NEW YORK STATE DEPARTMENT
OF
ENVIRONMENTAL CONSERVATION

REMEDIATION SUMMARY REPORT

LEHIGH INDUSTRIAL PARK SITE
LACKAWANNA (C), ERIE COUNTY
CONTRACT NO. D003612
SITE NO. 9-15-145

MAY 1998

New York State Department of Environmental Conservation
GEORGE E. PATAKI, *Governor* **JOHN P. CAHILL**, *Commissioner*

REMEDIATION SUMMARY REPORT

LEHIGH INDUSTRIAL PARK SITE

NYSDEC Inactive Hazardous Waste Site No. 9-15-145
Contract No. D003612
Lackawanna, New York

New York State Department
of
Environmental Conservation
Division of Environmental Remediation
Region 9

May 1998

CERTIFICATION OF

CONSTRUCTION QUALITY ASSURANCE

AT

LEHIGH INDUSTRIAL PARK INACTIVE HAZARDOUS WASTE SITE
SITE NO. 9-15-145
LACKAWANNA, NEW YORK

I hereby certify that the construction at the Lehigh Industrial park Inactive Hazardous waste Site was accomplished as specified in the Contract Documents and documented in this report and that I or a person under my direct supervision witnessed the performance of the Work. I am a Registered Engineer as established under the laws and regulations of the State of New York.

Martin L. Doster
P.E. No. 063721

Regional Hazardous Waste Remediation Engineer
New York State Department
of Environmental Conservation
Division of Environmental Remediation

Region 9 Office
270 Michigan Avenue
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9 June 1998
Date

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EXECUTIVE SUMMARY

The New York State Department of Environmental Conservation (NYSDEC), Region 9 (R9) Office provided construction inspection and engineering services for the Remedial Construction Project at the Lehigh Industrial Park site (NYSDEC Site No. 9-15-145), located in the City of Lackawanna, Erie County, New York. NYSDEC-R9 construction services included, but were not limited to, full-time inspection and monitoring of remedial activities and engineering services to ensure conformation with specifications as outlined within the Construction Contract No. D003612. The remediation was completed by Arric Corporation (Arric), of West Seneca, New York. Arric was selected to do the work through the competitive bidding process with a bid opening of January 7, 1997 and was notified with an "Intent to Award" letter on January 17, 1997. Arric submitted the lowest of 15 bids at $659,975.00 (See Table 1.) The design engineer's estimate for the work was $796,548.00. Remedial work commenced with a "Notice to Proceed" on March 31, 1997. Substantial Completion of the project was accomplished on September 19, 1997.

Remedial Design was completed in November 1996 by Parson's Engineering Science located in Syracuse New York. The remediation activities completed at the Lehigh Industrial Park site under this project included:

- Complete demolition of abandoned site structures. Numerous structures contained non-friable asbestos containing materialthat required abatement prior to demolition.
- Removal and off-site disposal of hazardous waste soil (PCB ≥ 50 ppm), one PCB

contaminated transformer carcass, a phenolic resin pile (~ 1 ton), lead based paint residue and nickel-cadmium batteries

- Consolidation of non-hazardous waste soil and debris into a manageable pile.
- Construction of an infiltration basin to accept runoff from the soil consolidation area.
- Installation of a clean soil cover over the entire site.
- Plant and establish a grass cover over the entire site.

In April 1997 the site was cleared and grubbed. Junk tires (857) were located and collected and 88.84 tons of scrap metal were segregated for recycling. Trees more than eighteen inches in diameter were cut and pushed into the soil/waste containment pileat the south end of the site. On-site buildings (See Photograph Page One) were demolished and waste piles on the site were also moved into the soil/waste containment pile. The remainder of the site was excavated to a minimum depth of one foot and graded for proper precipitation runoff. This material was relocated into the waste material containment cell and used as fill and cover material. Additionally a six foot deep infiltration basin was excavated. The entire site, except the infiltration basin, was backfilled with nine inches of clay material and covered with three inches of topsoil. Following construction activities in August 1997, the site was seeded, mulched and fertilized. In the infiltration basin only the sidewalls were seeded, mulched and fertilized. The bottom of the basin was left bare to promote erosion control while allowing maximum water infiltration through the basin.

Polychlorinated bi-phenyl (PCB) contamination was the primary hazardous contaminant of concern at the Lehigh Industrial Park site. Cleanup goals established during

the Feasibility Study (FS) for this site included removal and off-site disposal of all soils that equaled or exceeded 50 parts per million (210.96 cubic yards), in addition to excavation and relocation to the soil cover area all PCB contaminated soil from 10 ppm to 49 ppm. Post-excavation verification sampling was completed to ensure cleanup goals were met.

Additional material removed for off site disposal, included a contaminated transformer carcass, a phenolic resin pile (one cubic yard), nickel-cadmium (Ni-Cd) batteries (55 in four drums), asbestos containing material (twenty cubic yards), drums remaining from the remedial investigation (four), water contaminated with PCB from excavations, two previously unknown vaults, and decontamination water (4368 gallons.)

Two new lump sum bid items were created to address additional items encountered but not addressed in the contract documents. The first item was entitled "additional investigations." This item included additional work required because of the discovery of a nickel-cadmium battery cache within the footprint of the infiltration basin. Seeding/grading was the second additional item. Work under this item included, but was not limited to, the establishment of a slope to ensure precipitation runoff and capture and reshaping of the soil/waste pile.

One change order was issued to reconcile differences in the bid amount, the actual contract amount, and contract period. This change order increased the contract amount by $104,073.41 for a new contract amount of $764,048.41 an overall increase in the contract price by 16%. The change order allowed for the addition of 19 days to the contract period.

Although the remediation of the Lehigh Industrial Park site was satisfactorily completed by Arric Corporation, a number of unforseen circumstances impeded construction. Those circumstances consisted of the following:

- Changes in Arric Corporation's project management team: (1) replacement of Arric Corporation's project manager two weeks into remediation; (2) replacement of the site superintendent three weeks into the remediation and replacement of the health and; (3) safety officer one month into the remediation.

- The amount of PCB contaminated soil that exceeded cleanup goals requiring disposal as hazardous waste was underestimated, and resulted in a disruption in the soil/waste piles relocation into the soil cover area.

- Underestimations of the amount of concrete that had to be demolished and moved.

- The discovery and removal of a small, underground storage tank (UST), containing water.

- The discovery of paint residues within surficial soils along the south edge of the site and drums of paint waste in the soil/waste piles impeded the one foot cut and created additional sampling and disposal requirements for the Contractor.

- Discovery of two previously unidentified concrete vaults, whose sampling and

demolition, impeded the remediation. These vaults contained water which was contaminated with PCB exceeding Water Quality Regulations and thus had to be disposed of off-site.

- The redesign of the surface water drainage swale. A new swale had to be designed because the original swale design didn't allow proper drainage into the infiltration basin. The original design would have allowed water to stand near the residents along Ingham Avenue which was deemed unacceptable by the Engineer. The redesign required the construction of two berms one along the south side of the soil cover area and the second along the west and north side of the soil cover area. The construction of the berms impeded the project and required additional type "A" backfill.

- Excessive quantities of deleterious material (sticks, stumps and rocks) in the topsoil that had to be removed interfering with completion of the entire project. Additionally, the high moisture content of the topsoil and adverse weather during placement also caused minor delays.

In spite of all the minor problems encountered, the project was completed within 169 days, 19 days in exceedance of the contract specified time. The remediation of the Lehigh Industrial Park site was conducted according to all applicable state and federal regulations.

The construction and remediation of the Lehigh Industrial Park site, Inactive

Hazardous Waste Site Number 915145, in the City of Lackawanna, New York was satisfactorily completed. The remediation met specifications outlined in contract documents entitled, *Remedial Construction, Lehigh Industrial Park Site, Lackawanna, New York* (Parsons Engineering Science, 1996). Hazardous waste removal and/or relocation was verified by confirmation sampling. Arric Corporation utilized Chopra-Lee Incorporated of Grand Island, New York and Columbia Analytical Laboratory in Rochester, New York, All analytical laboratories used by Arric were Environmental Laboratory Approval Program (ELAP) certified.

1. SITE BACKGROUND

1.1 LOCATION

The LIP site is a former automotive scrapping facility, located at 31 South Street in the City of Lackawanna, Erie County, New York. Occupying 9.1 acres, the site is land bounded by South Street to the north, Buffalo Brake Beam Co. to the south, Conrail and South Buffalo Railway right-of-way to the east, a residential area and Ingham Avenue to the west. The shore of Lake Erie is approximately one mile to the west with Smokes Creek approximately 1000 feet south of the southern border.

1.2 HISTORY

A Site History Report was prepared by Parsons Engineering Science, Inc. (Parsons ES) in September 1992 and presents detailed information on previous owners and operators, site conditions and occurrences of spills and other mishaps. In summary, a deed search of LIP revealed that in the early 1900's the site was initially separated into four parcels, and that these parcels were utilized independently from one another under different owners. They eventually became consolidated under a single owner in 1973.

Though ownership has changed hands often, aerial photographs dating back to 1938 have revealed that the site has been used primarily as an automotive and metal scrap yard. The last business to operate at the site was known as Roblin Industries, Inc. (Roblin). Roblin

filed for bankruptcy in 1985. Conversations with past Roblin employees and review of documents on file with various public agencies suggest that spills were commonplace, and some drums were received, scrapped, and possibly buried under waste/soil piles. Historic records regarding drum handling and disposal were not on file with any of the agencies contacted. Lehigh Industrial Park Inc. purchased the site from the bankruptcy trustee of Roblin in 1988.

Before NYSDEC involvement, the Erie County Department of Environmental Planning, (ECDEP) was involved with environmental compliance issues. In 1979, soil sampling was supervised by the ECDEP as part of a cleanup of a polychlorinated biphenyls (PCB) - laden oil spill from a transformer.

In 1988, after Roblin had gone bankrupt and the site was inactive, another PCB spill occurred (near the location of the previous spill), when hazardous waste disposal workers were removing a transformer. In September 1988, the United States Environmental Protection Agency (USEPA) sampled the area of the spill. Two of six samples had PCB-contamination above background concentrations including a sample concentration of 140,000 parts per million (ppm). During August 1990 the USEPA conducted a site inspection and collected additional samples. A transformer carcass was found to contain oil with a PCB concentration of 1728 ppm.

The LIP site was listed as a Class 2 inactive hazardous waste site in the Registry of Inactive Hazardous Waste Sites (Registry) by the NYSDEC in December 1990. A Class 2

site is a site containing hazardous waste that constitutes a significant threat to the environment and public health.

Responding to the determination that the presence of hazardous waste at the site presented a significant threat to human health and/or the environment, the NYSDEC, beginning in 1992, conducted a Remedial Investigation/Feasibility Study (RIFS) in two phases utilizing State Superfund monies. The first phase was conducted from June to September 1992 and the second phase was conducted during June of 1993.

In March 1994 The NYSDEC prepared and issued a Record of Decision (ROD) for the Lehigh Industrial Park site. The major elements of the selected remedy based on th ROD, were as follows:

- Develop a remedial design program to verify the components of the conceptual design and provide the details necessary for the construction, operation and maintenance, and monitoring of the remedial program.

- Excavate, transport and dipose of properly the estimated 200 cubic yards (cy) of soil with PCB concentrations exceeding 50 parts per million will be excavated and transported to a permitted hazardous waste landfill.

- Consolidate waste piles present on the site into one area of the site and cap with twenty-four inches of clean soil. The soil cap will consist, at a minimum, of a twelve

inch layer of the contaminated site soils placed over any waste material and graded and compacted to provide structural stability for the cap. Placed over this layer will be a minimum of one foot of clean soil consisting of a nine inch layer of soil with a permeability equal to or less than the existing site soils. This layer will be covered with an additional three inches of soil capable of supporting vegetation. Below the clean soil the capped area will be graded to promote runoff, with a minimum 4% slope where practical, and grass planted. Drainage will be provided where needed. The capped area will cover an area of about four acres and rise to a maximum height of approximately nine feet.

- Surface soils exceeding the site cleanup levels, which are not consolidated with the waste piles, will be capped to finish grades with a minimum of one foot of clean soil similar in composition to the existing site soils. Contaminated surface soils will be utilized to the extent practical as contouring and cover material in the waste pile capping.

- The four buildings will be demolished, relocated and disposed of within the capped area. Additionalsite structures will be demolished as necessary to complete the remediation and also incorporated into the capped area.

- Any salvageable materials (i.e., steel) may be cleaned and sent off for recycling.

- Long term monitoring and maintenance of the site will be implemented to insure the

effectiveness of the remedy. Appropriate deed restrictions and access agreements will be secured and negotiated with the owners in order to provide for the integrity of the site containment.

- During the design, the actual contours and location of the capped area may be re-evaluated to accommodate a potential beneficial use of the property as limited recreational or compatible commercial usage.

2. SUMMARY OF REMEDIAL WORK

2.1 GENERAL OVERVIEW

Thursday, March 20, 1997 a preconstruction meeting was held at the Arric Corporation offices at 3535 Transit Road, West Seneca, New York for the remediation of the Lehigh Industrial Park site. Before this meeting NYSDEC issued a "Notice to Proceed" letter to Arric dated March 18, 1997 that specified that the contract starting date would be March 31, 1997. Present at the meeting were staff from NYSDEC and Arric. Project responsible staff from the NYSDEC included, David Chiusano, NYSDEC-Albany (Project Manager), Maurice Moore, NYSDEC - Region 9 (Project Engineer) and James Tuk, NYSDEC - Region 9 (Construction Inspector and Field Representative).

Major items identified and discussed at the preconstruction meeting included: Representatives and Responsibilities, Contract Time and Liquidated Damages, Progress Scheduling, Article 5 of the General Conditions of the contract, Changes in the Work, Payments, Completion of the Work, Disputes, MWBE/EEO goals, Project Plans and Contractor's Activities over the Next Two Weeks.

Accordingly, Arric began mobilizing equipment and trailers to the site on March 31, 1997. The site was secured by obtaining permission from the City of Lackawanna to erect a locked gate across South Street north of the Lehigh site. The first major task of the project was to remove the non-friable asbestos containing material (ACM) from all buildings

identified in the contract plus an additional amount of ACM, unaccounted for in the Contract, found within Building No.1 (Appendix A.) Building demolition subsequently began on specified buildings and structures on April 22, 1997 (see Photograph Page One.) Additionally, many junk tires littered the project site. These tires were counted, collected and disposed off site (see Photograph Page Seven). The site was cleared of brush and small trees with a hydro-axe. An access road was constructed of Type B backfill to allow unimpeded truck and vehicle traffic on the site.

During the demolition phase the large trees located on the western portion of the site were removed and the existing site, chain-link fence was removed and temporarily replaced with construction barrier fencing. Two small, previously unknown, subsurface, concrete vaults were discovered both containing water with low levels of PCB contamination. One vault was found buried under debris in Building No. 5, the second was located under the railroad tracks adjacent to the loading ramp. The low levels of PCB contamination dictated that the waters be collected and disposed of off-site before the vaults could be demolished. The existing rail spur on the site was removed and scrap metal was segregated for recycling. PCB contaminated soil was removed from the hot spots as defined in the contract drawings and established in the field by site survey. This soil was then properly disposed off site in a hazardous waste landfill at Chemical Waste Managements' (CWM) Model City Facility located in Lewiston, New York. The remaining soil/waste piles were relocated to the soil cover areaat the south end of the site. During the relocation of the soil/waste piles several drum carcasses were uncovered (see Photo Page Seven) that were found to contain a paint residue which failed toxic characteristic leaching procedure (TCLP) sampling for lead

contamination. This failure for lead contamination established that this paint residue was now considered a hazardous waste requiring disposal off-site in a hazardous waste landfill. This material was also disposed of at CWM's Model City facility.

The soil cover area began to take shape with building debris and large trees over eighteen inches in diameter. The remainder of the site was surveyed for a one foot cut based on a 50' by 50' grid. This grid placement was too restrictive to operate large bulldozers efficiently. The site was then set up with a laser leveling system that coordinated the depth of cut by the bulldozers and earthmovers over the entire cut surface. Leveling the cut allowed for the one foot cut to be excavated while maintaining a gentle slope over the entire cut surface. This allowed the site to return to its original grade before development. Any site soil that was cut was relocated to the waste cell to be used as part of the twenty-four inches of cover required in the ROD. During this one foot cut more of the paint residue appeared along the southernmost portion of the property between the Lehigh Industrial park and the Buffalo Brake Beam property (see Photograph Page Seven.) This material was excavated beyond cut limits until there was no visible evidence of the residue. This material was first segregated by visually determining contamination. These piles were then sampled. One pile failed the TCLP lead test and this material was disposed in a hazardous waste landfill. The remainder of the material met the cleanup levels established in the ROD and was relocated within the soil cover area. After the soil was relocated, the entire pile was shaped to establish slopes as required in the Contract Documents.

An infiltration basin was excavated along the northern and eastern sides of the soil

cover area to collect runoff from the waste cell. During this excavation a large amount of previously unknown concrete was uncovered. This concrete was subsequently demolished and disposed of by excavating holes in the soil pile area. The opening of these holes caused the waste cell to be re-graded. The demolition and relocation of the additional concrete were additional to the original contract estimated quantity. Moreover, seepage of an oily material from this concrete was sampled and found to contained levels of PCB that were below the 50 ppm cleanup levels established for this site. However, this oily material contaminated some standing water in the excavation (see Photo Page Seven) requiring this water to be disposed off-site. Additionally, while the infiltration basin was being excavated, a small, previously undetected cache of nickel-cadmium batteries was unearthed. The batteries had been disposed in a pit, six feet below ground surface.

After excavation of the infiltration basin and the construction of the waste cell the entire site was covered with at least 9 inches of compacted Offsite Fill Material Type A (type "A") fill material. The source of the Type "A" material was from a clay source located at the North American Business Park in West Seneca New York. This material required testing and Department pre-approval to assure that when compacted this material was suitable and much more impervious than the existing soil at the site. This compacted soil was then covered with at least three inches of topsoil capable of supporting vegetative growth. The entire site was then seeded, mulched and fertilized. A typical sequence of excavation and backfill operations is shown in (Photo Page Five.) The infiltration basin was fenced to prevent public access entry. A substantial completion inspection was requested by the contractor and a substantial completion certification was issued on September 3, 1997. Arric

subsequently demobilized from the site on September 24, 1997. The final site inspection occurred on October 1, 1997. Completion of the project contract exceeded final completion time of 150 days by a previously approved 19 days.

2.2 SITE PREPARATION

Site preparation activities for the Lehigh Industrial Park remediation included the following items: mobilization/demobilization, decontamination pad and equipment, building of access road, temporary fencing, clearing and grubbing, health and safety facilities, temporary utilities erosion control fencing, submission of project plans, project sign, permits, site cleanup and submission of appropriate construction bonds and insurance. Payment to the Contractor for these items was included in Lump Sum #1 (LS-1) of the bid.

Mobilization began on March 31, 1997 with the location of the Arric job trailer and decontamination trailers to the site. The NYSDEC trailer was a rental unit from Williams-Scotsman and was equipped with office equipment as required by the Contract. Electrical power connection was started by the electrical subcontractor (Troup electric). The actual Niagara Mohawk connectionocurred on April 15, 1997, forcing the first job meeting to be held at a local restaurant and necessitated the rental of a temporary power supply. The decontamination trailer was retrofitted to include showers and wash facilities. Temporary water was supplied by the City of Lackawanna via a nearby hydrant hookup and a hose to a holding tank outfitted with a pump. Portable sanitary facilities were provided. The NYSDEC trailer remained on the site until September 2, 1997. With removal of the

decontamination trailer and other job trailers and demobilization was complete.

Decontamination pad construction began on September 18, 1997. Stone was delivered to the site and placed as sub-base for the decontamination pad. The concrete was poured for the pad beginning on September 22, 1997. Walls were built with polyethylene sheeting as a substitute for solid wall structures as allowed by the Engineer. On July 3, 1997 the decontamination pad was demolished and relocated to the soil cover area.

Access roads for the site were established April 30, 1997. The roads were leveled with Offsite Material Type B (type "B") backfill.

The fencing subcontractor (Wire Products) mobilized on April 2, 1997 to build a temporary fence and gate across South Street. Arric worked to establish temporary fencing to areas that did not have any site fencing when the job started. Arric then maintained site control by erecting temporary fencing as needed when site fencing was removed. Temporary fencing was maintained throughout the work until the one foot cut area and the soil cover area were recovered with type "A" material.

Clearing and grubbing of the site began almost immediately upon mobilization. General clearing of the buildings was necessary to allow access to the buildings for ACM removal. The excavation sub contractor (Brackett Brothers) began site clearing on April 21, 1997. Most of the site was cleared of small trees and brush with a Case 1080 track hoe equipped with a hydro-axe. Due to the extreme hazard and danger from flying debris the site

safety officer (SSO) constantly maintained a worker exclusion/safe working zone from this equipment throughout its operation. Clearing was not deemed finished until the removal of the large site trees. This was completed May 30, 1997. All trees were limbed, with any limb 12" and smaller, chipped. Larger limbs were cut and either taken off site for firewood or pushed into the soil cover area.

