis-1,2-Dichloroethene	U	U	U	U	U	U	U	U
Chloroform	U	U	U	U	U	U	U	U
1,2-Dichloroethane	U	U	U	U	U	U	U	U
1,1,1-Trichloroethane	U	U	U	U	U	U	U	U
Carbon Tetrachloride	U	U	U	U	U	U	U	U
Trichloroethene	U	U	U	U	U	U	U	U
1,1,2-Trichloroethane	U	U	U	U	U	U	U	U
Tetrachloroethene	U	U	U	U	U	U	U	U
Chlorobenzene	U	U	U	U	U	U	U	U
Ethylene Dibromide	U	U	U	U	U	U	U	U
Bromoform	U	U	U	U	U	U	U	U
1,1,2,2-Tetrachloroethane	U	U	U	U	U	U	U	U
MTBE	U	U	U	U	U	U	U	U
Benzene	U	U	U	U	U	U	U	U
Toluene	U	U	U	U	U	U	U	U
Ethylbenzene	U	U	U	U	U	U	U	U
Xylenes (total)	U	U	U	U	U	U	U	U
1,3,5-Trimethylbenzene	U	U	U	U	U	U	U	U
1,2,4-Trimethylbenzene	U	U	U	U	U	U	U	U
Naphthalene	86	U	U	42	U	U	U	U
TPH Volatiles	1,000	U	U	490	U	U	U	U

Reported Quantitation Level = 25 nanograms for individual compounds
Reported Quantitation Level = 250 nanograms for TPH Volatiles
U = Below Reported Quantitation Level

Attachment 1
(continued)
Laboratory Report
Results in Nanograms (ng)
Analysis Completed: November 11, 1999

SAMPLE NO.	I4	I5	I6	I7	J5	J6	J7	J8
COMPOUNDS								
1,1-Dichloroethene	U	U	U	U	U	U	U	U
Methylene Chloride	U	U	U	U	U	U	U	U
trans-1,2-Dichloroethene	U	U	U	U	U	U	U	U
1,1-Dichloroethane	U	U	U	U	U	U	U	U
cis-1,2-Dichloroethene	U	U	U	U	U	U	U	U
Chloroform	U	U	U	U	U	U	U	U
1,2-Dichloroethane	U	U	U	U	U	U	U	U
1,1,1-Trichloroethane	U	U	U	U	U	U	U	U
Carbon Tetrachloride	U	U	U	U	U	U	U	U
Trichloroethene	U	U	U	U	U	U	U	U
1,1,2-Trichloroethane	U	U	U	U	U	U	U	U
Tetrachloroethene	U	U	U	U	U	U	U	U
Chlorobenzene	U	U	U	U	U	U	U	U
Ethylene Dibromide	U	U	U	U	U	U	U	U
Bromoform	U	U	U	U	U	U	U	U
1,1,2,2-Tetrachloroethane	U	U	U	U	U	U	U	U
MTBE	U	U	U	U	U	U	U	U
Benzene	U	U	U	U	U	U	U	U
Toluene	U	U	U	U	U	U	U	U
Ethylbenzene	U	U	U	U	U	U	U	U
Xylenes (total)	U	U	U	U	U	U	U	U
1,3,5-Trimethylbenzene	U	U	U	U	U	U	U	U
1,2,4-Trimethylbenzene	U	U	U	U	U	U	U	U
Naphthalene	U	U	U	U	U	U	U	U
TPH Volatiles	U	U	U	U	U	U	U	900

Reported Quantitation Level = 25 nanograms for individual compounds
Reported Quantitation Level = 250 nanograms for TPH Volatiles
U = Below Reported Quantitation Level

Attachment 1
(continued)
Laboratory Report
Results in Nanograms (ng)
Analysis Completed: November 11, 1999