Clearing and grubbing had exposed areas of soil that were susceptible to erosion from precipitation events. As required by the contract documents Arric provided erosion control fabric as required. In one instance the fabric was inadequate for the situation. On July 21,1997 torrential rains fell. The site was about 25% covered with compacted type "A" material. The rain caused severe runoff and significant surface erosion from the site and the erosion control fabric did little to stop the effects of the deluge. Arric was required to clean a large extent of Ingham Avenue and South Street to remove sedimentation from the site.

Section 1200, Part 2, item 2.09 of the contract documents specified that the Contractors be responsible for providing a hygiene facility for personnel decontamination. Health and safety facilities included a decontamination trailer originally set up for asbestos abatement but retrofitted to incorporate the requirements of personnel decontamination from a hazardous waste site. Retrofitting included changing the in-line showers to side entry showers, connecting the pump from the water supply unit, replacing all the polyethylene coverings and replacing the hot water tank. Two portable sanitary facilities were provided to the site to allow for gender specific toilet facilities.

The Contractor was responsible for furnishing, operating, maintaining and paying for all necessary field offices and ancillary structures. Temporary field offices and a locked storage trailer were provided to satisfy this requirement. Arric provided temporary utilities including electricity, and telephone to the temporary facilities as required.

To satisfy requirements of the contract specifications the Contractor was required to provide several project plans including, a project work plan, a material handling plan, erosion control plan, health and safety plan and an asbestos removal plan. All plans, except the materials handling plan were submitted as required, however, the materials handling plan was never submitted and resulting in a $1000.00 credit to the Department.

As part of the site preparation Arric provided a project sign, and obtained all permits, bonds and insurance as required. The payment for the site preparation item was complete when, as required for final completion, the entire site was considered cleaned up by the Engineer.

2.3 HEALTH AND SAFETY

Section 1200, (inclusive) detailed the contract requirements for health and safety during the Lehigh Industrial Park remediation. Limited site data collected throughout the remedial investigation phases detailed the potential for health risks at the site. It detailed risk from airborne dusts associated with any earthmoving project. Potential of health risks existed from the known presence of PCB in the transformer carcass. Additionally the risk

from PCB contaminated soil existed. The site soils contained heavy metal contamination such as lead and chromium. Additionally, the presence of friable asbestos in the soil and asbestos containing material in some on site buildings created a potential hazard. Numerous physical hazards were associated with this remediation as well, such as, overhead work, working around heavy equipment and slip, trip, and fall hazards.

Arric subcontracted Chopra-Lee Inc. to provide services to satisfy health and safety requirements of the contract. Chopra-Lee developed and submitted a health and safety plan (HASP) for the remediation which was approved by the Department. Chopra-Lee assigned a certified industrial hygienist to the project as the Health and Safety Coordinator. James Jaskowiak was assigned tasks of the Site Safety Officer for a brief period until May 7, 1997 when Richard Nugent, initially assigned the task of Health and Safety Technician (HST), assumed the responsibility of the SSO. As required, the SSO was certified in first aid and cardiopulmonary resuscitation.

All project personnel involved with day to day operation or any intrusive work had complete physicals and 40 hour hazardous material operations training as required by OHSA 1910.120. This requirement was waived only for temporary employees and limited subcontractors who only worked after the hazards to the site had been mitigated or whose duties were deemed non-hazardous by the CIH. All project oversight personnel from the NYSDEC maintain training and physicals as required by OSHA 1910.120 and state regulations as part of their regular duties with the Department.

The SSO established exclusion zones where work required such zones. Personnel were limited to such areas on an "as needed" basis. All hazardous waste work observances were made from a safe distance. In addition, the SSO was responsible for making sure personal protective equipment was obtained and maintained.

Other duties of the SSO were to establish air monitoring points and collect air samples. These air monitoring samples included real time and documentation monitoring. Real time monitoring was conducted at perimeter locations. Total particulates were monitored with an MDA Model P.H. dust monitor calibrated daily to 0.01 mg/m^3. The contract required that if downwind dusts exceeded 150 mg/m^3 during all intrusive activities then dust suppression techniques would be implemented according to Department guidelines. These guidelines are established in Technical and Administrative Guidance Memorandum, HER-89-4031 entitled "Fugitive Dust Suppression and Particulate Monitoring Program at Inactive Hazardous Waste Sites." In addition to real time and documentation monitoring, the more conservative and pre-emptive approach of "suppression by wetting" when visible dust is noted was followed at the Lehigh Industrial Park Site. This was especially true when the site soils were being moved or excavated. Although the Contractor had to be reminded on occasion about this requirement, favorable weather during the excavation and related activities kept the soil moist and dust suppressed. Most dust encountered occurred during Type "A" placement and compaction. The dust guidance value exceeded the 150 mg/m^3 action level at station C (downwind) on June 5, 1997 with a sample result of 169 mg/m^3. The upwind background sample results on the same day were 130 mg/m^3. This dust resulted in wetting the area with a water truck.

Documentation monitoring at the site was required at the minimum of four locations (one upwind and three downwind) for dust and asbestos fibers. This documentation monitoring was conducted whenever work exposed wastes on the site. Documentation sampling results can be found in the reports by Chopra-Lee entitled "Environmental Site Monitoring Report for the Lehigh Remediation" dated September 23, 1997 and "Air Monitoring Report for the Asbestos Removal Project at the Lehigh Junkyard" dated September 22, 1997. During the remediation no asbestos samples exceeded the clearance level of .01 fibers/cc. The New York State Department of Health was kept appraised of the monitoring activites throughout the construction.

2.4 SITE OPERATION AND MAINTENANCE

Site Operation and Maintenance at the Lehigh Industrial Park Site were provided by Arric Corporation personnel. Services included the following items as included in pay item UC-1 as specified by the Contract:

- Access roads
- Temporary Fencing
- Temporary Facilities
- Temporary Utilities
- Erosion Control Fencing
- Security
- Project Sign

Arric provided operation and maintenance of the access roads, temporary fencing, temporary

facilities, erosion control fencing and provided a project sign as required. The facilities were kept clean and required supplies and materials were replenished as needed. The grounds were trimmed when needed and the project sign was updated as needed. Temporary fence was repaired as needed. Potable water and refrigerator were supplied by Mayer Brothers of West Seneca. Portable toilet facilities and garbage dumpsters were provided by Modern Disposal of Lewiston, New York. Electric power was provided by Niagara Mohawk and telephone was provided by Bell Atlantic (NYNEX).

Site security was not in place on the "proceed" date. A remote camera was mounted on top of the electric pole. This camera filmed directly to a monitor and video cassette recorder located in the contractor's trailer. Upon receiving a bill for this service and determining that this was not necessary the camera was removed. There was no security guard at the site until April 28,1997 after which site security was provided by Doyle Security Services. On July 15, 1997 the site was broken into. Items stolen included a chopsaw from the Arric supply trailer and a telephone from the NYSDEC trailer. At this time it was decided that the hours of security be changed from 7:00 AM to 5:00 PM to 9:00 PM to 5:30 AM effective July 16, 1997. There were no further security incidents at the project.

2.5 DEMOLITION

2.5.1 Asbestos Abatement

Arric Corporation a properly licensed asbestos abatement contractor

performed the task of asbestos removal. Arric mobilized to the site on March 31,1997 to start asbestos removal at Building No.1. The Contractor did not meet the Contract required time period for starting work and did not begin ACM removal until April 8, 1997. The work proceeded as planned from Building No. 1 to Building Nos. 1 A, 3 and 6 as identified within the contract documents. The Contractor uncovered a section of sloping roof on Building No.1 previously unknown and hidden by a building expansion project (see Photo Page Two). That portion was properly abated after the Engineer agreed to Arric's cost proposal to remove the additional ACM. The Contractor finished the cleanup and demobilized the ACM removal crew on April 15, 1997. CID transported this material in their rolloff to their Chaffee N.Y. approved sanitary landfill on April 16, 1997. The bill of lading number was 109128 for 11.94 tons of demolition debris. The Contractor was paid under Item LS-2.

2.5.2 Building Demolition

Section 02050 of the Specifications Part 3.02 required that the Contractor demolish buildings as indicated on the Drawings (see Photo Page One). Arric Corp.'s subcontractor, Brackett Brothers, began with the destruction of Building No. 4 on April 22, 1997 and subsequently knocked down Buildings Nos. 3, 6, 1, 1A and 5 in succession. Demolition was completed on April 25,1997. The rubble, after separation of the structural

and miscellaneous steel items, was relocated to the Soil Cover Area. The slab on grade and foundation for Building No.4 was demolished and pushed into the Soil Cover Area. The wood-framed floor of Building No. 1 was removed exposing a sub-basement. The Project Engineer permitted Arric to place remnants of the sub-basement wall into the sub-basement cavity ensuring that this material would be covered with at least one foot of clean material (see Photo Page Two.) The concrete tie-downs of Buildings Nos. 6 and 3 were handled according to the Specifications. It is of note that building foundations were only removed below one foot as specified in the Contract Documents. Foundations below this depth remain in place as noted in Appendix A, drawing C-2.

2.5.3 Concrete Demolition

Section 02050 Parts 3.02 C and 3.03 A of the Specifications directed the Contractor in the disposition of the ruins and the above-grade portions of miscellaneous site structures respectively. The miscellaneous site structures included but were not limited to the ruins, loading ramps, storage bunkers, vaults and retaining walls (see Photograph Page One.) This task, which began on May 5, 1997, was completed on July 10, 1997 and the Contractor was paid under Bid Item LS-2. This work also included foundations designated as 11 under the demolition key on drawing C-1 and unknown concrete under Pay Item UC-15 (Measurement for Payment). See

Appendix A showing additional areas of concrete uncovered during the work. See Table No.2 for final pay quantities.

2.5.4 Unknown Rail Vault & Sump Pit Demolition

During a site walkover on April 8, 1997 the Contractor informed the Engineer that a sump pit, previously undocumented, was found in Building No. 5. An inspection determined that the pit contained water and sediment. Arric sampled this water on April 21, 1997 and the analysis revealed the presence of PCB at a concentration of 3.4 ppb. On May 2, 1997 the Engineer's representative and the Contractor took physical measurements (7.5 x 4.0 x 4.0 feet) in order to calculate volumes of water and sediment for a proposed remediation. The water depth was measured at twenty-four inches and an estimated four inches of sediment. Subsequently a Change Order was negotiated with the Contractor giving them approval to utilize Environmental Products and Services (EP&S) as their subcontractor to remove and dispose the water in accordance with the Specifications. This work was completed on May 30, 1997 and Arric removed sediment and debris from the pit, power washed and scrubbed the concrete interior and plugged one drain hole. The sediment and debris removed from the pit was consolidated with the PCB contaminated soils excavated from PCB hotspot 1. EP&S' bill of lading for the water showed the volume of contaminated

water to be approximately 750 gallons (this includes also the volume of PCB contaminated water removed from the Rail Vault on the same day.) At the direction of the Engineer (Field Clarification No. 2) the Contractor backfilled the sump pit with type A material.

Another, previously unknown, vault was discovered next to Concrete Vault No. 1 during demolition work located at the north-central portion of the site (see Appendix A.) This structure was called the Rail Vault because it was located beneath the tracks adjacent to Concrete Vault No. 1. The vault also contained water and sediment. The Contractor, at the direction of the Engineer, took a sample of the water and the results indicated PCB at a level of 2.1 ppb. At the direction of the Engineer, this water had to be removed and disposed in the same manner as the water in the Sump Pit described above. The work (remove debris, water and sediment) was done on the same day (as the Sump Pit). The volume of water was included with the load from the pit. The structure was cleaned in the same manner as the sump pit but was backfilled with type B material" (Field Clarification No. 2). All of the water was treated at the EP&S facility in Syracuse, N.Y.

2.6 HAZARDOUS MATERIAL REMOVAL

2.6.1 Transformer Removal and Disposal

Section 02050-Demolition, Part 3.06 directed the Contractor to remove and properly dispose one transformer carcass. This carcass was near building No. 5 (see Photograph Page Seven). Arric contracted with Price Trucking Company to transport this carcass to CWM Chemical Services facility in Model City, New York. This was done on May 5, 1997 accompanied by the Uniform Hazardous Waste Manifest No. N.B. 8742609 Document 00001. The Contractor was paid for this work under Pay Item UC-3.

2.6.2 Resin Pile Removal and Disposal

The resin pile was indicated by the letter K on Contract Drawing C-2, Soil Excavation Plan. This pile and additional surficial soils were excavated on May 5, 1997 and removed from the site along with the soils from the PCB hotspot 4. This resin/PCB mixture was transported by Price Trucking Co. to CWM Chemical Services on the same day under Uniform Hazardous Waste Manifest N.B. 8721396 Document 00002. CWM has submitted the Certificate of Disposal, dated May 16, 1997, to the Department. The resin was not weighed separately so the estimated quantity is the pay quantity for UC-3. The resin's composition was characterized in the Limited Site Data

document assisting the Contractor when he requested approval for disposal at the TSDF.

2.6.3 Hazardous Soil removal and Disposal, PCB ≥ 50 ppm

This soil was contained in PCB hot spots, 1 and 4 as shown on Drawing C-2, Soil Excavation Plan. The estimated quantity was 110 tons. PCB 4 was excavated to the designed depth on May 14, 1997 with an additional excavator bucket of stained soil taken from the center of the hole on May 15, 1997. This soil was transported by Price Trucking Co. on the same day to the facility at CWM Chemical Services. PCB 1 was excavated initially on May 15, 1997, then again on May 22, 1997 and finally on May 29, 1997, terminating at a depth of approximately thirteen feet. The additional digging was necessary as sampling analyzes continued to exceed the cleanup goal. All hazardous soil from this location was removed from the site between May 15, 1997 and June 4, 1997 by Price Trucking Co. who delivered it to the CWM Chemical Services facility in Model City N.Y.

Included in the ten rolloffs total of hazardous material was soil and tile drain discovered in the excavation of PCB 1. The tile pipe was laid first in a southwesterly then southernly then an easternly direction (see Appendix A, Drawing C-2.) The drain pipe's terminus was not located and is not known. The first twelve feet of pipe along with six inches of bedding were

removed. The test trenching stopped at 134 feet when the sediment sample analysis confirmed PCB levels to be less than the cleanup goal. See Table No.2 for final quantities. Verification sampling results are included in the Summary of Remedial Work 2.11.2

2.6.4 Battery Disposal

On July 9, 1997, while moving earth for the Infiltration Basin, the Contractor hit debris in the east toe of slope approximately 80' south of the northern top of the slope. Further investigation revealed a pocket of trash (steel reinforcing bars, railroad ties and scrap wood-typical to this site) and old nickel-cadmium batteries. The batteries were labeled either "Edison Battery Co." or "Edison Battery Co. - Edison Storage Battery" (see Photograph Page Seven.) The Department made several attempts to determine historical significance of the batteries but were unable to determine if any significance existed. The Contractor, directed by a Field Order issued July 9, 1997, excavated into the bank and removed the debris that interfered with the construction of the basin. Most of this debris was buried in the Soil Cover Area except the batteries, which were segregated for recycling. The over-excavated area was backfilled with concrete and site soils. The batteries were over packed into four small drums and removed from the site by Environmental Products & Services Incorporated on August 1, 1997 for disposal at Cycle Chem Incorporated in Elizabeth, New Jersey. The shipment

was sent with a Uniform Hazardous Waste Manifest from The New Jersey Department of Environmental Protection and Energy. The document number was NJA 2601308, signed by Arric Corporation's Site Superintendent. All costs associated with this unforseen site condition are detailed in Change Order Number 1.

2.6.5 Drums of Hazardous Material

Section 02050 Part 3.07 B of the Specifications directed the Contractor to dispose the drums in the fenced drum storage area. The Contractor checked all drums for conformance with the information provided. Arric Corporation, in accordance with Part 3.07 C, notified the Engineer that four of the drums contained unknown substances. Sampling and analyzes per the Field Order issued on May 21, 1997 determined that three of the partially filled 55-gallon drums contained an oil and water mixture with less than 2 percent PCBs. The remaining drum was determined to be lithium grease (see Photograph Page Seven.) These substances could not be buried in the Soil Cover Area and had to be removed to a permitted waste treatment facility. This was handled by Environmental Products & Services who, on August 1, 1997 removed the drums to their facility for treatment in Syracuse, New York. The costs for sampling, handling and disposal are detailed in Change Order Number 1.

2.6.6 Waste Water Handling and Disposal

Section 02050, Part 3.03 C of the Specifications, as amended by Addenda 1 and 2, directed the Contractor to the dispose of ponded water on the site. The Site Superintendent took samples of water from Concrete Vaults, Nos. 1 and 2 and the pond near the concrete storage bunkers on April 21, 1997. The samples were analyzed in accordance with the contract documents for PCB and total metals. The Site Superintendent also grabbed a sample of water from a sump pit discovered in Building No. 5 on April 11, 1997. This water was analyzed for the same parameters. Results for the vaults and pond water were non-detect (ND) for PCBs. However, PCBs were detected in the sump pit sample at 3.4 ppb (sample 143311). The Contractor was notified on April 29, 1997 that he would be allowed to disperse the vault and ponded surface water onto the site but had to containerize the sump pit water for off site disposal. Another vault was found adjacent to Loading Ramp No. 1 beneath railroad tracks. This was called the "Rail Vault." This water was sampled and containerized for off site disposal as described in Section 2.5.4. The total volume removed from both structures was approximately 750 gallons, including wash water. The costs for this work are included in Change Order Number 1, Item F. On July 8, 1997, the Contractor uncovered a concrete structure while excavating for the Infiltration Basin. This structure interfered with the final grade of the west slope and had to be removed. During demolition of the structure groundwater was released. This water also carried oil that apparently was

trapped in the concrete (see Photograph Page Seven). This water was contained for offsite disposal. At the direction of the Engineer, the Health and Safety Officer took grab samples of the water for PCB and metals analysis. Results of sample 292077 showed PCBs at a level of 41.2 ppm. On July 11, 1997, Arric contacted EP&S to pump and dispose the contained water. EP&S supplied one pump truck and one tanker with drivers. Added to this were the contents of Arric's decontamination water storage tank. The total load was approximately thirty-six hundred gallons. Because the water also contained decontamination water the cost for treatment was shared by the Department and the Contractor. Extra costs for treating this water are detailed in Change Order Number 1, Item H, resulting in an increase in pay item LS-2.

2.7 NON-HAZARDOUS MATERIAL REMOVAL

2.7.1 Scrap Metal Disposal

Specifications Section 02050, Parts 3.02 D, E and 3.03 B directed the Contractor in the handling of scrap metal. Among the items salvaged were steel rails, a rail switch and frog, an abandoned van and a car carcass. Also salvaged were structural steel beams and columns. The estimate of scrap metal to be salvaged was 120 tons. The Contractor recovered nearly 89 tons (See Table 2 .) The majority (79 tons) was recovered in May 1997 while the remainder was salvaged in August 1997. Some salvageable metal was buried

by the Contractor at the bottom of the Soil Cover Area east of the former Building Number 5 when recovery efforts slowed and began to interfere with subsequent operations.

2.7.2 Junk Tire Handling and Disposal

The Contractor had the option of: 1) removing and properly disposing offsite, or 2) shredding and burying, onsite, all tires at the site. Arric Corporation chose the former. The tires were collected and stockpiled onsite during April. Modern Recycling Incorporated provided the containers to Arric Corporation who loaded the tires, rims and rubber, for a trip to Modern's recycling facility. Four separate rolloff boxes were needed for all of the tires. The Design Engineer's count was 620 tires but the Contractor actually collected 857 tires (See Table 2.)

2.8 SOIL AND OTHER MATERIALS HANDLING

2.8.1 Soil/Waste Pile Relocation

Work for this task is described in Section 02219 Waste Excavation, Consolidation and Disposal, Article 3.04, shown on Drawing C-2 and is in the Soil/ Waste Pile Relocation Schedule (except for Pile "K"). Eleven areas had to be moved or leveled prior to the construction of the Soil Cover Area,

Infiltration Basin and the One Foot Cut. Pile "A" was the first to be moved, starting with the leveling of the loading ramp on May 1, 1997. Most of the piles were moved without incident with the following exceptions: (1) Pile "E" was hiding a concrete foundation that was larger than was shown on Drawing C-1, Demolition Plan. The foundation volume was calculated to be 131.5 cubic yards, the entire Pay Item, UC-15, was only estimated to be 50 cubic yards; (2) Pile "H" in the Yard Area covered another foundation, calculated at 21 cubic yards; (3) Pile "G" held drums of paint residues; and (4) Pile "H", the Contractor unearthed a boulder in the area of the west slope of the Soil Cover Area. The Design Engineer's estimate for Item UC-8 was 16500 cubic yards. This volume increased by 1000 cubic yards due to ambiguities in the placement of final elevation stakes in the northwest corner of the waste cell. The increase was the result of negotiations between the Contractor and the Engineer. See Table 2 for the final quantity and cost.

2.8.2 Soil Excavation and Relocation

Section 02219, Part 3.06, amended by Addenda Number 2, Item 7a included the following: "...excavation, relocation and compaction of site soils, including the railroad ties . . . " and ". . . excavation of the infiltration basin and relocation of excavated soils to the soil cover area as specified and required by the Contract Documents." The former encompassed PCB hot spots 2 and 3 and the area known as the one foot cut. The latter is detailed in

Section 2.8.3. The low level of contamination (< 50 ppm) allowed the soil from the hot spots to be placed in the soil cover area. At PCB 2, the maximum contaminant level identified was 26.5 ppm and at PCB 3 it was 16.8 ppm. After excavation of a minimum one foot cut the confirmatory sample result at PCB 2 was ND. After excavation of a minimum two foot cut the confirmatory sample result at PCB 3 was 3.6 ppm (the allowable concentration at greater than one foot depth was 10 ppm.) These areas were backfilled with type "A" backfill per Field Clarification Number 1. The area north of the soil cover area was cut to a 0.5% grade to the northwest at the direction of the Engineer. This action was taken to facilitate the operation of large earthmoving equipment and to achieve a "table top" effect rather than the uneven terrain that would have been under the Plans and Specifications. This additional excavation resulted in an increase in estimated quantity from 16000 to 16500 cubic yards for Pay Item UC-9. See Table 2 for final quantities and costs.

2.8.2.1 UST Removal

The Contractor uncovered an underground storage tank while making the one foot cut near the eastern edge of the Yard Area. The tank was estimated to be about one hundred gallons and had a two foot by two foot hole in one side (see Photograph Page Seven.) Upon scanning a sample of the tank contents with a PID and noting the lack

of an oil sheen it was determined that the tank contained water. At the direction of the Engineer the Contractor pulled the tank, then crushed and buried it and its contents in the soil cover area.

2.8.2.2 Paint Waste

The Contractor found paint residue in two locations while removing soil per Drawing C-2 on Buffalo Brake Beam property. The residue was similar to that seen in drums that were found during waste pile relocation (see Photograph Page Seven.) One location was on an east to west line at the west excavation limit and an east to west line along the south limit of work. Per direction of the Engineer, the Contractor collected samples along the edge of the excavation, and from the temporary stockpile and sent them to the approved laboratory for analysis. The lab analyzed the sample for total Lead, TCLP Lead and Volatile Organics (Field Order issued June 23,1997). The results of the samples from the edge of the excavation indicated that the residue was not hazardous. Analysis of the composite sample the stockpile of excavated material indicated the presence of lead at a TCLP concentration >5.0 mg/l which mandated that the soil be disposed in a RCRA permitted landfill. On July 14,1997, The Contractor sent approximately twenty-two tons of contaminated soil to CWM Chemical Services Model City landfill. Included in this

load were all of the drums and residue found in the waste piles as well. Payment for this additional work was made under Change Order Number 1, Item H (see Appendix B.)

2.8.3 Infiltration Basin Excavation

The Contractor started cutting the Infiltration Basin on June 26, 1997. All of the material dug out was used in the soil cover area. At the north end of the east leg the Contractor uncovered a fine silty sand native material. The bottom was excavated to the design elevation of 585.00'. Review of the basin design noted that the 3 (three) emergency spill corrugated pipes at the southeast corner may not properly drain the overflow from the basin. Therefore, it was decided to eliminate these pipes and instead substitute an overflow at the north end of the east leg. The overflow weir elevation was set at an appropriate elevation which would let the storm water run onto the open land and contribute to low velocity sheet flow over the flat portion of the site to the north of the basin. Site design modifications affecting the infiltration basin included placement of the site fence to encompass only the infiltration basin, moving the access gates to locations determined by the Engineer and revising the drainage swales basin intercept elevations from 585.00 to 588.00. There was some concern that the design elevations could allow storm water to back up potentially affecting residents along Ingham Avenue at the northwest corner of the soil cover area. This factor

necessitated the redesign of the drainage swales. All of these modifications were transmitted to the Contractor by Field Clarifications. Payment for this work fell under UC-9 (Soil Excavation/Relocation), UC-13 (Fencing) and L.S.-1 (Site Preparation.) See Appendix B, Photograph Page Eight and Table 2 for further information.

2.8.3.1 Conduit Removal

During excavation of the basin at the west end of the north leg the Contractor was nearly at grade when he hit concrete. The contractor then exposed the concrete for the entire width of the basin and determined it to be an encasement for electrical conduits between the main power source and Building No. 6. This concrete was 45' x 3' x 3', approximately fifteen cubic yards. The Contractor excavated demolished and relocated this concrete and was compensated for this work under Pay Item UC-15 (see Appendix B, Photograph Page Eight and Table 2.)

2.8.3.2 Unknown Foundation Removal

During basin excavation the Contractor uncovered more concrete that interfered with construction of the basin west slope. The foundation was removed to a point of one foot beyond design

grades and elevations. Trapped groundwater was released from this excavation and concrete (see Section 2.6.6 and Photograph Page Seven.) After the water was removed and the concrete demolished and relocated, the void was backfilled with type "A" material to prevent infiltration to the basin as directed by the Engineer. The volume was calculated to be 29.3 cubic yards and paid for under Pay Item UC-15.

2.8.3.3 Battery Removal

Construction debris was found above the toe of slope on the east side of the east leg of the infiltration basin (see Photograph page Eight.) As previously mentioned in Section 2.6.4, nickel-cadmium batteries were intermingled with the construction and demolition debris. Some of the nickel-cadmium batteries contained a liquid that exhibited a pH over 13.0 thus making them a hazardous waste. A Field Order dated July 9,1997 directed the Contractor to segregate the batteries from the rest of the trash and store them temporarily in a drum next to the decontamination pad. Upon determination of the disposal requirements the contractor made arrangement with Environmental Products and Services to ship the batteries to Cycle Chem Incorporated, Elisabeth New Jersey for reclamation and recycling. (see Section 2.6.4.) The Contractor was paid for this work

under a new pay item LS - 4 as denoted in Change Order Number 1, Item M (see Appendix B.)

2.8.4 Waste Cell Construction

The Waste Cell was designed for consolidation of all of the non-hazardous on site waste. This includes, but is not limited to: waste/soil piles A through J, site soils (along with PCBs 2 and 3), railroad ties, excavated soils from the infiltration basin and the debris from Pay Item LS- 2 Demolition. Asbestos was excluded from the demolition debris in the cell (refer to 2.5.1-Demolition). The Contractor reclaimed many railroad ties that were found during rail removal operations. The Contractor also buried some recyclable steel because of inefficiencies in the operation and difficulties in separating the steel from the nonmetal debris. Construction started in April 1997 with the removal of debris from the destruction of Building No.1 to the waste cell location (also known as the soil cover area) and ended in August with the grading of the topsoil. The completed waste cell was four (4) feet below the design elevation due to a lack of waste materials. The bottom of the cell consisted of demolition debris, compacted per the Specifications. To achieve the Record of Decision determination that the waste be covered by twenty-four inches of material (twelve inches of which had to be clean, offsite material) this waste was followed by site soils, nine inches of type "A" and three inches of topsoil. This soil was then seeded, mulched and fertilized. As discussed previously within Section 2.8.3 drainage swale inverts were modified and berms built due to a concern

for the amount of storm water runoff from the capped area.

2.8.5 Berm/Swale Construction

The original design featured perimeter drainage swales on the south, west and parts of the north slope of the soil cover area. These swales would direct runoff from these areas to the infiltration basin. The remainder of slopes (north and east) would drain directly into the infiltration basin.

A Field Order issued July 25, 1997 directed the Contractor to construct an additional section of berm starting at the north slope berm, running along the west boundary of the Yard Area and tapering to meet existing ground elevation at the garage for the Baptist Church. This modification would impede storm water flow off the site directing it to the northwest corner of the Yard Area.

These design changes caused increases in quantities of type "A" material, erosion control matting, topsoil, seed and mulch. After the elevations of the inverts were raised it was noted that the difference in elevations between the invert and the bottom of the infiltration basin would increase the energy of the water flowing into the basin thus increasing the potential for erosion of the swale. This required yet another design modification directing the addition of surge stone at the intersection of the swales with the infiltration basin to prevent this erosion. Additionally, straw bales were staked above the stone aprons as a temporary measure to impede the

storm water allowing the grass to establish itself in the swales.

2.9 CLEAN FILL MATERIAL

2.9.1 Offsite Material Type "A"

The contract specification for Offsite Material Type A (type "A") was a permeability of no less than 1×10^{-5} with a maximum particle size of two inches. This low permeability was designed to inhibit water infiltration of the subgrade materials. The Contractor submitted three separate sources for this material, all which were approved, and decided to use the clay from the North American Park in West Seneca, New York.

Coverage with nine inches was designed for the entire site except the staging area. Field Clarification 2 was issued concerning backfill of the PCB hot spot excavations with type "A" material. Field Clarification 13 was issued that deleted the type "A" material as backfill on the Buffalo Brake Beam property. A Field Clarification was issued on July 23,1997 directing the Contractor to use type "A" material in construction of the berms along Ingham Avenue, north slope of the soil cover area and the west side of the yard area. Type "A" was also required for the backfill of the pit adjacent to PCB hotspot 1. Placement of the type "A" commenced on July 16, 1997 and was completed August 6, 1997. The entire site was covered with the required amount with the exception of the bottom of the infiltration basin,

which was left uncovered per the Plans. The elevation in the one foot cut area was established at 591.00 at the south limit and carried on a 0.5% grade to the northwest to meet existing grade. The final quantity was established using total of the delivery tickets (1177) times the average yield (11.88 cubic yards) per truck in place. The bid amount for Pay Item UC-10 was 12,000 cubic yards. The as built quantity is listed in Table 2.

2.9.2 Offsite Material Type "B"

Type "B" material was specified for use in backfilling the staging area (02223-2.02 C), concrete vaults, storage bunker and scale (Addendum 1.) The Engineer also directed its use in Vault A, the Rail Vault and the Buffalo Brake Beam parking lot. Three submittals for type "B" material were given to the Engineer for review. All were approved as meeting the requirements of the Specifications. However, despite a visual inspection of the material source pile the first four loads of delivered "BUD" material were immediately rejected as they all contained oversized and objectionable material. Arric elected not to use the second source, Buffalo Crushed Stone, but chose the material from the third source, Custom Topsoil in Buffalo. This material consisted of a blend of crushed and screened concrete and bricks.

Type "A" was originally specified for backfilling the parking lot on the Buffalo Brake Beam property. To return this area to "as before" condition it was

decided that type "B" material backfill was more appropriate for this area's intended use. The original bid quantity for Pay Item UC-11 was 900 cubic yards. Additional fill requirements increased the final quantity of this material to 925.3 cubic yards (see table 2.)

2.10 MONITORING WELLS

2.10.1 Decommissioning

Section 02900, Part 3, Item 3.01 required the Contractor to decommission existing monitoring wells, on the Lehigh Industrial Park site, identified as MW-1, MW-3, and MW-5. Specifications for procedures to decommission existing monitoring wells were adapted from the NYSDEC guidance entitled "Decommissioning Procedures," dated May 5, 1995. Accordingly, on May 20, 1997, Arric's drilling subcontractor (Maxim Technologies) began decommissioning the monitoring wells as required. All wells were to be decommissioned by over drilling and tremie grouting the resultant bore hole. MW-1 and MW-3 were decommissioned in this manner without incident. MW-5 had been sheared off by the excavation subcontractor. The drilling subcontractor had to locate the broken well and pull the well screen. Several attempts to pull the casing from the ground were unsuccessful and Maxim was ordered by the Project Engineer to grout the well in place. Monitoring well MW-4 is located in the yard area west of the infiltration basin was left intact and undisturbed and MW-2 was modified as described in the following

section.

2.10.1 Modification

Section 02900 also required the Contractor to modify the existing monitoring well MW-2 as needed. MW-2 is located on the southwest end of the cover area. The elevation of the waste cell dictated that MW-2 be extended from the existing top of casing elevation of 593.46 feet. On May 20, 1997, Maxim Technologies extended the monitoring well 5 feet as required, according to the contract specifications and approved submittals. The placement of the final protective casing was delayed until the waste cell had finish cover and was compacted to allow for cementing of the protective casing. The final monitoring well modification was completed on July 17, 1997. The final elevation of MW-2 at top of casing is 598.43 feet.

2.11 SAMPLING

2.11.1 Ambient Air Monitoring

Section 01200, Part 2, Article 2.11 detailed the air monitoring program required as part of the Health and Safety Plan for the remediation of the Lehigh Industrial park site. Air sampling was completed for asbestos, metals and dust. Real time and documentation monitoring occurred during critical demolition and excavation phases. Real time monitoring for dusts occurred during the capping phase of the remediation. Results of the sampling can be found in the report entitled

"Environmental Site Monitoring Report for Lehigh Remediation and Air Monitoring for the Asbestos Removal Project at Lehigh Junkyard" both date September 22, 1997, Chopra-Lee Inc. NYSDOH was provided copies of the results as they were obtained for review. No problems were encountered or delays necessary as a result of the sampling.

2.11.2 Hazardous Soil - PCB ≥ 50 ppm, Verification Sampling

Excavation verification sampling was required by the contract to determine that the cleanup goals established for the Lehigh Industrial Park site were obtained. Pre- verification field sampling was completed, as a cost and time saving measure, to determine if the excavation work had removed the PCB contamination. If field sampling determined that verification sampling was warranted the composite samples could be collected and submitted to a laboratory for final verification sampling. Original contract specifications required that immunoassay field-testing kits be utilized for excavation confirmatory samples. However, Arric proposed that their subcontract laboratory (Chopra-Lee) could provide PCB confirmation sampling with a 24-hour turnaround time at the same quoted rate as the immunoassay field sampling kit testing. This substitution was acceptable to the Department only if an independent laboratory was utilized tocomplete the final confirmation sampling analyzes. These final verification sample analyzes were conducted by Columbia Analytical Services.

46 grab samples were collected for analysis. Figure 4 identifies the grab sample locations submitted to Chopra-Lee for preliminary field verification. Four composite samples were collected from each of the PCB hot spots identified in the contract (see Figure 5 & 6). Results for the excavation of PCB hot spot, Number 2 and 4 were non-detect at a 0.5 ppm detection limit. PCB hot spot Number 3 sample result after excavation was 3.6 ppm. This result was below the cleanup goal of less than 10 ppm for material one foot below the surface. Additionally this area was within the coverage of the soil cover area. PCB hot spot Number 1 final verification sample was taken at a depth of approximately 13 feet and the sample result was 47 ppm. This sample result was below the less than 50 ppm cleanup goal established for material that could remain on-site under the soil cover area.

2.11.3 Hazardous Material Sampling

Samples were collected and analyzed to dispose several hazardous constituents during the Lehigh Industrial Park remediation including, waste water, drums left from previous investigation work, oil in concrete, paint residues and batteries. Payment for this sampling was part of the change order.

Sample results defined that the waste waters had low levels of PCBs and required off site treatment at Environmental Products and Services' (EPS) treatment facility in Syracuse, New York. Samples indicated that the 55 gallon drums contained liquids contaminated with PCBs and weresent for treatment in the same

manner as the waste water. One drum contained lithium grease and was disposed of by EPS. The oil in concrete was sampled and contained PCBs that were under the 50 ppm cleanup goals for the remediation, therefore, the concrete was placed in the waste cell and properly covered. However, the oil did contaminate some water that had accumulated in the excavation. This water was part of the waste water disposed of by EPS. In the waste piles there were deteriorating drums of paint residues. Additionally, residues were found in the one foot cut along and in the Buffalo Brake beam property. This residue and drum material were sampled for volatiles, semi-volatiles and metals. The only identified constituent of concern for this material was TCLP lead. This failure required that this material be disposed of as hazardous waste. Finally, a cache of batteries was found during the excavation of the infiltration basin. Upon sampling it was determined that these batteries were nickel-cadmium and had to be shipped to Cycle Chem in Elizabeth, New Jersey for recycling.

2.11.4 Topsoil

Section 02990, Part 2, Article 2.01 specified the requirements for topsoil utilized at the Lehigh Industrial Park site. Certain physical characteristics had to conform to specifications. Additionally, part of this specification was the requirement that the topsoil be sampled at the source, prior to delivery, by the Contractor as described in Section 01400, Article 3.01 D. The required sampling included New York State Analytical Services Protocol (NYS-ASP) methods for the

full target compound list. Specifically the sample was analyzed for metals, PCBs/pesticides, semi-volatile organic compounds, cyanide and dioxin. Columbia Analytical Services supplied the analysis of all required parameters except dioxin and the samples results were received as required by the Department within one week. Analysis for dioxin had to be subcontracted to Alta Analytical Laboratories located in El Dorado Hills, California and required a two week (minimum) turnaround for results.

Chemical sample results (see Appendix D) indicated no contaminants of concern present in the topsoil results. There were elevated levels of some metals such as nickel at 28.6 ppm and zinc at 113 ppm. However, these results were comparable to the background soil samples obtained during the Remedial Investigation.

There was some concern by the NYSDEC about the percentage of clay in the topsoil submittal from Buffalo Crushed Stone (Woodlawn Plant). The submitted soil exceeded the maximum allowable clay content of 15% by weight and might not allow proper seed germination. The submittal was initially rejected because of this requirement. However, the material was compared with other Western New York soil which is typically high in percentage of clay in the topsoil. As a result the Contractor was allowed to provide to the NYSDEC actual instances and applications where this soil was previously utilized. The Contractor indicated that there was a New York State Department of Transportation project along Route 16 in the Town of Holland, New York. As a result, the Project Engineer personally evaluated this site to determine if the soil would support vegetative growth. The soil was

determined to be capable of supporting grass as required. In addition, the topsoil would be receiving a topical application of fertilizer as specified to encourage vegetative growth. With the above information the submittal was accepted with the notation that if the soil failed to produce growth as required it would be replaced at no cost to the Department. This was not necessary as the site has since attained a vigorous growth in the period of time from planting to the present.

2.11.7 Soil Excavation Exit Sampling

On July 14, 1997, five composite samples were collected from the flat portion (not soil cover area) of the Lehigh Industrial Park remedial site after excavating one foot of material and before capping. These samples were collected by NYSDEC, not as part of the actual remedial contract, but in anticipation of possible future use of the property. The flat area was segmented into five separate units each about one acre in area. The samples were submitted to a NYSDEC contract lab (Recra Environmental) for analysis. Results were comparable to similar industrial property and are included as (Appendix C.) It is important to note that this area has since been covered with a one foot cap consisting of nine inches of compacted (type "A") and three inches of topsoil in accordance with the Record of Decision and the Contract Documents.

2.12 FENCING

The Contract called for the installation of two thousand linear feet of six-foot high chain link fence around the site's perimeter. The Department reduced the amount of site fencing in favor of having a wide-open site. It was believed that the open "park-like" setting would be more amenable and visually attractive to the neighborhood. However, the infiltration basin would contain standing water until the water either percolated or evaporated and a fence around the infiltration basin would restrict access. Field Clarification No. 5 was issued to Arric Corporation on June 11, 1997 giving instructions for the location of the required, fence and gates. Completed in July 1997, the fence bottom was set at an elevation that makes the fence less visible while at the same time denies casual access to the basin. The Contractor also received direction to install four feet high residential chain link fences for two properties in the yard area to replace the old fence demolished per the Plans and Specifications. This was accomplished by the issuance of Field Clarifications 16 and 17, dated July 28 and August 5, 1997 respectively. Refer to the as-built drawings for fence locations and Table Number 2 for the final quantities.

2.13 SITE FINISH WORK

2.13.1 Finish Grading

The soil excavation plan (Drawing C-2) outlined the areas of the one foot

excavation/clean backfill, soil/waste piles to be relocated and PCB hotspot excavation. As previously discussed in Section 2.9.1, the Project Engineer directed the Contractor to establish a 0.5% slope to the northwest for the site north of the infiltration basin and soil cover area.. The Department extended that requirement to the existing fence line at South Street and the ECSD #6 waste water treatment plant. This action removed the uneven ground at the northeast corner and allowed the site to be graded uniformly. The yard area grades were also changed when the Contractor backfilled this area. It was directed that a berm be built with type "A" material in the yard area to mitigate draining storm water onto the residential properties along Ingham Avenue. Section 2.8.4 covered the change in final grades for the soil cover area prior to placing nine inches of type "A"material. There was no grade change on the Buffalo Brake Beam property. Although the Contractor had excavated beyond the limits shown on the drawing, this oversight was noticed and backfill with type "B" was completed per the Plans.