SAMPLE NO.	K6	K7	K8	L6	L7	Trip-1	Trip-2
COMPOUNDS							
1,1-Dichloroethene	U	U	U	U	U	U	U
Methylene Chloride	U	U	U	U	U	U	U
trans-1,2-Dichloroethene	U	U	U	U	U	U	U
1,1-Dichloroethane	U	U	U	U	U	U	U
cis-1,2-Dichloroethene	U	U	U	U	U	U	U
Chloroform	U	U	U	U	U	U	U
1,2-Dichloroethane	U	U	U	U	U	U	U
1,1,1-Trichloroethane	U	U	U	U	U	U	U
Carbon Tetrachloride	U	U	U	U	U	U	U
Trichloroethene	U	U	U	U	U	U	U
1,1,2-Trichloroethane	U	U	U	U	U	U	U
Tetrachloroethene	U	U	U	U	U	U	U
Chlorobenzene	U	U	U	U	U	U	U
Ethylene Dibromide	U	U	U	U	U	U	U
Bromoform	U	U	U	U	U	U	U
1,1,2,2-Tetrachloroethane	U	U	U	U	U	U	U
MTBE	U	U	U	U	U	U	U
Benzene	U	U	U	U	U	U	U
Toluene	U	66	U	U	U	U	U
Ethylbenzene	U	U	U	U	U	U	U
Xylenes (total)	U	U	U	36	U	U	U
1,3,5-Trimethylbenzene	U	U	U	U	U	U	U
1,2,4-Trimethylbenzene	U	U	U	U	U	U	U
Naphthalene	U	U	U	U	U	U	U
TPH Volatiles	U	U	U	400	U	U	U

Reported Quantitation Level = 25 nanograms for individual compounds
Reported Quantitation Level = 250 nanograms for TPH Volatiles
U = Below Reported Quantitation Level

Attachment 2

FIELD PROCEDURES FOR EMFLUX® SOIL-GAS SURVEYS

The following field procedures are routinely used during EMFLUX® Soil-Gas Surveys. Modifications can be and are incorporated from time to time in response to individual project requirements. In all instances, BEACON adheres to EPA-approved Quality Assurance and Quality Control practices.

A. Field personnel carry EMFLUX® system components and support equipment to the site and deploy the EMFLUX® Collectors in a prearranged survey pattern. Although EMFLUX® Collectors require only one person for emplacement and retrieval, the specific number of field personnel required depends upon the scope and schedule of the project. Each Collector emplacement generally takes less than two minutes.

B. At each survey point, a field technician clears vegetation as needed and, using a slide hammer with a ½" diameter rod, creates a hole three-feet deep. The technician then uses a hammer and a ¾" diameter pointed metal stake to widen the top four inches of the hole. [**Note**: For locations covered with asphalt, concrete, or gravel surfacing, the field technician drills a 1"- to 1½"-diameter hole through the surfacing to the soils beneath. If necessary, the Collector can be sleeved with a ¾" i.d. metal sleeve.] The solid cap on a Sampler Vial, which contains an adsorbent cartridge, is removed and replaced with a Sampling Cap (a one-hole cap with a screen meshing insert). The stake is removed from the hole in the ground and the Sampler is inserted, with the Sampling Cap end facing down, in the top four inches of the hole. The date and time of emplacement and other relevant information are recorded on the Field Deployment Form.

C. One or more trip blanks are included as part of the quality-control procedures.

D. Once all EMFLUX® Collectors have been deployed, field personnel schedule Collector recovery (typically 72 hours after emplacement) and depart, taking all no-longer-needed equipment and materials with them).