2.13.2 Topsoil

The Contractor was required to cover the entire site (with the exception of the staging area) with three inches of topsoil. Addendum No. 2 to the Specifications, Section 02990, Part 3-Execution, Paragraph A, eliminated topsoil cover on the slopes and bottom of the infiltration basin. Additionally, topsoil placement on the Buffalo Brake Beam property was deemed unsuitable to return the property to "as before" condition. This topsoil requirement was replaced with offsite fill, type B with the

issuance of Field Clarification No. 13. Arric Corporation's approved source for topsoil was a stockpile at the Buffalo Crushed Stone-Woodlawn plant. The first three loads of topsoil delivered to the site on August 6, 1997 were rejected by the Project Engineer because they did not conform to the approved submittal. The Site Superintendent proposed removing objectionable and deleterious material in the topsoil at the site. The Department accepted this proposal and topsoil deliveries resumed on August 8, 1997 and the topsoil was ready for seeding on August 28, 1997. The original schedule stipulated completion in two weeks but the placement and grading were hampered by a high moisture content, clay and amount deleterious materialto be removed. To place the topsoil the Contractor spread the topsoil with bulldozers, graded it with the "soil mover," dried it by employing a discing machine and prepared it for seeding by using a rock box, York rake and hand rakes. The Contractor delivered a total of 450 tandem dump truck loads of topsoil to the site but removed eight tandem dump truck loads of objectionable material from the site.

2.13.3 Seed/Mulch/Fertilizer

Contract specifications originally required the Contractor to apply Type A seed (wildflower) on all areas, exclusive of the drainage swales and the infiltration basin where Type B seed would be applied. Additionally, Type A seed would not be fertilized but Type B seed would. Remediation timing rendered the proposed seeding schedule non-conducive to the planting and maintaining of the wildflower seed. To clarify this change and change the seed mixture to a more applicable,

meadow bird seed mixture (see Table 6), the Department issued Field Orders on June 12, 1997 and June 17, 1997. Arric Corporation's submittal detailing the new seed mixture, fertilizing the entire site for quick growth and the request to apply this mixture hydraulically was approved as noted by the Project Engineer. Arric's subcontractor (Wolf's Nursery) provided the seed mixture and used a Finn Hydro-seeder to spread the seed, fertilizer and mulch mixture over the entire site on three days between August 29 and September 23, 1997. There is a warranty period for this item, beginning one year from the date of substantial completion. Biodegradable, erosion control fabric was required on any slopes at or greater than 10 percent or where shown on the Contract drawings. The Contractor purchased and placed 15,000 square feet of North American Green, S75, 100% straw, mats as required.

2.13.4 Tree Planting

To enhance the remedial efforts, the Department added a tree specification to the Contract for planting at select locations on the site. The Department issued a Field Order on June 23, 1997 to obtain quotes for 21 trees. The quotes were required for three types of trees from at least three different sources. In response, four nurseries submitted quotes for supplying and planting trees. After review of the submittals, the Project Engineer selected red sunset maples (acer rubrum) to be supplied and installed by Wolf's Nursery. Nineteen trees were planted on the top of the berm, on the west and north slopes of the soil cover area. Two trees were planted in the backyard adjacent to the soil cover area. Exact locations for these plantings

are shown on the as-built drawings. Wolf's Nursery planted the trees in late August and watered the trees twice, to ensure growth. An initial watering was required as part of the initial quotation and the second watering was requested by the Department.

3. CHANGES IN THE WORK

3.1 FIELD CLARIFICATIONS

Field Clarifications answer a contractor's questions pertaining to the intent of the Plans and Specifications. These directions involve no additional cost nor additional time to the contract. Eighteen Field Clarifications were issued during the life of the contract. A short description of each follows:

1. Placement of fluff in the soil cover area; backfill for the PCB excavations; placement of unrecovered scrap metal in the soil cover area; disposition of the perimeter chain link fence; demolition/backfill with type "B" of the rail vault and backfill with type "A" of the sump pit after cleaning and disposal of water and sediment.

2. Change type of backfill for the Rail Vault and building 5 sump pit from type "B" material to type "A" material.

3. Reminder about compaction requirements for the fluff material.

4. Request to update information on the Uniform Hazardous Waste Manifests.

5. Directions pertaining to the Chain Link Fencing-bottom elevation, location to the infiltration basin and location of vehicle and man-gates.

6. Requirements for backfill of the one foot cut on the Buffalo Brake Beam property.

7. Construct the infiltration basin to design dimensions; waste excavation at

the northwest corner of the soil cover area; location of the emergency spill corrugated metal pipes.

8. Modification to directions of Field Clarification Number 6; delete Item 2 on Field Clarification Number 7.

9. Clarification of Note 6 on Drawing C-2 concerning replacement material for the one foot cut area.

10. Delete the emergency spill corrugated metal pipes and substitute an overflow weir in the northeast corner of the infiltration basin.

10 (R). Revise the location and elevations for the overflow weir.

11. Increase the invert elevations of the swale for the west and north slopes of the soil cover area for the infiltration basin.

12. Increase the invert elevations of the swale for the south slope of the soil cover area.

13. On the Buffalo Brake Beam property - delete the requirement for type "A" material and replace with type "B" material.

14. Restoration of the staging area.

15. Void Field Clarifications 11 and 12, heed new directions for locations and elevations of soil cover area swales.

16. Direction for and installation of residential chain link fence in the yard area.

17. Placement of additional residential chain link fencing.

3.2 FIELD ORDERS

Field Orders were issued to direct the Contractor in performance of work or order minor changes in work. During the Lehigh Industrial Park Remediation, it was agreed by the Project Engineer and the Contractor, that field orders would also serve as proposed change order items. This approach was a variation from the definition as specified in Article 9, Section 9.2 of the contract, but in a project of this short duration it was more efficient and was still binding to the Department and the Contractor. The following field orders were issued to the Contractor and are distinguished by their issue date:

1. *May 8,1997* - Clear the area known as the St. Anthony's Church parking lot. This action would be compatible with the site remediation.

2. *May 20,1997* - Stage drums of paint residue found during removal of pile G in the area for Building 5. Sample them for TCLP Volatiles, TCLP metals, TCLP Semi-Vocs and Hazardous characteristics.

3. *May 21,1997* - Take samples of the contents of four drums that were staged adjacent to the decontamination pad and analyze them for PCBs only. These drums were among the thirty three located in the fenced drum storage area. These four had substances not identified by the Remedial Investigation.

4. *May 22,1997* - Use Environmental Products and Services to remove contaminated water from a recently discovered railroad vault and a sump pit found in Building Number 5.

5. *June 10, 1997* - Demolish previously unknown concrete foundation that interfered with the construction of the drainage swale for the north slope of the soil

cover area.

6. *June 10, 1997* - Demolish previously unknown concrete foundation exposed during the removal of Pile H to the soil cover area.

7. *June 12, 1997* - Change the Type "A" seed mixture. This area would be seeded in August or September, timing which was not favorable to the planting of the wildflower seed mix.

8. *June 17,1997* - Do not purchase Type "B" seed mixture, replace it with the Type "A" mixture instead. Type "B" was to be planted in the drainage swales and the infiltration basin. Type "A" was now similar to Type "B".

9. *June 23,1997* - Take samples of the paint residues found in the soil excavated from the Buffalo Brake Beam property. Have the samples analyzed for TCLP lead, total lead and Volatile Organics. The results would dictate disposal location.

10. *June 23,1997* - Get quotes from three sources for three types of trees, the Department wanted to plant twenty one trees at selected locations to enhance the site's remediation.

11. *July 8,1997* - Take samples of the liquid bleeding from the concrete foundation uncovered while excavating the west slope of the infiltration basin. Sample it for PCBs. Sample the battery liquid for total lead. Sample the soil from the debris hole and have it analyzed for PCBs.

12. *July 9, 1997* - Demolish and remove concrete interfering with the west slope of the infiltration basin; excavate and remove debris that interferes with the east slope of the infiltration basin; segregate the batteries from the debris, drum and stage

for disposal pending analysis.

13. *July 10,1997* - Sample the contents of the one thousand gallon tank that was used for collection of the oily liquid that bled from the foundation previously mentioned. Analyze for PCBs.

14. *July 10,1997* - Demolish the concrete the was found during excavation of the infiltration basin at the west end.

15. *July 25,1997* - Construct an additional berm for the soil cover area-west and north slopes and behind the Lelito property on Ingham Avenue. The Engineer determined that the Lelito property was at the lowest elevation and would therefore be flooded during heavy rain events. This berm would divert a majority of the storm water away from the dwelling.

16. *July 30,1997* - A minor change in execution of the fencing work: the Contractor has to supply concrete footers for the end, corner and gate posts only. The Department determined that the concrete was not necessary for the line posts.

17. *August 26,1997* - Supply one watering to the trees planted on the berms for the soil cover area.

18. *August 26,1997* - Place topsoil and seed on an area previously cleared as part of the additional work for St. Anthony's Church parking lot.

3.3 CHANGE ORDER

Change orders are issued to authorize work that was a change to the originally specified contract and involved a change in contract price and/or contract time. There was one change order issued during the Lehigh Industrial Park Remediation. This order was comprised of 31 separate items resulting in an increase in contract price of $104,073.41. This increased the contract price from $659,975.00 to $764,048.41. The contract period was extended 19 days from 150 to 169 days. The change order was fully executed on January 27, 1998 and is attached as Appendix B.

3. CONCLUSIONS AND RECOMMENDATIONS

The remediation of the Lehigh Industrial Park site was satisfactorily completed by Arric Corporation. There were a few delays and minor problems that may have been avoidable. The changing of personnel during the early stages of the project caused delays in the entire project. Once the remediation team for Arric was in place the work proceeded in a timely manner. Had this problem not occurred it may have resulted in an early completion date that would have saved the Contractor money and resulted in a faster remediation for the Department.

Survey problems on the site created obstacles that required additional time to resolve and created questions to actual and estimated quantities. Arric's first subcontractor completed only a portion of the survey work required before being replaced. This created a delay in the project until a replacement surveyor could be brought onto the site.

The project plans were indistinct as far as final grade elevations. The actual finish elevations were not clearly identified, especially in the northwest corner of the waste cell. This ambiguity lead the surveyor to interpolate from the plans a finish elevation. The interpolation did not represent the actual waste elevation that was required in the contract to be relocated. Actual waste was about four feet below the surveyor interpolated finish grade. This extra material was ordered removed by the Project Engineer. The excavation subcontractor had already excavated this area and demanded an extra because they had to move material twice. They surveyor claimed an extra, claiming the plans were wrong. The

Project Engineer claimed that this represented a field condition and that the contract did not guarantee field conditions. Arric had the subcontractor remove the material in an expeditious manner and this cause only a few days delay in the project but the negotiations to resolve payment issues took much longer. Settlement of the issue involved a mutual acceptance by all aggrieved parties through the Change Order.

The contract specified that the site be overlain with a 50 feet by 50 feet grid and that excavation elevations be set on this grid. It soon became apparent that his grid was too restrictive for the size of earth moving equipment being used to excavate the soil. This restriction slowed work on the excavation. Arric's excavation subcontractor proposed that the use of a laser level to set finish grade. This level would remain as a guide to the excavation equipment. The acceptance of this technique allowed for a smooth flat surface that promotes drainage of the site while ensuring that the required one foot was removed. This minor cost in a change order reaped a large benefit in the finished product. It did however make moot previous work by the surveyor in this area.

The topsoil approved for the site was unacceptable for placement when brought to the site. The first three loads were rejected by the Project Engineer. The amount of time and cost it would have taken the Contractor to acquire an alternative source, sample and get approval would have created an unacceptable delay in the project. Arric proposed that they be allowed to remove the deleterious material utilizing various equipment. This was allowed but the delay, while less that the alternative solution, cost the Contractor in time and profit The solution did yield a suitable cover that allowed good grass establishment.

Arric's bid price of $659,975.00 was exceeded by approximately 16%, primarily due to the underestimation in the amount of hazardous soil that had to be excavated and disposed off-site. The amount of concrete that had to be demolished and relocated was underestimated. Additionally, the redesign of the swale and placement of (Offsite Material - Type A) into the 15 feet by 15 feet by 13 feet excavation at PCB hot spot Number 1 caused an increase in this (Offsite Material - Type A) bid item. These three items represented 68 % of the total change order amount.

This work has completed the remediation of the Lehigh Industrial Park site, site number 9-15-145 as stipulated in the Record of Decision for this site and as specified by the contract documents. Consolidation and capping of the onsite waste piles coupled with the removal of the hazardous waste on site has resulted in this area being less of a hazard to the public and the environment. This remediation also has allowed approximately four acres of once vacant land to be returned to some beneficial use. In addition, this remediation has yielded unanticipated benefits, such as community acceptance of the Department's efforts, reclaiming of a neighborhood eyesore and the aesthetic qualities of the remediated property.

RECOMMENDATION

It is recommended that with the completion of this project and the implementation of long term monitoring as presented in the Operation and Maintenance Manual (see Appendix E), that the Lehigh Industrial Park site be reclassified on the Registry of Inactive Hazardous Waste Sites. It is proposed the site description be redefined so that the northern

portion of the site (~ 4 acres) bounded by South Street to the north and the soil cover area to the south be removed as part of the site since the waste from this area has been either removed or relocated. It is further recommended that this area be utilized as industrial or commercial property or for non-intrusive uses such as soccer fields or other recreational activities. Finally, it is recommended that this redefined site be reclassified from a Class 2 hazardous waste site to a Class 4 hazardous waste site, indicating the remediation has been completed as specified in the Record of Decision and that long term monitoring and maintenance is being conducted.

TABLES

Table 1

Bid Summary

Lehigh Industrial Park Site

Remedial Construction

Contract No. D003612 / Site No. 9-15-145

BIDDER	BID AMOUNT	POLLUTION LIABILITY*
1) Arric Corporation	$659,975.00	$42,000.00
2) Philip Environmental	$666,790.00	$8,000.00
3) BDR Inc.	$669,333.00	$15,000.00
4) IWSS Inc.	$694,479.00	$55,500.00
5) Ciminelli Services Corp.	$697,390.00	$30,200.00
6) Buffalo Creek Landscaping	$704,945.00	$15,000.00
7) Republic Environmental	$714,830.00	$19,500.00
8) Sevenson Environmental	$720,777.00	$105,500.00
9) Tyree Organization	$740,868.00	$2,500.00
10) Site Remediation Services	$764,570.00	$7,600.00
11) Code Environmental	$789,709.15	$5,000.00
12) SLC Construction	$811,156.00	$20,000.00
13) Haseley Trucking Co.	$975,000.00	$24,000.00
14) EnviroClean-Northeast	$1,189,224.00	$0.00
15) Bethlehem Tech.	$1,212,093.20	$5,128.77

*This item was not calculated in the base Bid for the project. Refer to Section V, Article 1(a) of the Contract Documents.

Table 2

BID QUANTITY SUMMARY

Lehigh Industrial Park - Remedial Construction

Contract No. D003612/Site No. 9-15-145

PAYMENT ITEM NO.	DESCRIPTION	UNIT	ESTIMATED QUANTITY	UNIT COST	BID TOTAL	ACTUAL QUANTITY	ACTUAL COST	NET CHANGE
UC - 1	Site Operation & Maintenance	Month	4	$3,305.75	$13,223.00	3.99	$13,178.98	($44.02)
UC - 2	Health & Safety	Month	4	$14,575.25	$58,301.00	3.68	$53,665.00	($4,636.00)
UC - 3	Transformer Removal & Disposal	Each	1	$2,196.00	$2,196.00	1	$2,196.00	$0.00
UC - 4	Hazardous Soil Removal & Disposal (PCB's ≥ 500 ppm)	Ton	110	$300.00	$33,000.00	210.96	$63,288.00	$30,288.00
UC - 5	Resin Removal & Disposal	Ton	1	$1,589.00	$1,589.00	1	$1,589.00	$0.00
UC - 6	Scrap Metal Disposal	Ton	120	$89.35	$10,722.00	88.84	$7,937.85	($2,784.15)
UC - 7	Junk Tire Handling & Disposal	Each	620	$1.20	$744.00	857	$1,028.40	$284.40
UC - 8	Soil/Waste Pile Relocation	CY	16500	$2.60	$46,200.00	17500	$48,800.00	$2,600.00
UC - 9	Soil Excavation/Relocation (add. Amount @$2.72/yd³. Survey not included)	CY	16000	$2.97/$2.72	$47,520.00	16500	$48,880.00	$1,360.00
UC - 10	Offsite Fill (Type "A")	CY	12000	$11.16	$133,920.00	13947.12	$155,649.86	$21,729.86
UC - 11	Offsite Fill (Type "B")	CY	900	$18.43	$16,587.00	925.3	$17,053.28	$466.28
UC - 12	Finish Grading, Topsoil, Seeding	SY	51500	$2.30	$118,450.00	51500	$118,450.00	$0.00
UC - 13	Fencing	LF	2000	$11.45	$22,900.00	1478	$16,923.10	($5,976.90)
UC - 14	Confirmatory Soil Sampling (includes $3600.00 for top soil, PCBs @$80.00 ea.)	Each	40/1	$80.00/ $3600.00	$6,800.00	46/1	$7,280.00	$480.00
UC - 15	Concrete Demolition/Relocation	CY	50	$86.10	$4,305.00	263.9	$22,721.79	$18,416.79
LS - 1	Site Preparation	L.S.	1	$114,718.00	$114,718.00	1	$115,127.15	$409.15
LS - 2	Demolition	L.S.	1	$23,352.00	$23,352.00	1	$44,655.65	$21,303.65
LS - 3	Monitoring Well Modification/ Decommissioning	L.S.	1	$5,448.00	$5,448.00	1	$5,448.00	$0.00
LS - 4	Additional Investigations (New Item)	L.S.	1	$6,668.26	$0.00	1	$6,668.26	$6,668.26
LS - 5	Grading/Seeding Revisions (New Item)	L.S.	1	$13,508.09	$0.00	1	$13,508.09	$13,508.09
TOTAL					$659,975.00		$764,048.41	$104,073.41

Table 3
PCB Field Screening Sample Results
Lehigh Industrial Park
Contract No. D003612/Site No. 9-15-145
Chopra-Lee Laboratories

Sample #	Date Collected	Lab Sample ID #	Location	Depth	Type	Results *
PCB-1 A	5/15/97	278982	PCB Hotspot 1	2 ft.	SOIL	13,550
PCB-1 B	5/15/97	278983	PCB Hotspot 1	2 ft.	SOIL	5.9
PCB-1 C	5/15/97	278984	PCB Hotspot 1	2 ft.	SOIL	27.8
PCB-4 A	5/15/97	278985	PCB Hotspot 4	1 ft.	SOIL	ND
PCB-4 B	5/15/97	278986	PCB Hotspot 4	1 ft.	SOIL	ND
PCB-4 C	5/15/97	278987	PCB Hotspot 4	1 ft.	SOIL	ND
PCB-4 D	5/15/97	278988	PCB Hotspot 4	1 ft.	SOIL	ND
PCB-4 E	5/15/97	278989	PCB Hotspot 4	1 ft.	SOIL	ND
PCB-4 F	5/15/97	278990	PCB Hotspot 4	1 ft.	SOIL	ND
PCB-4 G	5/15/97	278991	PCB Hotspot 4	1 ft.	SOIL	ND
PCB-2 A	5/15/97	278992	PCB Hotspot 2	1 ft.	SOIL	ND
PCB-2 B	5/15/97	278993	PCB Hotspot 2	1 ft.	SOIL	ND
PCB-2 C	5/15/97	278994	PCB Hotspot 2	1 ft.	SOIL	ND
PCB-2 D	5/15/97	278995	PCB Hotspot 2	1 ft.	SOIL	ND
PCB-2 E	5/15/97	278996	PCB Hotspot 2	1 ft.	SOIL	1.95
PCB-2 F	5/15/97	278997	PCB Hotspot 2	1 ft.	SOIL	ND
PCB-2 G	5/15/97	278989	PCB Hotspot 2	1 ft.	SOIL	ND
PCB-2 H	5/15/97	278999	PCB Hotspot 2	1 ft.	SOIL	ND
PCB-3	5/15/97	279000	PCB Hotspot 3	n/a	WATER	ND
PCB-3 A	5/19/97	279794	PCB Hotspot 3	1 ft.	SOIL	ND
PCB-3 B	5/19/97	279795	PCB Hotspot 3	1 ft.	SOIL	ND
PCB-3 C	5/19/97	279976	PCB Hotspot 3	1 ft.	SOIL	ND
PCB-3 D	5/19/97	279797	PCB Hotspot 3	1 ft.	SOIL	ND
PCB-3 E	5/19/97	279798	PCB Hotspot 3	1 ft.	SOIL	ND
PCB-3 F	5/19/97	279799	PCB Hotspot 3	1 ft.	SOIL	ND
PCB-3 G	5/19/97	279800	PCB Hotspot 3	1 ft.	SOIL	ND
PCB-3 H	5/19/97	279801	PCB Hotspot 3	1 ft.	SOIL	ND
PCB-3 I	5/19/97	279802	PCB Hotspot 3	1 ft.	SOIL	ND
PCB-3 J	5/19/97	279803	PCB Hotspot 3	1 ft.	SOIL	ND
PCB-3 K	5/19/97	279804	PCB Hotspot 3	1 ft.	SOIL	1.89

Table 3
PCB Field Screening Sample Results
Lehigh Industrial Park
Contract No. D003612/Site No. 9-15-145
Chopra-Lee Laboratories

Sample #	Date Collected	Lab Sample ID #	Location	Depth	Type	Results *
PCB-3 L	5/19/97	279805	PCB Hotspot 3	1 ft.	SOIL	ND
PCB-3 M	5/19/97	279806	PCB Hotspot 3	1 ft.	SOIL	ND
PCB-3 N	5/19/97	279807	PCB Hotspot 3	1 ft.	SOIL	ND
PCB-3 O	5/19/97	279808	PCB Hotspot 3	1 ft.	SOIL	ND
PCB-5 A	5/22/97	280957	PCB Hotspot 1	~ 3 ft.	SOIL	3460
PCB-5 B	5/22/97	280958	PCB Hotspot 1	~ 5 ft.	SOIL	34.2
PCB-5 D	5/22/97	280959	Pipe from PCB Hotspot 1	~ 5 ft.	SOIL	300
PCB-PIPE	5/27/97	281532	Pipe@ 12 ft from PCB Hotspot 1	~5 ft.	SOIL	31
PCB-ZED	5/29/97	282028	PCB Hotspot 1	~ 7 ft.	SOIL	770
PCB-DRUM A	6/2/97	282832	DRUM A	n/a	OIL	ND
PCB-DRUM B, C, D	6/2/97	282833	DRUMs B, C, D	n/a	OIL	2.9 ug/l
PCB-01	7/8/97	292074	I-Basin	surface	SOIL	1.1
PCB-02	7/8/97	292075	I-Basin	surface	SOIL	3.7
PCB-03	7/8/97	292076	I-Basin	~2 ft.**	SOIL	41.4
Basin Vault water	7/9/97	292778	water without oil		WATER	1.92 ug/l
Outside Basin Vault water	7/9/97	292779	sample of water with oil		WATER	255 ug/l
Outside Basin Vault water	7/9/97	292780	sample of oil seeping from concrete		WATER	573.1 ug/l
Basin Vault water for disposal	7/10/97	292945	I Basin water contained for disposal		WATER	7.4 ug/l

* Sample results reported in Mg/Kg (ppm) for soil samples and ug/l (ppb) for water/oil samples.
** Sample from the excavation of the vault found in the west side of the infiltration basin wall. Area was refilled with type "A"

Table 4
Hazardous Waste Manifest Log
Lehigh Industrial Park
Contract No. D003612/Site No. 915145

Manifest No.	Disposal Date	Transporter	Contractor Scale Wt. Tons	Landfill Tare Wt. Tons	Quantity Tons
NYD - 8742609	5/09/97	PRICE	N/A	N/A	1 transformer
NYD - 8721396	5/15/97	PRICE	N/A	17.02	19.77*
NYD - 8721495	5/15/97	PRICE	N/A	17.02	22.49
NYD - 8721405	5/23/97	PRICE	34.36	16.57	17.79
NYD - 8721414	5/23/97	PRICE	38.07	17.86	20.21
NYD - 8721486	6/02/97	PRICE	43.17	16.34	26.83
NYD - 8721423	6/03/97	PRICE	34.65	17.32	17.33
NYD - 8721432	6/03/97	PRICE	41.72	17.38	24.34
NYD - 8721459	6/03/97	PRICE	35.77	16.47	19.30
NYD - 8721441	6/04/97	PRICE	41.10	17.68	23.42
NYD - 8721468	6/04/97	PRICE	37.13	16.65	20.48
				subtotal	211.96
				less resin	- 1
				Total	210.96

* includes 1.00 ton of resin

Table 5
Concrete Demolition and Relocation (UC-15)
Lehigh Industrial Park
Contract No. D003612/Site No. 915145

DATE	LOCATION	SIZE (FT)	QUANTITY (CY)
5/06/97	Pile "E"	see drawing	131.5 cy
5/06/97	Vault #1 A	14 x 17 x 1 x 1	8.8 cy
5/06/97	Railroad Vault	11 x 5 x 2.5 x .75	3.8 cy
5/06/97	Building #3 Ramp	(2) 4 x 16 x 1 4 x 10 x 1	10.0 cy
5/13/97	Southwest Corner Slab	see drawing	5.5 cy
6/10/97	Yard Area Blocks	1 - .52 cy 2 - 20.43 cy	21.0 cy
6/10/97	Block by Building #4	13.0 cy	13.0 cy
7/07/97	(Drum storage area) Blocks #1 and #4	(2) 5.5 x 3.5 x 3.5	5.0 cy
7/07/97	(Drum storage area) Blocks #2 and #3	(2) 5.5 x 2.0 x 2.5	2.0 cy
7/07/97	Block #5	13.5 x 4.5 x 2.5	5.6 cy
7/07/97	Block #6	9 5 x 3.0 x 1.0	1.0 cy
7/08/97	(Infiltration Basin)Block #1	8.0 x 3.0 x 3.0	2.7 cy
7/08/97	(Infiltration Basin) Blocks #2, #2 A, and #2 B	(3) 4.5 x 2.5 x 3.0	3.8 cy
7/08/97	(Infiltration Basin)Block #3	8.0 x 5.0 x 4.0	5.9 cy
7/09/97	(Infiltration Basin) Slab	25.0 x 15.0 x 1.0	13.9 cy
7/09/97	(Infiltration Basin) Slab #1 foundation	4.0 x 4.0 x 10.0	5.9 cy
7/09/97	(Infiltration Basin) Slab #2 foundation	4.0 x 4.0 x 16.0	9.5 cy
7/10/97	(Infiltration Basin) conduit encasement	45.0 x 3.0 x 3.0	15.0 cy
		Total	263.9 cy

Table 6
SEED SPECIFICATION*
Lehigh Industrial Park - Remedial Construction
Contract No. D003612/Site no. 9-15-145

Common Name	Variety	% of Mix	Application Rate /acre
Tall Fescue	KY-31	36	70.6 lb.
Orchard Grass	Pennlate	15	29.4 lb.
Creeping red fescue	Ensylva	20	39.2 lb.
Perennial ryegrass	Polly	25	49 lb.
Birds-foot trefoil**	Viking	4	7.8 lb

* The specified seed mixture is specially formulated to attract nesting meadow birds to small open areas. It is recommended that the cutting of this grass mixture occur either before the May nesting season or until August until all bird hatch.

** All leguminous seeds requiring inoculation will be previously inoculated before sowing. A certificate of inoculation will accompany the seed.

Fertilizer is to applied to conform with NYSDOT specification 610-3.01 and 610-3.02.

Fertilizer will conform to NYSDOT specification, Type 3 Fertilizer. Fertilizer may be either fluid or dry formation consisting of 10-6-4 NPK (50% N-UA). Applied at a rate of 800 pounds per acre.

Table 7
CONFIRMATION SAMPLING
Lehigh Industrial Park Site
Contract No. D006312/Site No. 9-15-145

DESIGNATION	SAMPLE NO.	TYPE G/C*	LAB	SAMPLE DEPTH	DATE ANALYZED	RESULTS (PPM)
PCB Hotspot 1 confirmatory	150453	C	Columbia Analytical	13 foot	5/30/97	47.0
PCB Hotspot 2 confirmatory	148595	C	Columbia Analytical	1 foot	5/20/97	ND
PCB Hotspot 3 confirmatory	149173	C	Columbia Analytical	2 feet	5/22/97	3.6
PCB Hotspot 4 confirmatory	148596	C	Columbia Analytical	1 foot/2feet**	5/20/97	ND

* Sample type: G = Grab, C = Composite

** The sample from PCB Hotspot 4 was taken as a composite of the entire area. There was an additional amount excavated from a 2' x 2' stain directly in the center of the excavation. The sample included both areas at one foot deep and a portion of the sample was from this additionally excavated to 2 foot area.

SELECT PHOTOGRAPHS

Photograph Page One
Site Structures
Lehigh Industrial Park Site
Contract #D003612 / Site No. 915145
(All photos - March 5, 1997)

Figure 1 Building No. 1, 1A and Scale

Figure 2 Loading Ramp No.1 and Vault No.1

Figure 3 Building No. 3, Loading Ramp No. 2 & Vault No. 2

Figure 4 Building No. 4

Figure 6 Building No. 5

Figure 5 Building No. 6 and Bunkers

Photograph Page Two
Building No. 1
Lehigh Industrial Park Site
Contract # D003612 / Site No. 915145

Figure 1 Building No. 1, March 5, 1997 (Before demolition)

Figure 2 Building No.1, April 11, 1997 (Asbestos removal operations underway. Note darkened triangle which contained extra ACM.) See Appendix 2.

Figure 3 Building No. 1, April 23, 1997 (After demolition)

Figure 4 Building No. 1, April 30, 1997 (Demolished foundation walls placed flat in excavation.)

Figure 5 Former Building No. 1, September 10, 1997 (Remediation complete, grass starting to grow.)

Photograph Page Three
Ingham Avenue
Lehigh Industrial Park Site
Contract # D003612 / Site No. 915145

Figure 1 Waste/debris piles at Ingham Avenue, May 13, 1997 (View looking north from south property line.)

Figure 2 Ingham Avenue, May 15, 1997, (Cutting waste/debris view looking north from south property line.)

Figure 3 Ingham Avenue, June 17, 1997 (Debris removed, view looking north from from south property line.)

Figure 4 Ingham Avenue, June 19, 1997, Excavation to one foot. View looking north.)

Figure 6 Ingham Avenue, July 28, 1997 (Clay placement, view looking north from south property line.)

Figure 5 Ingham Avenue, September 10, 1997 (Erosion control mat placed over topsoil, trees planted. View looking north.)

Photograph Page Four
Typical PCB Hotspot Remediation
Lehigh Industrial Park Site
Contract # D003612 / Site No. 915145

Figure 1 PCB Hotspot Number 4, May 14, 1997 (excavation to twelve inches. View looking east.)

Figure 2 PCB Hotspot Number 4, May 15, 1997 (Note the dark spot in center of picture. Spot suspected to be PCB oil.)

Figure 3 PCB Hotspot Number 4, May 15, 1997 (Removal of suspect spot.)

Figure 4 PCB Hotspot Number 4, May 18, 1997 (pre-confirmation samples being collected by HSO Rich Nugent)

Figure 5 PCB Hotspot Number 4, June 11,1997 (Area backfilled with Type "A" clay and compacted after confirmatory sampling results)

Photograph Page Five
Yard Area
Lehigh Industrial Park Site
Contract # D003612 / Site No. 915145

Figure 1 Yard Area, May 15,1997 (Cutting trees and brush. View looking northeast.)

Figure 2 Yard Area, June 11,1997 (Excavating to one foot. View looking west.)

Figure 3 Yard Area, June 17, 1997 (Excavation complete ready for offsite soil cover. View looking north.)

Figure 4 Yard Area, August 19, 1997 (Placing topsoil. Note compacted Type "A" clay disked to accept topsoil. View looking northeast.)

Figure 5 Yard Area, September 10, 1997 (Topsoil complete, erosion control fabric placed, ready for seed, mulch and fertilizer. View looking north.)

Photograph Page Six
UST Removal
Lehigh Industrial Park Site
Contract # D003612 / Site No. 915145
(All photos July 7, 1997)

Figure 2 During the one foot excavation this pan uncovered this UST.

Figure 1 The UST was located southeast of the St. Anthony's Church, 66 feet from the property pin.

Figure 3 HSO Rich Nugent taking a sample of the liquid after scanning with PID.

Figure 5 The UST was removed from the excavation.

Figure 4 The UST was placed into the waste cell, crushed and covered.

Photograph Page Seven
Waste Disposed Offsite
Lehigh Industrial Park Site
Contract # D003612 / Site No. 915145

← **ASBESTOS**

PCBS IN DRUMS →

← PCB CONTAMINATED TRANSFORMER

TIRES →

←NI-CD BATTERIES

PAINT RESIDUE →

←PCB CONTAMINATED OIL IN WATER

Photograph Page Eight
Infiltration Basin Construction
Lehigh Industrial Park Site
Contract #D003612/Site No. 915145

Figure 1 Infiltration Basin before excavation, April, 1997 - looking south.

Figure 2 Concrete foundation found within the footprint of I-Basin. June, 1997.

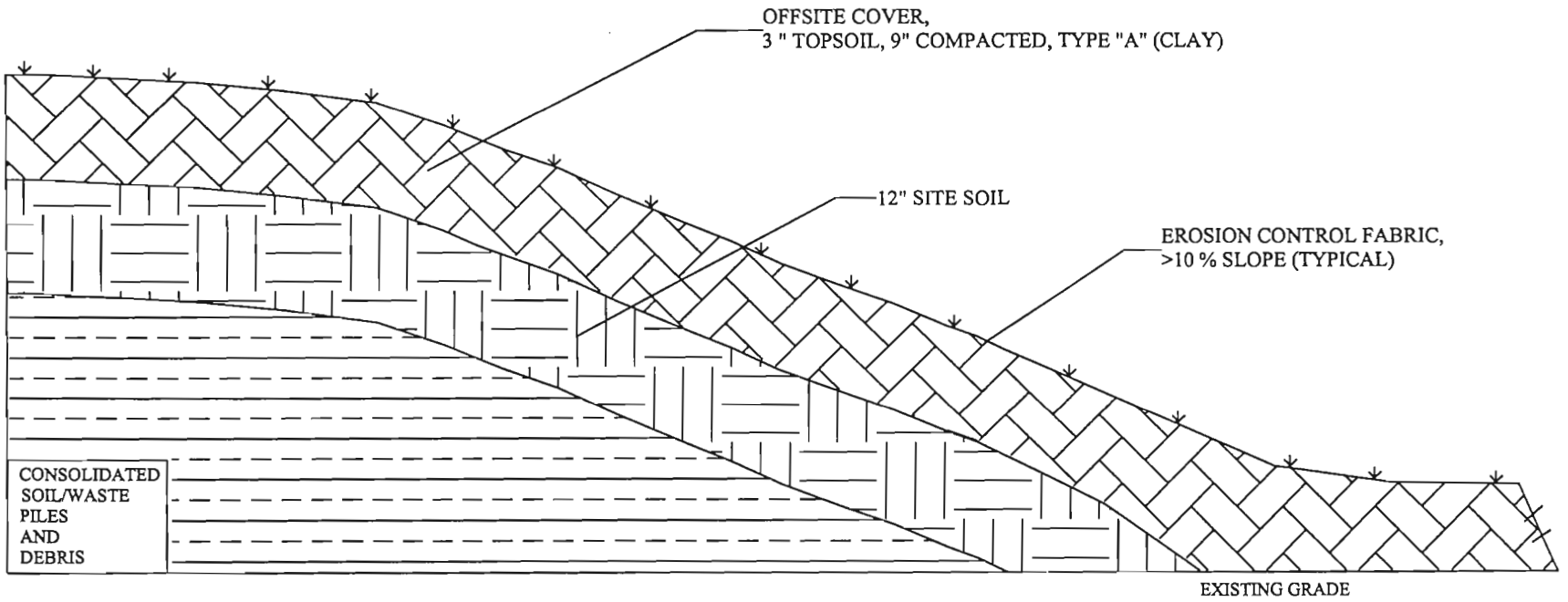
Figure 3 Beginning excavation looking north - June, 1997.

Figure 4 Near left concrete, upper right batteries found here. July, 1997.

Figure 5 Concrete encased conduit found in northwest leg of I-Basin. July, 1997.

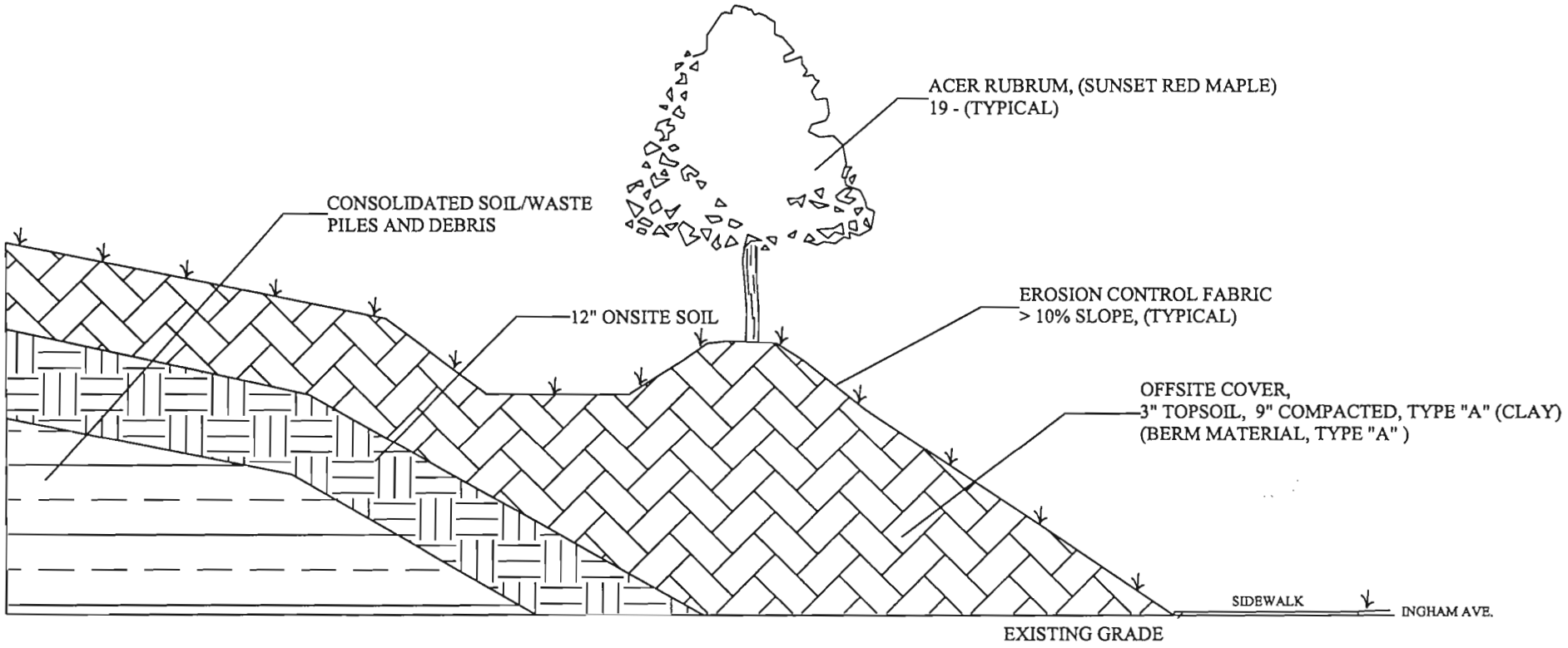
Figure 6 I-Basin complete doing its job heavy rain January, 1998.

FIGURES



TYPICAL LAYERING
SOIL COVER AREA
LEHIGH INDUSTRIAL PARK SITE,
SITE NO. 915145, LACKAWANNA (C), ERIE CO.
NOT TO SCALE

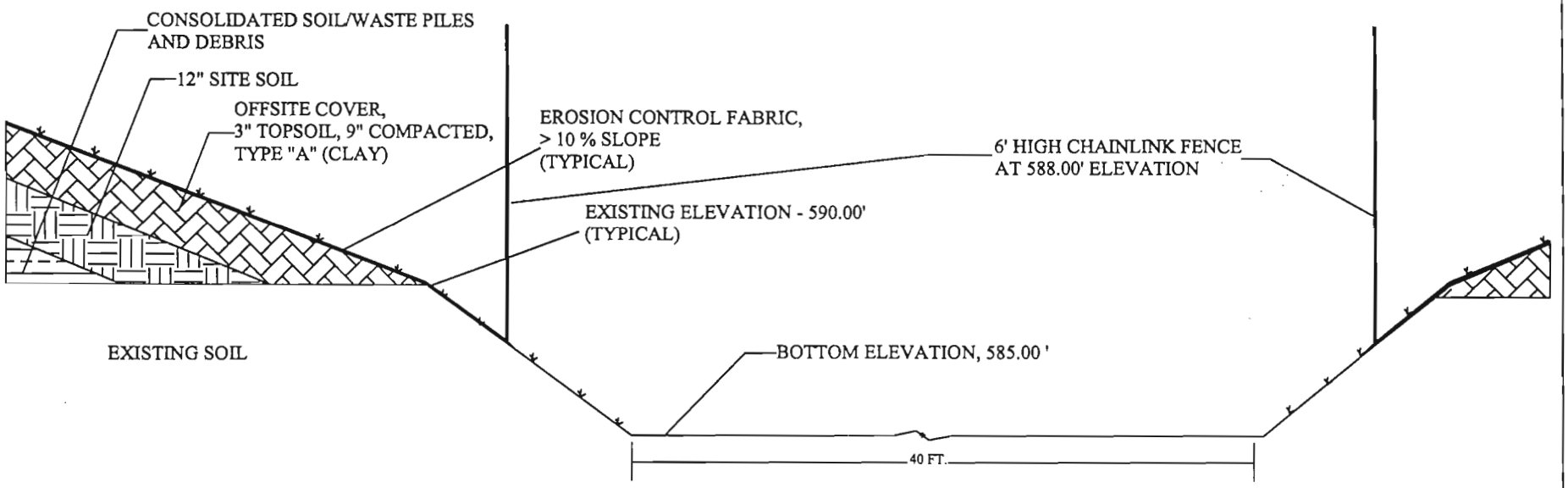
TYPICAL LAYERING	
DIVISION OF ENVIRONMENTAL REMEDIATION	
DATE: 3/2/98	DRAWING: LHP1.DWG
SITE: LEHIGH INDUSTRIAL PARK SITE NO. 915145	Figure 1



BERM/SWALE
SOIL COVER AREA
LEHIGH INDUSTRIAL PARK
SITE NO. 915145, LACKAWANNA (C), ERIE CO.