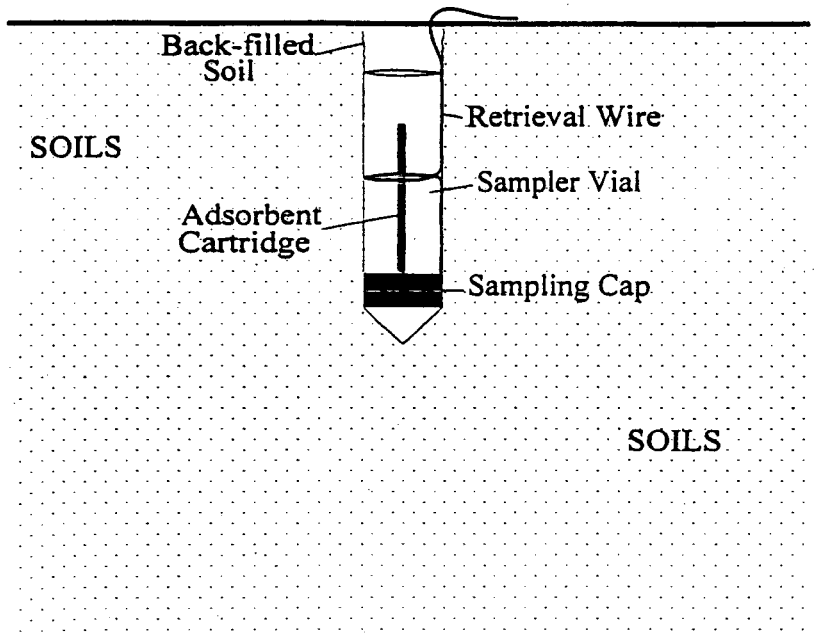
E. Field personnel retrieve the Collectors at the end of the exposure period. At each location, a field technician withdraws the Collector from its hole and wipes the outside of the vial clean using gauze cloth; following removal of the Sampling Cap, the threads of the vial are also cleaned. A solid plastic cap is screwed onto the vial and the sample location number is written on the label. The technician then records sample-point location, date, time, etc. on the Field Deployment Form.

F. Sampling holes are refilled with soil, sand, or other suitable material. If Collectors have been installed through asphalt or concrete, the hole is filled to grade and patched with similar material.

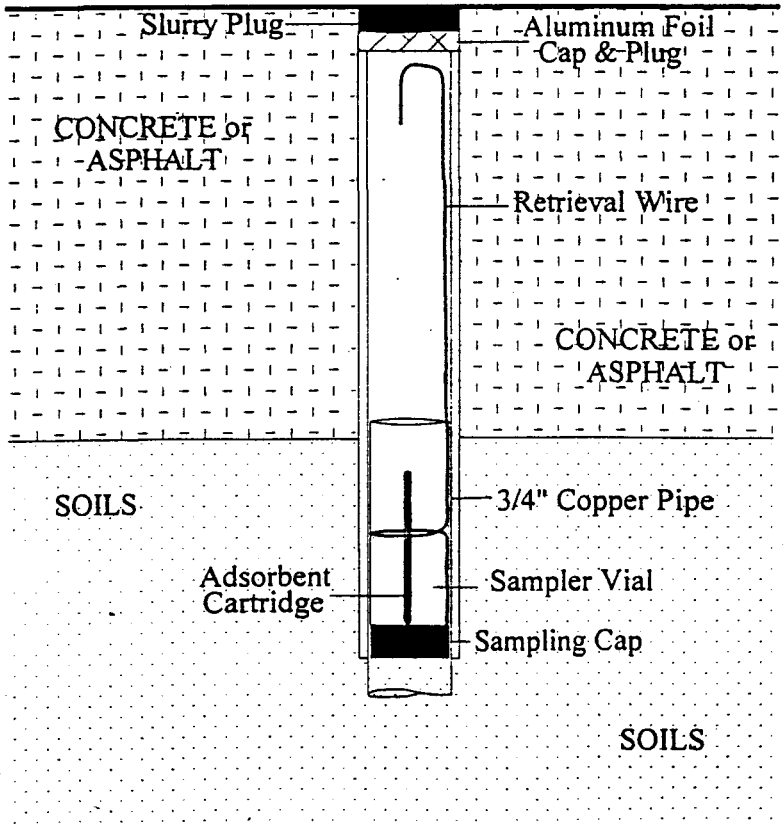
G. Following retrieval, field personnel ship the EMFLUX® Field Kits to BEACON's laboratory or an analytical laboratory under contract to BEACON.

EMFLUX® COLLECTOR

DEPLOYMENT THROUGH SOILS



DEPLOYMENT THROUGH AN ASPHALT/CONCRETE CAP



Attachment 3

Field Deployment Report

BEACON ENVIRONMENTAL SERVICES, INC.
FIELD DEPLOYMENT REPORT

PROJECT #:	CLIENT:	SITE:
1138	IT Corp.	Vacuum O.I

INDIVIDUAL SAMPLE INFORMATION

EMPLACEMENT DATE: 10/20/99 RETRIEVAL DATE: 11/4/99

SAMPLE NUMBER	TIME		FIELD NOTES (e.g., asphalt/concrete covering, description of sample location, cartridge/vial condition)
	Emplaced	Retrieved	
A2	0945	0945	ON SLOPE WEST OF WALKWAY (WITHIN 10')
A3	0950	0947	10' BEHIND PK LOT (SW CORNER)
B2	1005	0953	WEST OF WALKWAY
B3	1010	0955	
B4	1015	0957	50' FROM JUNKYARD (E)
C3	1020	1005	
C4	1025	1006	
D2	1035	1010	EAST OF WALKWAY 5'
D3	1040	1012	
D4	1045	1014	ON OLD RR BED
D5	1050	1017	TANK
D6	1100	1019	TANK
E2	1115	1032	
E3	1120	1030	RUBBLE AREA
E4	1125	1028	RR BED
E5	1135	1026	SLOPE

SAMPLE NUMBER	TIME		FIELD NOTES (e.g., asphalt/concrete covering, description of sample location, cartridge/vial condition)
	Emplaced	Retrieved	
E6	1140	1045	TANK
D7	1150	1022	FARTHEST WEST TANK
F2	1300	1045	
E3	1305	1059	
F4	1310	1102	
F5	1315	1104	
G2	1325	1122	
G3	1340	1119	
G4	1345	1117	
G5	1350	1115	
G6	1355	1111	
H2	1405	1125	
H3	1410	1130	
H4	1545	1132	
H5	1420	1133	
H6	1425	1135	
H7	1435	1136	
H8	1430	1137	
I4	1435	1147	

SAMPLE NUMBER	TIME		FIELD NOTES (e.g., asphalt/concrete covering, description of sample location, cartridge/vial condition)
	Emplaced	Retrieved	
I5	1550	1145	
I6	1440	1143	
I7	1445	1142	
J6	1450	1150	
J5	1455	1152	
J7	1500	1153	
J8	1505	1155	
K6	1520	1204	
K7	1525	1202	
K8	1530	1200	
L6	1535		
L7	1540	1205	
A1	1550	0940	LAWN AREA NEXT TO RIVER (WITHIN 10')
C1	1555	1000	" " " "
E1	1600	1036	LAWN AREA " " "
C2	1605	1001	
C20	1610	1002	
F6	1615	1168	SLUDGE
~~K9~~			

SAMPLE NUMBER	TIME		FIELD NOTES (*e.g.*, asphalt/concrete covering, description of sample location, cartridge/vial condition)
	Emplaced	Retrieved	
Trip-1	—	—	Do not open!
Trip-2	—	—	

Attachment 4

LABORATORY PROCEDURES FOR EMFLUX® ADSORBENT CARTRIDGES

Following are laboratory procedures used with the EMFLUX® Soil-Gas System, a screening technology for expedited site investigation. After exposure, EMFLUX® cartridges are analyzed using U.S. EPA Method 8015B/8021 as described in the Solid Waste Manual (SW-846) for screening purposes. This method, which is modified to accommodate thermal desorption screening of the adsorbent cartridges, uses a capillary column gas chromatograph (GC) with a photo ionization detector (PID) in series with a flame ionization detector (FID) and a dry electrolytic conductivity detector (DELCD). This procedure is summarized below:

A. EMFLUX® cartridges are placed in the thermal desorbtion chamber, where they are purged with carrier gas then desorbed into the capillary column. The capillary column separates the sample into single component analytes. Analytes in the carrier gas are detected by a PID, then by an FID and finally by a DELCD.