NOT TO SCALE

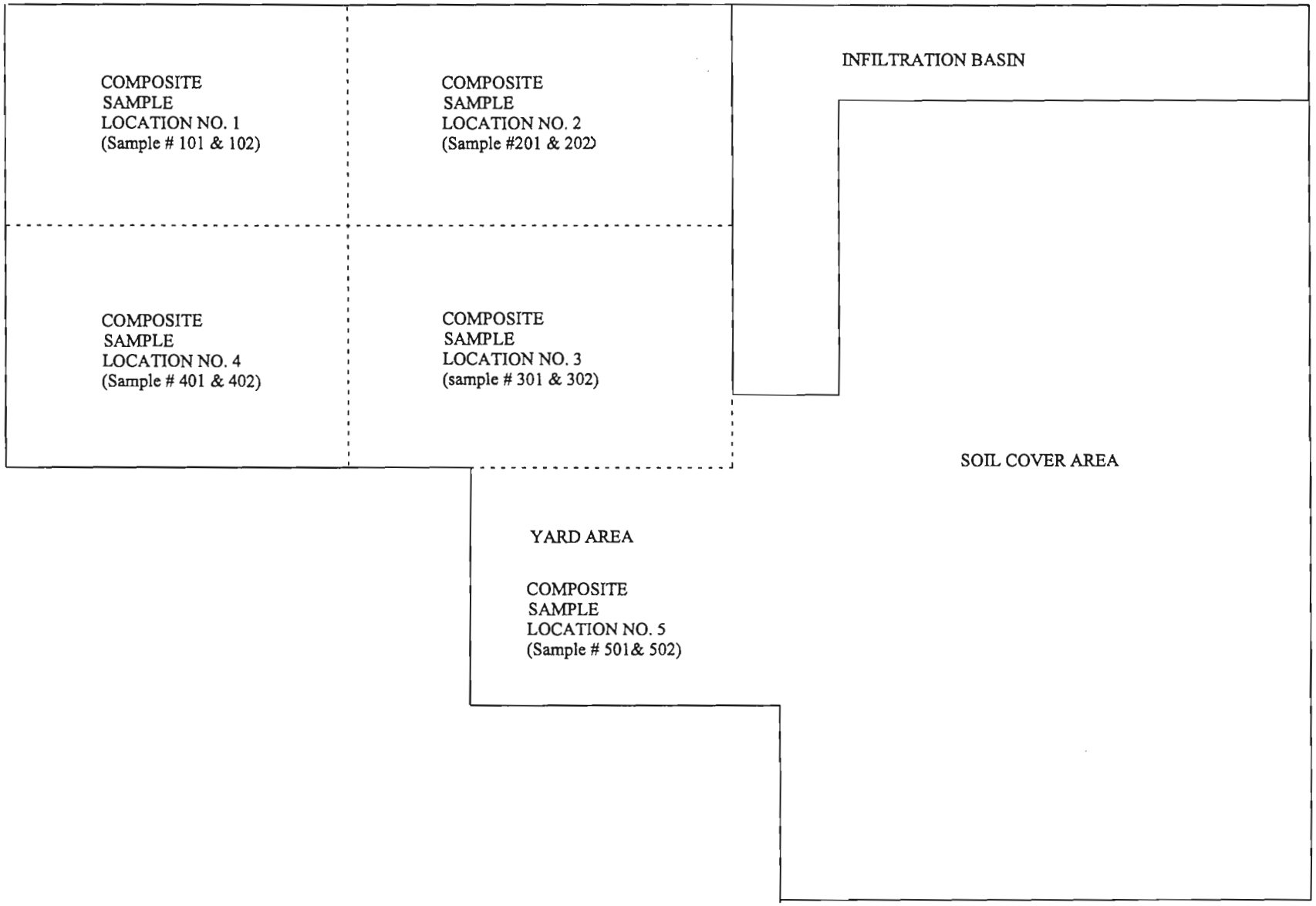
BERM/SWALE CROSS-SECTION	
DIVISION OF ENVIRONMENTAL REMEDIATION	
DATE: 3/2/98	DRAWING: LHP2.DWG
SITE: LEHIGH INDUSTRIAL PARK SITE SITE NO. 915145	Figure 2



INFILTRATION BASIN
CROSS-SECTION
LEHIGH INDUSTRIAL PARK SITE
SITE NO. 915145, LACKAWANNA (C), ERIE CO.

NOT TO SCALE

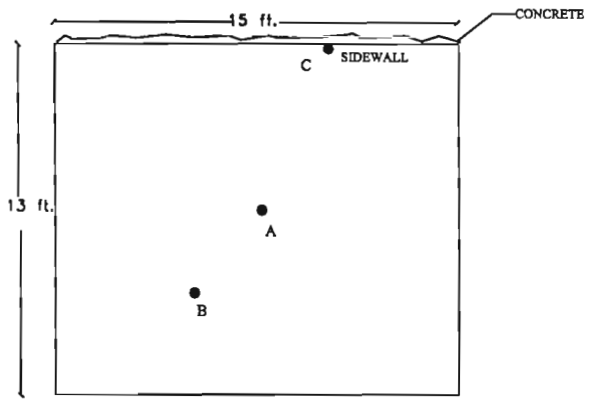
INFILTRATION BASIN CROSS-SECTION	
DIVISION OF ENVIRONMENTAL REMEDIATION	
DATE: 3/3/98	DRAWING: LHP3.DWG
SITE: LEHIGH INDUSTRIAL PARK SITE NO. 915145	Figure 3



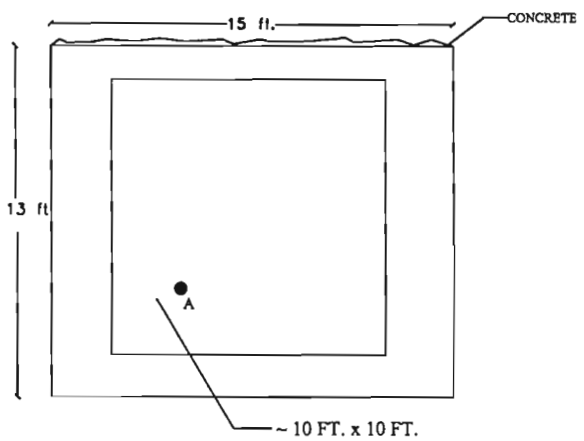
SOIL EXCAVATION - EXIT SAMPLING
SAMPLE LOCATIONS
LEHIGH INDUSTRIAL PARK SITE
SITE NO. 915145, LACKAWANNA (C), ERIE CO.

NOT TO SCALE

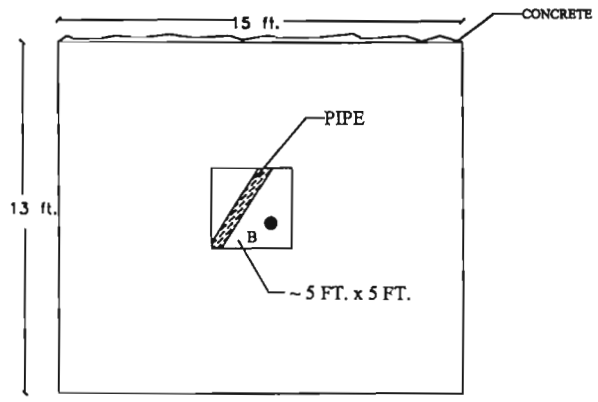
SOIL EXCAVTION - EXIT SAMPLING LOCATIONS	
DIVISION OF ENVIRONMENTAL REMEDIATION	
DATE: 3/3/98	DRAWING: LHP4.DWG
SITE: LEHIGH INDUSTRIAL PARK SITE NO. 915145	Figure 4



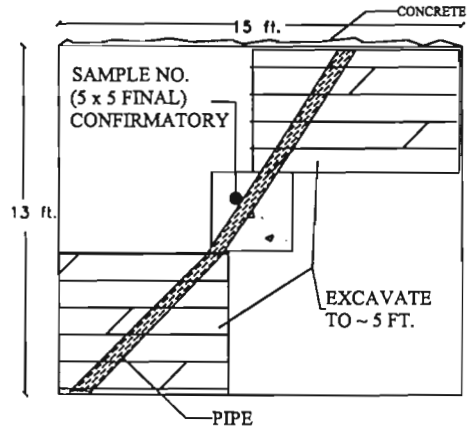
PCB HOTSPOT # 1
INITIAL CUT TO 2 FT.
SAMPLE LOCATIONS



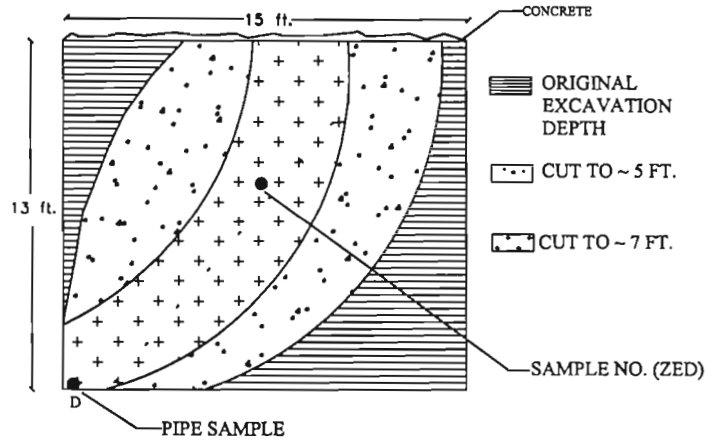
PCB HOTSPOT # 1
SECOND CUT TO ~ 3 FT.
SAMPLE LOCATIONS



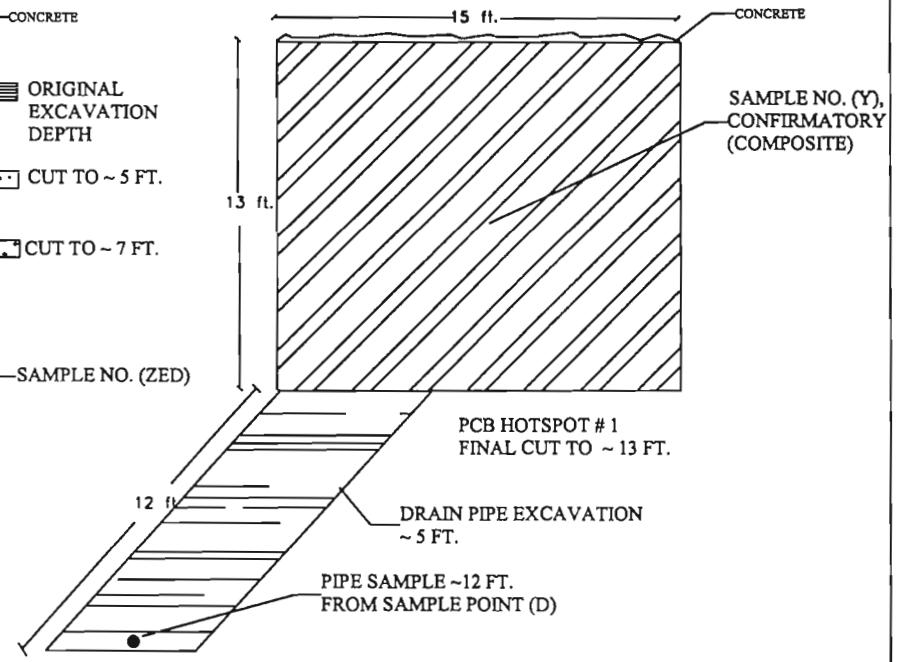
PCB HOTSPOT # 1
THIRD CUT TO ~ 4.5 FT.
SAMPLE LOCATIONS



PCB HOTSPOT # 1
FOURTH CUT TO ~ 5.5 FT.
SAMPLE LOCATIONS



PCB HOTSPOT # 1
FIFTH CUT TO > 5 FT.
SAMPLE LOCATIONS



PRE-CONFIRMATION SAMPLING LOCATIONS
PCB HOTSPOT, NO.1
LEHIGH INDUSTRIAL PARK SITE
SITE NO. 915145, LACKAWANNA (C), ERIE CO.

NOT TO SCALE

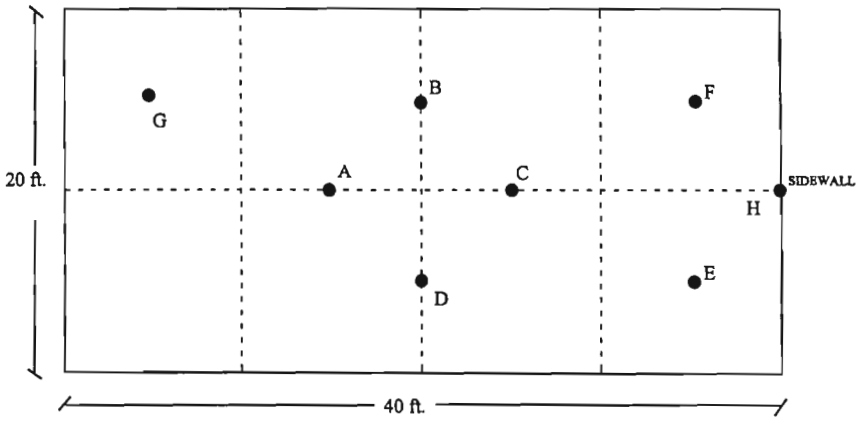
PRE-CONFIRMATION SOIL SAMPLING LOCATIONS - PCB HOTSPOT NO.1

DIVISION OF ENVIRONMENTAL REMEDIATION

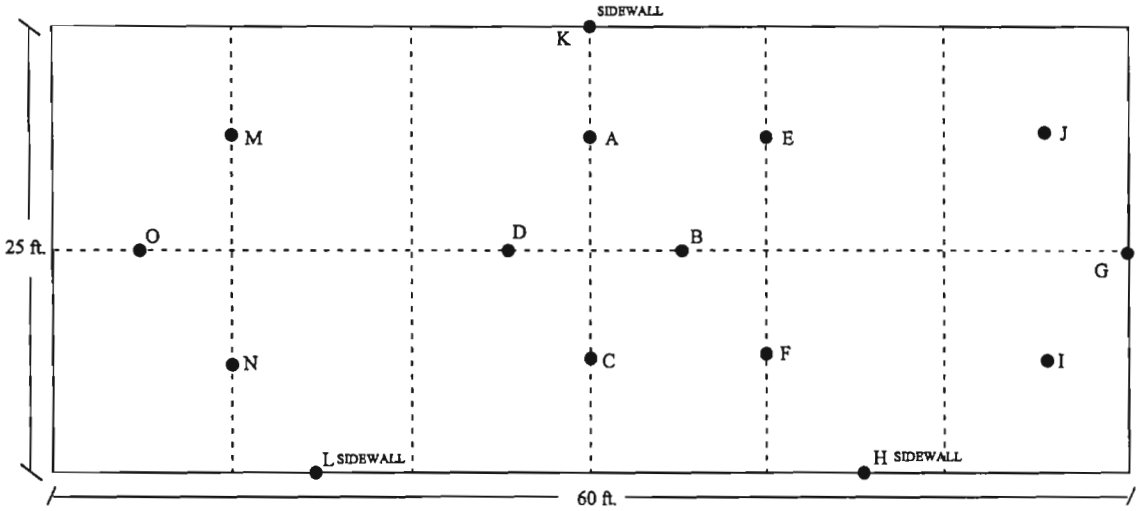
DATE: 3/6/98 DRAWING: LHP5.DWG

SITE: LEHIGH INDUSTRIAL PARK
SITE NO. 915145

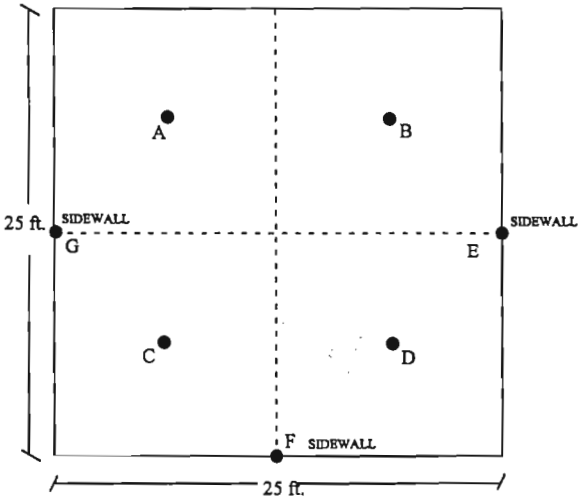
Figure 5



PCB HOTSPOT # 2
CUT TO 1 FT.
SAMPLE LOCATIONS



PCB HOTSPOT # 3
FINAL CUT TO 1 FT.
SAMPLE LOCATIONS



PCB HOTSPOT # 4
CUT TO 2 FT.
SAMPLE LOCATIONS

PRE-CONFIRMATION SAMPLING LOCATIONS
PCB HOTSPOTS NO. 1, 2, 3 & 4
LEHIGH INDUSTRIAL PARK SITE
SITE NO. 915145, LACKAWANNA (C), ERIE CO.

NOT TO SCALE

PRE-CONFIRMATION SOIL SAMPLING LOCATIONS	
DIVISION OF ENVIRONMENTAL REMEDIATION	
DATE: 3/3/98	DRAWING: LHP6.DWG
SITE: LEHIGH INDUSTRAIL PARK SITE NO. 915145	

Figure 6

APPENDICES

APPENDIX A

(Record Drawings)

APPENDIX B

(Executed Change Order)

M. Moore

LEHIGH INDUSTRIAL PARK SITE
Contract No. D003612
Site No. 9-15-145
Change Order No. 1

Change Order Amount: **$104,073.41** Date of Issue: **December 11, 1997**
Contractor's Name: **Arric Corporation**
Engineer's Name: **New York State Department of Environmental Conservation (NYSDEC)**

Change Order Items: This Change Order comprises **31** items as discussed below.

I. CHANGE ORDER ITEMS

A. **This change in the original contract is for the removal and disposal of additional Asbestos Containing Material (ACM) found in Building No. 1.**

DESCRIPTION OF CHANGE:

The Contractor was ordered to remove and dispose suspected Asbestos Containing Material (ACM) in accordance with contract specifications found in Section 02050, Part 1, Item 1.01 A and Section 02050, Part 3, Item 3.02 (A, B). Disposal of above material was in same manner as other ACM disposal.

DRAWING REFERENCE: C-1, Demolition Key & Demolition Schedule

SPECIFICATION REFERENCE: Section 02050, Part 1, Item 1.01 A and Section 02050, Part 3, Item 3.02 (A, B)

CONTRACTOR PAY ITEM NO.: LS-2 - "Demolition"

REASON FOR CHANGE:

This change order is necessary for:

During demolition of Building 1 a previously unknown addition was uncovered. The addition extended the width of the original building to the east of the old structure. Old roofing material was left under the new addition. This material was suspected to contain asbestos. This material was ordered removed and disposed of with other ACM by the Engineer. Material was removed for a price agreed upon by the Contractor and the Department.

Equipment cost - Cat 229 Track backhoe - 5 hr. @ 60.00/hr flat rate	$300.00
Contractor cost 10%	$30.00
Gehl 4625 SX, Skidsteer - 1 hr @ 20.80	$20.80
Contractor cost 10%	$2.08
Chainsaw - 1 Day @ 15.00/day	$15.00
Contractor cost - 10%	$1.50
Sub contractor amount -	$432.60
Contractor cost - 5%	$ 21.63
Total **INCREASE** in Contract Price:	**$1409.15**
Total **INCREASE** in Contract Time:	**1 Day**

C. **<u>This change in the original contract is for demolition and relocation of concrete debris in excess of the contract estimated amount.</u>**

DESCRIPTION OF CHANGE:

Additional concrete demolition included: 1) the demolition and relocation to 1 foot below grade of the 11' x 5' vault west of Ramp #1 (Vault 1 A), 2) demolition and relocation to a depth of 1 foot below grade of the conveyor ramp adjacent to Vault #2 located to the south of Bldg.. #3, 3) demolition and removal of concrete found to interfere with location of swale on the north slope of the soil cover area, 4) demolition and relocation of concrete located in "Yard Area" under pile "H" that prevented removal of 1 foot of soil from this area, 5) demolition and relocation of concrete found in east leg of infiltration basin that impeded establishment of the required slope on the soil cover, and 6) demolition and relocation of concrete found in north leg of infiltration basin that impeded establishment of the basin bottom.

DRAWING REFERENCE: Drawing No. C-1

SPECIFICATION REFERENCE: Section 02050, Part 1, Item 1.01 A and Section 02050, Part 3, Item 3.03 (A, B, C) as amended by Addendum #1 (3 a) and Addendum #2 (8 a).

CONTRACT PAY ITEM NO.: UC-15 Concrete Demolition/Relocation

REASON FOR CHANGE:

This change order is necessary for:

The amount of concrete material to be demolished and relocated was underestimated by the contract plans and specifications. Original estimates of this amount was 50 yd^3. The actual amount of concrete was 263.9 yd^3.

E. **Polychlorinated biphenyls (PCB) Analysis for Water Within Vaults 1 A and Vault in Bldg. #5.**

DESCRIPTION OF CHANGE:

The Contractor was ordered to collect an analyze a sample of water from two vaults (Vault 1 A and vault in Bldg. 5) not noted in the contract plans or specifications. Analysis included Method 8080 for PCBs.

DRAWING REFERENCE: N/A

SPECIFICATION REFERENCE: Section 02050 (Demolition), Addendum #1 - Item 3, and Addendum #2 - Item 8.

CONTRACT PAY ITEM NO.: LS-2 - "Demolition"

REASON FOR CHANGE:

This change order is necessary for:

Two additional vaults were discovered during clearing, grubbing and demolition activities. These vaults contained water that was ordered sampled by the Engineer for PCBs and select metals for classification and proper disposal.

COST:

Sub-contractor price for sampling, 2@ $232.50	$465.00
Contractor markup @ 5%	$23.25
Total **INCREASE** in Contract Price	**$488.25**
Total **INCREASE** in Contract time	**No Increase**

F. **Pump and clean Vault 1 A and Vault in Bldg. #5.**

DESCRIPTION OF CHANGE:

Pump and clean concrete Vault 1 A and Vault in Bldg. #5.

The Contractor was ordered to pump water from two subsurface concrete vaults (Vault 1 A and Bldg. 5 vault) not identified within the contract plans or specifications. The Contractor properly disposed of sediments in the bottom of the vaults suspected to be contributing to the PCB contamination in the vault water. The Contractor decontaminated the vaults to remove residual PCBs.

DRAWING REFERENCE: C-1 - "Demolition Plan"

excavated material was segregated onto polyethylene sheeting for subsequent testing and/or disposal. At the direction of the Engineer samples were collected and shipped to Chopra-Lee laboratories for analysis for PCBs.

DRAWING REFERENCE: N/A

SPECIFICATION REFERENCE: N/A

CONTRACT PAY ITEM NO.: New Payment Item LS-4

REASON FOR CHANGE:

This change order is necessary for:

During the excavation of the PCB hot spot #1 it was determined that additional soil had to be excavated to a depth of approximately 5 feet below ground surface. At this depth a vitreous clay drain pipe was discovered emanating diagonally from the water filled vault in Building #5, through the excavation and exiting the foundation wall at the southwest corner of the foundation. A black oily substance was also found in the pipe which was sampled for PCBs. Analysis showed levels of PCB 1260 at 300 mg/Kg. This value exceeds the cleanup goals selected for the Lehigh Industrial Park Site. The direction or destination of this drain pipe was unknown at the time. Test pitting the location of the pipe gave the Department necessary information to determine a further course of action.

COST:

Labor Costs -	Labor - 9 hr, @ 37.93/hr	$341.37
	Operator - 9 hr, @ 47.97/hr	$431.73
	Contractor OH & Profit @ 15%	$115.97
Equipment Cost -	Cat 229-D, Backhoe - 9 hr @60.00/hr	$540.00
	Contractor Cost -10%	$54.00

Total **INCREASE** in Contract Price: **$1,483.07**
Total **INCREASE** in Contract time: . . . . . **1 day**

H. <u>Sampling and disposal of resin/paint waste.</u>

DESCRIPTION OF CHANGE:

The Contractor was ordered to excavate and segregate onto polyethylene sheeting all drums and material associated with paint/resin debris. The Contractor obtained a composite sample of the above material and submitted for analysis for TCLP volatiles, TCLP Semi-volatiles, TCLP Metals, and Hazardous Characteristics. The

1 complete fingerprint scan	
Req'd method(s) 8270, 8260, 8080, & TCLP metals,(rush)	$915.00
Contractor markup - 5%	$45.75
11 - TCLP lead analysis @ $95.00 ea	$1045.00
Contractor markup - 5%	$52.25
8 - Total lead @ $25.00 ea	$200.00
Contractor markup - 5%	$10.00
Sub-total cost for analysis - (C)	$2268.00
Total **INCREASE** in Contract Price =	**$7983.37**
Total **INCREASE** in Contract Time =	**2 Days**

I. <u>Changing of bid breakdown items UC-1 and LS-1.</u>

DESCRIPTION OF CHANGE:

Changing of bid breakdown items UC-1 and LS-1.

The breakdown of bid items for LS-1 and UC-1 had been interchanged. At the request of the Contractor and agreed to by the Department, the Bid Breakdown submittal was changed. The amount first submitted as UC-1 will replace the amount first submitted for LS-1 and vice-versa. This change did not represent any change in the original bid and contract price.

DRAWING REFERENCE: N/A

SPECIFICATION REFERENCE: Section III, Article 12 (Bid Breakdown)

CONTRACTOR PAY ITEM NO.: N/A

REASON FOR CHANGE:

This change order is necessary for:

A mistake in the Bid Breakdown item UC-1 and LS-1 was noted. The item costs for these items had inadvertently been transposed. The revision was necessary to properly track the Contractor's progress and to correctly review and process future Contractor's Application for Payments. It was proposed and accepted by the Department to allow a revision in the Bid Breakdown providing the outcome of the original bid and contract price were not affected.

Analytical costs:

TCLP, metals, volatile, semi-volatile, pH, corrosivity & ignitability 3 samples at $1000.00 ea.	$3000.00
Contractor cost, 5%	$150.00
Sub-total analytical cost - (B)	$3150.00

Disposal cost

Disposal cost at quoted rate	$1075.00
Contractor cost, 5%	$53.75
Sub-total disposal cost - (C)	$1128.75
Total **INCREASE** in Contract Price A + B + C =	**$4930.02**
Total **INCREASE** in Contract Time =	**No Increase**

K. **Change in Type "A" seed mixture. Addition of a "starter fertilizer" for Type "A" seed and the replacement of Type "B" seed with "Type A" seed.**

DESCRIPTION OF CHANGE:

The Contractor was ordered to obtain competitive price quotes for a change of Type "A" seed mixture identified in Section 02990, Item 2.02.

The Contractor provided costs to purchase and apply a turf starter fertilizer to the entire seeded area. The fertilizer conformed to NYSDOT (1990) specification 713-03, Type 3 Fertilizer. Fertilizer was fluid formation consisting of 10-6-4 NPK. Fertilizer was applied to conform with NYSDOT (1990) specification 610-3.01 and 610-3.02. Application rate was at 800 pounds per acre. The Contractor did not purchase the Type "B" seed or Fertilizer as specified in Section 02290-2, Item 2.02, Type "B" seed and Section 02290, Item 2.03 as amended in Addendum #1 (7a) Fertilizer. The Contractor replaced the specified Type "B" seed with the Type "A" seed specified above as ordered. The Contractor replaced the fertilizer specified in Section 02290, Item 2.03 as amended in Addendum #1 (7a) with the fertilizer specified above at the rate specified.

REASON FOR CHANGE:

This change order was necessary for:

The timing of seed planting of the specified Type "A" Wildflower mix would not have been acceptable to establish desired growth. The wildflower mixture, therefore, had to be changed so that a proper ground cover could be established.

CONTRACT PAY ITEM NO.: New payment item LS-5

REASON FOR CHANGE:

This change order is necessary for:

Remediation of this property necessitated the removal of large trees in the residential area. With the removal of the fence, there was a concern as to accessability of the soil cover area. Planting of trees in this area will act as a deterrent to access the soil cover area. Removal of the waste pile "H" changed the local topography. The gradation could lead to standing water in the residential area. Trees absorb large quantities of excess water mitigating potential ponding. Finally, a planting of a line of trees in this area will present the remediation in a visually enhanced manner in turn making the site more desirable for future use .

COST:

The Contractor and the Department negotiated a lump sum cost of $300.00 + 5% per tree inclusive of all the requirements.

Twenty one (21) Sunset Red Maples @ $300.00/tree	$6300.00
Contractor Cost - 5%	$315.00
Total **INCREASE** in Contract Price =	**$6615.00**
Total **INCREASE** in Contract Time =	**No increase**

M. **Removal and Disposal of batteries found in infiltration basin.**

DESCRIPTION OF CHANGE:

The Contractor was ordered to excavate and dispose of batteries found within the infiltration during its construction. The Contractor provided the level of effort necessary to locate, excavate and dispose of batteries. Batteries were disposed of as required.

DRAWING REFERENCE: - N/A

SPECIFICATION REFERENCE: N/A

CONTRACT PAY ITEM NO.: New payment item LS-4

SPECIFICATION REFERENCE: N/A

CONTRACT PAY ITEM NO.: LS-2

REASON FOR CHANGE:

This change order is necessary for:

During the excavation of the infiltration basin concrete was discovered in the western wall of the basin. Water infiltrated from this concrete as well as an oil product. Due to PCB contamination this water had to be pumped, containerized, sampled and disposed of in a proper manner.

COST:

Labor Cost -	Operator (Haz. Waste) - 3 hr. @52.53	$157.59
	Labor (Haz. Waste) - 3 hr. @ 42.08	$126.24
	Contractor OH & profit - 15%	$42.57
Equipment Cost -	water truck - 3 hr @25.50	$76.50
	Contractor markup - 10%	$7.65
	2" pump, 1 day @ $21.00/day	$21.00
	50' hose , 1 day @ 4.00/day	$4.00
	operating cost - 3 hr @ 1.00/hr	$3.00
	Contractor markup - 10%	$2.80
Subtotal - labor & equipment costs		$441.35
Disposal cost		
1700 gallons @$1.20/gal		$2040.00
Labor & equipment 3 hr @ 95.00/ hour		$285.00
Transportation quoted rate		$360.00
County sales tax, Erie Co 4%		$107.40
Contractor cost, 5%		$139.62
Subtotal - disposal cost -		$2932.02
Analytical cost		
PCB sample, water - 2@ 75.00 ea.		$150.00
Contractor markup - 5%		$7.50
Subtotal - analytical costs		$157.50
Total costs		$3530.87

Stone #6 crushed & gabion, 41.89 tons @10.35/ton	$433.56
Contractor markup - 10%	$43.36
12 Bales hay @ 3.99 ea	$47.88
Erie county tax @ 4%	$1.92
Stakes 7 - 1"x 3" x 8' @$0.99 ea	$6.93
Erie county tax @ 4 %	$0.28
Contractor markup - 10%	$5.70
Subtotal - material costs	$539.63
Total **INCREASE** in Contract Price =	**$1909.35**
Total **INCREASE** in Contract Time =	**1 day**

P. **Reshape crown for drainage and lack of cover material.**

DESCRIPTION OF CHANGE

The crown of the soil cover area did not attain the design height. The Contractor regraded and reshaped the crown to attain positive runoff from entire soil cover area

DRAWING REFERENCE: - C-3

SPECIFICATION REFERENCE: Section 02223, Part 3, Item I

CONTRACT PAY ITEM NO.: New payment item LS-5

REASON FOR CHANGE:

This change order is necessary for:

The original design for the soil cover area underestimated the height of the area. This forced the soil cover area to be lower in height and flatter on top hindering drainage from cap. Additionally, as ordered by the Engineer the cover area was

to attain a higher profile to the east of the site to lower the runoff energy to the west near the street and residential area. This was necessitated in part by the drainage swale design change.

COST:

Labor Costs -	Operator - 10 hr. @ $49.07/hr	$490.70
	Contractor markup - 5%	$24.54
Equipment costs -	Terex 8230 Dozer @ 110.00/hr	$1100.00
	Contractor markup - 5%	$55.00
Subtotal		$1670.24

Total **INCREASE** in Contract Price =	**$454.58**
Total **INCREASE** in Contract Time =	**No increase**

R. **Increase in type "A" backfill above the contract estimated amount.**

DESCRIPTION OF CHANGE:

Contractor provided type "A" backfill as required by the contract and an additional amount. This change is for the amount of type " A" material in the excess of the estimated amount.

DRAWING REFERENCE: - N/A

SPECIFICATION REFERENCE: -Section 02223, Item 2.02, (Off site materials) as amended by Addendum #2 Item 4 a

CONTRACT PAY ITEM NO.: UC - 10

REASON FOR CHANGE:

This change order is necessary for:

The redesign of the swales necessitated the importation of additional off site material over the contract estimated amount. This amount was over the contract amount. This change is necessary to pay for the additional material.

COST

This item is to be paid for under the contract bid amount of $11.16/cubic yard

Total cubic yards of in place type "A" material . . . . . 13947.12 yd^3
Contract estimated yards of material . . . . . 12000 yd^3

Cost for placement of additional 1947.12 cubic yards @ $11.16/$yd^3$. $21,729.86

Total **INCREASE** in Contract Price =	**$21,729.86**
Total **INCREASE** in Contract Time =	**No Increase**

S. **Increase in cost of PCB rolloff rental.**

DESCRIPTION OF CHANGE:

Contractor provided rolloff containers for excavation of PCB contaminated waste. These rolloffs remained on the site at the direction of the engineer until all PCB contaminated material was excavated.

DRAWING REFERENCE: - N/A

COST:

Labor costs -

Survey party chief (Cons. Engr.) - 20.5 hr. @42.56/hr	$872.48
Topcon 303 Total Station - 20.5 hr. @28.13/hr	$576.67
Sub-contractor OH & Profit - 10%	$144.92
Contractor markup - 5%	$79.70

Total **INCREASE** in Contract Price = **$1673.77**
Total **INCREASE** in Contract Time = **No Increase**

U. **Increase in hazardous soil removal above the contract estimated amount.**

DESCRIPTION OF CHANGE:

Contractor excavated hazardous soil as required by the contract and an additional amount. This change is for the amount of hazardous material in the excess of the estimated amount.

DRAWING REFERENCE: - N/A

SPECIFICATION REFERENCE: - Section 02219, Item 3.02, (Excavation and Disposal of Soil with PCB Contamination ≥50 ppm.)

CONTRACT PAY ITEM NO.: UC - 4

REASON FOR CHANGE:

This change order is necessary for:

The Contract underestimated material contaminated with PCBs ≥50 ppm. The Contractor removed excess material as required over the contract estimated amount. This amount was over the contract amount. This change is necessary to pay for the additional material. Additionally this material exceeded the $30,000.00 renegotiation limit. It was deemed that this disposal cost per unit was a fair and equitable price for excavation and disposal and the exceeded quantity was included at the same price.

COST

This item is to be paid for under the contract bid amount of $300.00/ton

Total amount (Tons)of excavated material	210.96 tn
Contract estimated tons of material	110.00 tn

Cost of additional 100.96 cubic yards @$300.00/ton $30288.00

W. UC-2 Health and Safety.

DESCRIPTION OF CHANGE:

This contract item amount will decrease by $4636.00

DRAWING REFERENCE: - N/A

SPECIFICATION REFERENCE: - Section 01200 (Health and Safety)

CONTRACT PAY ITEM NO.: UC - 2

REASON FOR CHANGE:

This change order is necessary for:

Reconciliation of UC-2.

COST

Health and Safety Officer 3.75 of 4 months @6240.00/mo.	$23400.00
Health & Safety Tech. 1 of 1 month @6250.00/mo	$6250.00
Decon Pad & Equipment 14% of 1 month @1200/mo	$168.00
Decon Pad & Equipment 2 months @ $1200/mo	$2400.00
Decon Pad & Equipment 3 days @ $54.55/day	$163.65
Hygiene facility 4 of 4 months @ $500/mo	$2000.00
PPE Equipment & Supplies 4 of 4 mo @ 2947.75/mo	$11791.00
Air Monitoring 3 of 4 months @ 1500.00/mo	$4500.00
Air monitoring 10 days @ $50.00/day	$500.00
Sample Analysis of waste water - 1 sample @$500.00/sample	$500.00
Disposal of decon water 1000 gallons @ 2.00/ gallon	$2000.00
Actual Amount - UC-2	$53,672.65
Contract Bid Amount	$58,301.00
Difference between Actual Amount and Bid Amount	$4628.35
Total **DECREASE** in Contract Price =	**($4636.00)**
Total **DECREASE** in Contract Time =	**No Decrease**

X. UC-6: Scrap Metal Disposal.

DESCRIPTION OF CHANGE:

Reconciliation of Item UC-6

DRAWING REFERENCE: - N/A

COST

Cost to remove 16500 cubic yards of soil @$2.60/yd³	$42,900.00
Cost to remove additional 1000 cubic yards @$2.60/yd³	$2600.00
Cost for Survey @ lump sum of $3300.00	$3300.00
Actual Amount - UC-8	$48,800.00
Contract Bid Amount, 110 tons @ $300.00/ton	$46,200.00
Difference between Actual Amount and Bid Amount	$2600.00
Total **INCREASE** in Contract Price =	**$2600.00**
Total **INCREASE** in Contract Time =	**No Increase**

Z. **UC-9: Soil Excavation and Relocation.**

DESCRIPTION OF CHANGE:

The Contract specified that 16000 cubic yards of soil was required to be removed from the entire site excluding the waste piles. The finished site required additional grading and drainage thus increasing the amount of soil relocated. This change is to reconcile this difference between the actual amount of soil removed/relocated versus the contract specified amount.

DRAWING REFERENCE: - N/A

SPECIFICATION REFERENCE: -Section 02219, Item 3.06 (Waste Excavation, Consolidation and Disposal)

CONTRACT PAY ITEM NO.: UC - 9

REASON FOR CHANGE:

This change order is necessary for:

The contract estimated the amount of soil to be removed and relocated at a one foot depth was 16000 cubic yards. This one foot cut was based on a 50 by 50 foot grid. The replacement of this cut with a low permeability layer of soil enhanced the runoff potential to residential areas. To mitigate this potential the Engineer ordered the Contractor to establish a .05% grade away from the residential area. This increased that amount of soil to be removed and relocated and negated the need for maintenance of a 50' by 50' grid. The additional amount of 500 cubic yards was presented by the Contractor and agreed to by the Engineer. The total amount of soil relocated by the Contractor was 16500 cubic yards.

COST

Cost to remove 16000 cubic yards of soil @ $2.72/yd³	$43,520.00
Cost to remove additional 500 @ $2.72/yd³	$1360.00
Cost of Survey, Lump Sum = $4000.00	$4000.00

BB. **Placement of Additional Erosion Control Fabric.**

DESCRIPTION OF CHANGE:

The contract required placement of 13500 square yards of erosion control fabric. Redesign of the swales increased the slope in this area thus requiring 1500 more square yards of erosion control fabric. Additionally weather prohibited the

scarification of the infiltration basin therefore the Contractor was not paid for this item. This change is to reconcile these differences.

DRAWING REFERENCE: - N/A

SPECIFICATION REFERENCE: -Section 02990, Item 2.05 (Finish grading, topsoil and seeding)

CONTRACT PAY ITEM NO.: New payment item LS-5

REASON FOR CHANGE:

This change order is necessary for:

The Contract underestimated amount of erosion control fabric that was required due to a redesign of the swales from the soil cover area. The Contractor installed an additional 1500 square yards of fabric as required. Additionally the Contract specified for the Contractor to scarify the infiltration basin. Adverse weather prevented this from being completed and the Department will take a credit on this amount. This reconciliation represents the increase in erosion control fabric from 13500 square yards to 15000 square yards and the credit for not scarifying the infiltration basin.