B. The laboratory uses a 105-m, 0.53-mm-i.d., 3 µm-film-thickness Rtx-502.2 capillary column for separation during analysis.

C. The PID, FID and DELCD are set to high gain.

D. Lab personnel conduct internal control blank and internal control verification analyses every 24 hours to ensure that the system is contaminant free and properly calibrated. The system is calibrated using the external standard calibration procedure to at least three different concentration levels for each compound targeted, with the lowest concentration level at or near the method detection limit.

E. The instrumentation used for these analyses is an SRI 8610 Gas Chromatograph, equipped with a thermal desorber and connected to a PID in series with an FID and a DELCD.

Attachment 5

Chain-of-Custody Form

BEACON ENVIRONMENTAL SERVICES, INC.
CHAIN-OF-CUSTODY FORM

PROJECT NUMBER: 1138	PROJECT NAME: Vacuum O.I
LOCATION: Rochester, NY	CLIENT: IT Corp.
TARGET COMPOUNDS: 8021/8015B	

SAMPLE NUMBER	LAB ID No. (for lab use only)	REMARKS			
		Condition of sample or vial	Date	Time	Init.
A2			10/20/99	0945	
A3			"	0950	
B2			"	1005	
B3			"	1010	
B4			"	1015	
C3			"	1020	
C4			"	1025	
D2			"	1035	
D3			"	1040	
D4			"	1045	
D5			"	1050	
D6			"	1100	
E2			"	1115	
E3			"	1120	
F4			"	1125	
E5			"	1135	
E6			"	1140	
E7			"	1150	
F2			"	1300	
F3			"	1305	
F4			"	1310	
F5			"	1315	
G2			"	1325	
G3			"	1340	
G4			"	1345	
G5			"	1350	
G6			"	1355	
H2			"	1405	
H3			"	1410	
H4			"	1545	
H5			"	1420	
H6			"	1425	

RELINQUISHED BY		DATE	TIME	RECEIVED BY	
Signature	Printed Name			Signature	Printed Name
SCS	Steve Thornley	10.14.99	1700	Fedex	→
Fedex	→	10.15.99	1200	[signature]	Frank Sowers
[signature]	Frank Sowers	11.4.99	1500	UPS	→
UPS	→	11.5.99	1100	[signature]	H. O'Neill

BEACON ENVIRONMENTAL SERVICES, INC.
CHAIN-OF-CUSTODY FORM

PROJECT NUMBER: 1138	PROJECT NAME: Vacuum O.I
LOCATION: Rochester, NY	CLIENT: IT Corp.
TARGET COMPOUNDS: 8021/8015B	

SAMPLE NUMBER	LAB ID No. (for lab use only)	REMARKS			
		Condition of sample or vial	Date	Time	Init.
F7			10/20/99	1455	
F8			"	1450	
I4			"	1430	
I5			"	1550	
I6			"	1440	
I7			"	1445	
J6			"	1450	
J5			"	1455	
J7			"	1500	
J8			"	1505	
K6			"	1520	
K7			"	1525	
K8			"	1530	
L6			"	1535	
L7			"	1540	
A1			"	1550	
C1			"	1555	
E1			"	1600	
C2			"	1605	
C2D			"	1610	
F6			"	1615	
			"		

RELINQUISHED BY		DATE	TIME	RECEIVED BY	
Signature	Printed Name			Signature	Printed Name
[signature]	Steve Thornley	10.14.99	1700	Fedex →	
Fedex →		10.15.99	1200	[signature]	Frank Sowers
[signature]	Frank Sowers	11.4.99	1500	UPS →	
UPS →		11/5/99	1100	[signature]	K. O'Neill