COST

Topsoil Purchase - 51,500 square yards@ 1.30/yd²	$66,950.00
Topsoil placement - 51,500 square yards @ $0.34/yd²	$17,510.00
Scarification infiltration basin - 2580 square yards@$.050/yd²	$1290.00
Seed, fertilizer & mulch - 51,500 square yards @$0.30/yd²	$15,450.00
Erosion control matting -13500 square yards @ $1.00/yd²	$13,500.00
Compaction and Surveying - 51500 square yards @$0.0728/yd²	$3750.00
Cost to place an additional 1500 square yards @$1.00/yd²	$1500.00
Credit for not scarifying - 2580 square yards@$.050/yd²	($1290.00)
Actual Amount - UC-10 (total)	$118,660.00
Contract Bid Amount, UC-10 (total)	$118,450.00
Difference between Actual Amount and Bid Amount	$210.00

REASON FOR CHANGE:

This change order is necessary for:

The contract called for a total of 40 confirmatory PCB soil samples to be taken in addition to a full screen of a topsoil sample. The extent of the PCB contamination at PCB #1 and sampling of the additional pipe bedding increased this amount to 46 samples. This reconciliation represents the increase in the contract specified quantity of 40 samples plus an additional 15% for a total of 46 samples.

COST:

Cost for 40 PCB samples@ $80.00/ea	$3200.00
Cost for an additional 6 samples @$80.00/ea	$480.00
Cost for a topsoil sample 1 @3200/ea	$3200.00
Actual Amount - UC-14	$7280.00
Contract Bid Amount, 900 yd^3 @$18.43/$yd^3$	$6800.00
Difference between Actual Amount and Bid Amount	$480.00
Total **INCREASE** in Contract Price =	**$480.00**
Total **INCREASE** in Contract Time =	**No Increase**

EE. LS-1: Site Preparation.

DESCRIPTION OF CHANGE:

The bid amount of this lump sum item will be decreased by $1000.00 for not providing a materials handling plan as specified

DRAWING REFERENCE: - N/A

SPECIFICATION REFERENCE: -Section 01300, Item 1.01 B (1) (Project plans) & Section XII, Item 1,4,1(LS-1 Site Preparation)

CONTRACT PAY ITEM NO.: LS-1

REASON FOR CHANGE:

This change order is necessary for:

The contract called for the submittal of a materials handling plan. This was never received by the Department. The Department is seeking a credit for the amount of $1000.00 as identified within the contractor's bid breakdown for this plan.

N.	Item LS-2 - Demolition (Pump/Disposal of Infiltration Basin Water)	$ 3,530.87
O.	New Payment Item LS-5 - Grading/Seeding Revisions (Placement of Erosion Control Stone)	$ 1,909.35
P.	New Payment Item LS-5 - Grading/Seeding Revisions (Reshape of Soil Cover Crown)	$ 1,670.24
Q.	New Payment Item LS-5 - Grading/Seeding Revisions (Establish Grades for Swale and Spillway)	$ 454.58
R.	Item UC-10 - Offsite Fill (Type A) (Increase of Quantity)	$ 21,729.86
S.	New Payment Item LS-4 - Additional Investigations (PCB Rolloff Rental)	$ 868.14
T.	New Payment Item LS-5 - Grading/Seeding Revisions (Extra Survey Work)	$ 1,673.77
U.	Item UC-4 - Haz. Soil Removal & Disposal (Increase Quantities)	$30,288.00
V.	Item UC-1 - Site O&M (Decrease Quantities)	($ 44.02)
W.	Item UC-2 - Health & Safety (Decrease Quantities)	($ 4,636.00)
X.	Item UC-6 - Scrap Metal Disposal (Decrease Quantity)	($ 2,784.15)
Y.	Item UC-8 - Soil//Waste Pile Relocation (Extra Soil/Waste Pile Relocated)	$ 2,600.00
Z.	Item UC-9 - Soil Excavation/Relocation (Extra Soil Relocated)	$ 1,360.00
AA.	Item UC-11 - Offiste Fill (Type B) (Additional "Type B" Material Used)	$ 466.28
BB.	New Payment Item LS-5 - Grading/Seeding Revisions (Placement of Additional Erosion Control Fabric)	$ 210.00
CC.	Item UC-13 - Fencing (Decrease in Quantity)	($ 5,976.90)
DD.	Item UC-14 - Confirmatory Soil Sampling (Additional Confirmatory Samples)	$ 480.00
EE.	Item LS-1 - Site Preparation (Materials Handling Plan)	($ 1,000.00)
	TOTAL:	**$104,073.41**

CONTRACT NUMBER D003612

IN WITNESS WHEREOF, representatives of the Department and the Contractor have executed this Contract on the day and year written beneath their respective signatures. The signatory for the Department provides the following Agency Certification: "In addition to the acceptance of this contract, I also certify that original copies of this signature page will be attached to all other exact copies of this contract."

Recommended:

By: _____
Dir. DSE

Title: 12/19/97

Date: _____

FOR DEPARTMENT

By: _____

Title: _____

Date: 1/21/98

FOR NYSDEC ENGINEER

By: _____

Title: Res. Engr

Date: 12/17/97

FOR CONTRACTOR

By: _____

Title: Vice President

Date: 12/15/97

Approved as to Form:

By: _____
Attorney General

Date: _____

Approved:

By: _____
State Comptroller
JAN 27 1998

Date: _____

STATE OF NY)
) SS:
COUNTY OF Erie)

On the 15th day of December, 1997, before me personally came Ken Keller, to me known, who being duly sworn, did depose and say that (s)he resides in East Aurora, New York; that (s)he is Vice President of Aurec Corp, the corporation described in and which executed the above instrument; that (s)he knows the seal of said corporation; that the seal affixed to said instrument is such corporate seal; that it was so affixed by authority of the Board of Directors of said corporation and that (s)he signed his/her name thereto by the same authority.

_____
Notary Public
DIANE STANTON
NOTARY PUBLIC, STATE OF NEW YORK
QUALIFIED IN ERIE COUNTY
MY COMMISSION EXPIRES OCT. 31, 19__

APPENDIX C

(Soil Excavation - Exit Sampling Results)

RECRA
LabNet

a division of Recra Environmental, Inc.

Virtual Laboratories Everywhere

August 21, 1997

Mr. John Ryan
NYSDEC
50 Wolf Road, Room 305
Albany, NY 12233

RE: Analytical Results

Dear Mr. Ryan:

Please find enclosed results concerning the analyses of the samples recently submitted by your agency. The pertinent information regarding these analyses is listed below:

Case #: SH997
SDG #: 0715
Matrix: Soil
Samples Received: 07/15/97
Sample Date: 07/15/97

If you have any questions concerning these data, please contact Mr. Patrick J. Filey, Program Manager, at (716) 691-2600 and refer to the I.D. number listed below. It has been our pleasure to provide the New York State Department of Environmental Conservation with Environmental Testing Services. We look forward to serving you in the future.

Sincerely,

RECRA LABNET, INC.

Patrick J. Filey
Program Manager

Kenneth E. Kasperek
Laboratory Director

PJF/KEK/amk
Enclosure: Diskette

I.D. #A97-2468
#NY4A5020-9

cc: Mr. M. Moore - NYSDEC Region 9

This report contains 1325 pages which are individually numbered

SAMPLE DATA SUMMARY PACKAGE

SDG NARRATIVE

Laboratory Name: Recra Labnet, Inc.

Laboratory Code: RECNY

Case Number: SH997

SDG Number: 0715

Sample Identifications:

SH997 0715 LHP101
SH997 0715 LHP102
SH997 0715 LHP201
SH997 0715 LHP202
SH997 0715 LHP301
SH997 0715 LHP302
SH997 0715 LHP401
SH997 0715 LHP402
SH997 0715 LHP501
SH997 0715 LHP502

METHODOLOGY

Analyses were performed in accordance with 1991 New York State Analytical Services protocol. (Revised 1993)

COMMENTS

Comments pertain to data on one or all pages of this report.

The enclosed data has been reported utilizing data qualifiers (Q) as defined on the Organic and Inorganic Data Comment Pages.

Results of soil samples have been corrected for percent solids and are reported on a dry weight basis.

SEMIVOLATILE DATA

Semivolatile sample and standard areas are listed on the corresponding data system printouts.

Semivolatile data was processed utilizing Teknivent Datasystem and QA Formaster software. All compounds determined to be present by the computer-generated autoquantitation were subjected to a manual ion search for secondary and tertiary ions. Unedited quantitation reports have been submitted with this analytical data package.

Sample LHP201 shows the recoveries of internal standards 1,4-Dichlorobenzene-D4, Chrysene-D12, and Perylene-D12 as being outside of the quality control limits. The re-analysis of this sample also shows the recoveries of internal standards Chrysene-D12, and Perylene-D12 as being outside of the quality control limits.

Samples LHP301 and LHP401 both show the recovery of internal standard Perylene-D12 as being outside of the quality control limits. Due to severe sample matrix and the high concentration of some compounds of interest these samples were re-analyzed utilizing a dilution. LHP401DL shows compliant recoveries for all internal standards. LHP301DL shows the recovery of internal standard Perylene-D12 as outside quality control limits. This diluted sample was re-analyzed and showed the recovery of internal standard 1,4-Dichlorobenzene-D4 as being outside of the quality control limits.

PESTICIDE/PCB DATA

Due to the high concentration of Aroclors 1248 and 1254 sample LHP101 was analyzed at an initial dilution of ten. As a result all surrogate compounds were diluted out.

Samples LHP201, LHP301, and LHP401 were analyzed at initial dilutions of two due to sample matrix effects.

Samples LHP201, LHP301, LHP401, and the Matrix Spike Blank Duplicate (MSBD02) showed several surrogate recoveries as being outside of the advisory quality control limits.

Alternate chromatographic peaks were used to calculate the concentration of Aroclors 1248 and 1254 in all samples.

Computer enhanced standard and sample chromatographic comparisons were used to augment the Aroclor identification procedure. Copies of these comparison printouts are included in this data package.

METALS DATA

The samples were re-digested and re-analyzed for calcium due to a non-compliant laboratory control sample.

The cyanide log pages are computer generated. The beginning and end quality control samples such as Method Blanks, Blank Spikes, ect.. appear several times on the log but are actually only analyzed once. The form 14's (Run logs) correctly show them as only being analyzed once.

" 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 electronic deliverable has been authorized by the Laboratory Manager or his designee, as verified by the following signature."

Kenneth E. Kasperek
Laboratory Director

8/21/97
Date

NEW YORK STATE
DEPARTMENT OF ENVIRONMENTAL CONSERVATION

SAMPLE IDENTIFICATION
AND
ANALYTICAL REQUEST SUMMARY

LAB NAME: RECRA LABNET, INC.

CUSTOMER SAMPLE ID	LABORATORY SAMPLE ID	ANALYTICAL REQUIREMENTS					
		VOA GC/MS	BNA GC/MS	VOA GC	PEST PCB	METALS	WATER QUALITY
LHP101	A7246801	-	ASP91	-	ASP91	-	-
LHP102	A7246802	-	-	-	-	ASP91	-
LHP201	A7246803	-	ASP91	-	ASP91	-	-
LHP202	A7246804	-	-	-	-	ASP91	-
LHP301	A7246805	-	ASP91	-	ASP91	-	-
LHP302	A7246806	-	-	-	-	ASP91	-
LHP401	A7246807	-	ASP91	-	ASP91	-	-
LHP402	A7246808	-	-	-	-	ASP91	-
LHP501	A7246809	-	ASP91	-	ASP91	-	-
LHP502	A7246810	-	-	-	-	ASP91	-

NEW YORK STATE
DEPARTMENT OF ENVIRONMENTAL CONSERVATION

SAMPLE PREPARATION AND ANALYSIS SUMMARY
B\N-A ANALYSIS

AB NAME: RECRA LABNET, INC.

SAMPLE IDENTIFICATION	MATRIX	DATE COLLECTED	DATE RECEIVED AT LAB	DATE EXTRACTED	DATE ANALYZED
LHP101	SOIL	07/15/97	07/15/97	07/16/97	08/08/97
LHP201	SOIL	07/15/97	07/15/97	07/16/97	08/08/97
LHP301	SOIL	07/15/97	07/15/97	07/16/97	08/08/97
LHP401	SOIL	07/15/97	07/15/97	07/16/97	08/08/97
LHP501	SOIL	07/15/97	07/15/97	07/16/97	08/08/97

000007

NEW YORK STATE
DEPARTMENT OF ENVIRONMENTAL CONSERVATION

SAMPLE PREPARATION AND ANALYSIS SUMMARY
PESTICIDE/PCB ANALYSIS

LAB NAME: RECRA LABNET, INC.

SAMPLE IDENTIFICATION	MATRIX	DATE COLLECTED	DATE RECEIVED AT LAB	DATE EXTRACTED	DATE ANALYZED
LHP101	SOIL	07/15/97	07/15/97	07/16/97	08/08/97
LHP201	SOIL	07/15/97	07/15/97	07/16/97	08/08/97
LHP301	SOIL	07/15/97	07/15/97	07/16/97	08/08/97
LHP401	SOIL	07/15/97	07/15/97	07/16/97	08/08/97
LHP501	SOIL	07/15/97	07/15/97	07/16/97	08/09/97

NEW YORK STATE
DEPARTMENT OF ENVIRONMENTAL CONSERVATION

SAMPLE PREPARATION AND ANALYTICAL SUMMARY
INORGANIC ANALYSIS

LAB NAME: RECRA LABNET, INC.

SAMPLE IDENTIFICATION	MATRIX	METALS REQUESTED	DATE RECEIVED AT LAB	DATE DIGESTED	DATE ANALYZED
LHP102	SOIL	HSL METALS	07/15/97	07/16,30/97 & 08/15/97	07/17-08/18/97
LHP202	SOIL	HSL METALS	07/15/97	07/16,30/97 & 08/15/97	07/17-08/18/97
LHP302	SOIL	HSL METALS	07/15/97	07/16,30/97 & 08/15/97	07/17-08/18/97
LHP402	SOIL	HSL METALS	07/15/97	07/16,30/97 & 08/15/97	07/17-08/18/97
LHP502	SOIL	HSL METALS	07/15/97	07/16,30/97 & 08/15/97	07/17-08/18/97

NEW YORK STATE
DEPARTMENT OF ENVIRONMENTAL CONSERVATION

SAMPLE PREPARATION AND ANALYSIS SUMMARY
ORGANIC ANALYSIS

LAB NAME: RECRA LABNET, INC.

SAMPLE IDENTIFICATION	MATRIX	ANALYTICAL PROTOCOL	EXTRACTION METHOD	AUXILARY CLEAN UP	DIL/CONC FACTOR
LHP101	SOIL	ASP91	SONC	AS REQUIRED	AS REQUIRED
LHP201	SOIL	ASP91	SONC	AS REQUIRED	AS REQUIRED
LHP301	SOIL	ASP91	SONC	AS REQUIRED	AS REQUIRED
LHP401	SOIL	ASP91	SONC	AS REQUIRED	AS REQUIRED
LHP501	SOIL	ASP91	SONC	AS REQUIRED	AS REQUIRED

NEW YORK STATE
DEPARTMENT OF ENVIRONMENTAL CONSERVATION

SAMPLE PREPARATION AND ANALYSIS SUMMARY
INORGANIC ANALYSIS

LAB NAME: RECRA LABNET, INC.

LABORATORY SAMPLE CODE	MATRIX	ANALYTICAL PROTOCOL	DIGESTION PROCEDURE	MATRIX MODIFIER	DIL/CONC FACTOR
LHP101	SOIL	ASP91	ASP91	AS REQUIRED	AS REQUIRED
LHP102	SOIL	ASP91	ASP91	AS REQUIRED	AS REQUIRED
LHP201	SOIL	ASP91	ASP91	AS REQUIRED	AS REQUIRED
LHP202	SOIL	ASP91	ASP91	AS REQUIRED	AS REQUIRED
LHP301	SOIL	ASP91	ASP91	AS REQUIRED	AS REQUIRED
LHP302	SOIL	ASP91	ASP91	AS REQUIRED	AS REQUIRED
LHP401	SOIL	ASP91	ASP91	AS REQUIRED	AS REQUIRED
LHP402	SOIL	ASP91	ASP91	AS REQUIRED	AS REQUIRED
LHP501	SOIL	ASP91	ASP91	AS REQUIRED	AS REQUIRED
LHP502	SOIL	ASP91	ASP91	AS REQUIRED	AS REQUIRED

ORGANIC DATA COMMENT PAGE

Laboratory Name: Recra Labnet, Inc.

USEPA Defined Organic Data Qualifiers:

U - Indicates compound was analyzed for but not detected.

J - Indicates an estimate value. This flag is used either when estimating a concentration for tentatively identified compounds where a 1:1 response is assumed, or when the mass spectral data indicate the presence of a compound that meets the identification criteria but the result is less than the sample quantitation limit but greater than zero.

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

B - This flag is used when the analyte is found in the associated blank as well as in the sample.

E - This flag identifies compounds whose concentrations exceed the calibration range of the GC/MS instrument for that specific analysis.

D - This flag identifies all compounds identified in an analysis at a secondary dilution factor.

T - This flag is used when the analyte is found in the associated TCLP extraction blank as well as in the sample.

N - Indicates presumptive evidence of a compound. This flag is only used for tentatively identified compounds, where the identification is based on a mass spectral library search. It is applied to all TIC results.

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. The lower of the two values is reported on Form I and flagged with a "P".

A - This flag indicates that a TIC is a suspected aldol-condensation product.

INORGANIC DATA COMMENT PAGE

Laboratory Name: Recra Labnet, Inc.

USEPA Defined Inorganic Data Qualifiers:

B - Indicates a value greater than or equal to the instrument detection limit, but less than the contract required detection limit.

U - Indicates element was analyzed for but not detected. Report with the detection limit value (e.g., 100).

N - Indicates spike sample recovery is not within the control limits.

K - Indicates the post digestion spike recovery is not within the control limits.

* - Indicates duplicate analysis is not within the control limits.

S - Indicates value determined by the Method of Standard Addition.

+ - Indicates the correlation coefficient for the Method of Standard Addition is less than 0.995.

M - Indicates duplicate injection results exceeded control limits

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

E - Indicates a value estimated or not reported due to the presence of interference.

000013

1B

EPA SAMPLE NO.

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

LHP101

Lab Name: RECRA ENVIRON Contract: C002989

Lab Code: RECNY Case No.: SH997 SAS No.: SDG No.: 0715

Matrix: (soil/water) SOIL Lab Sample ID: A7246801

Sample wt/vol: 30.9 (g/mL) G Lab File ID: Z30526

Level: (low/med) LOW Date Received: 07/15/97

% Moisture: 3 decanted: (Y/N) N Date Extracted: 07/16/97

Concentrated Extract Volume: 500.0 (uL) Date Analyzed: 08/08/97

Injection Volume: 2.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 7.4

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	36	J
77-47-4	Hexachlorocyclopentadiene	330	U
88-06-2	2,4,6-Trichlorophenol	330	U
95-95-4	2,4,5-Trichlorophenol	800	U
91-58-7	2-Chloronaphthalene	330	U
88-74-4	2-Nitroaniline	800	U
131-11-3	Dimethyl Phthalate	330	U
208-96-8	Acenaphthylene	330	U
606-20-2	2,6-Dinitrotoluene	330	U
99-09-2	3-Nitroaniline	800	U
83-32-9	Acenaphthene	40	J

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

LHP101

Lab Name: RECRA ENVIRON Contract: C002989

Lab Code: RECNY Case No.: SH997 SAS No.: _____ SDG No.: 0715

Matrix: (soil/water) SOIL Lab Sample ID: A7246801

Sample wt/vol: 30.9 (g/mL) G Lab File ID: Z30526

Level: (low/med) LOW Date Received: 07/15/97

% Moisture: 3 decanted: (Y/N) N Date Extracted: 07/16/97

Concentrated Extract Volume: 500.0 (uL) Date Analyzed: 08/08/97

Injection Volume: 2.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 7.4

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
51-28-5	2,4-Dinitrophenol	800	U
100-02-7	4-Nitrophenol	800	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	800	U
534-52-1	4,6-Dinitro-2-Methylphenol	800	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	800	U
85-01-8	Phenanthrene	670	
120-12-7	Anthracene	330	U
86-74-8	Carbazole	330	U
84-74-2	Di-n-Butylphthalate	330	U
206-44-0	Fluoranthene	550	
129-00-0	Pyrene	1100	
85-68-7	Butylbenzylphthalate	330	U
91-94-1	3,3'-Dichlorobenzidine	330	U
56-55-3	Benzo(a)Anthracene	530	
218-01-9	Chrysene	300	J
117-81-7	Bis(2-Ethylhexyl)Phthalate	250	J
117-84-0	Di-n-Octyl Phthalate	330	U
205-99-2	Benzo(b)Fluoranthene	480	
207-08-9	Benzo(k)Fluoranthene	330	U
50-32-8	Benzo(a)Pyrene	160	J
193-39-5	Indeno(1,2,3-cd)Pyrene	66	J
53-70-3	Dibenz(a,h)Anthracene	330	U
191-24-2	Benzo(g,h,i)Perylene	53	J

1F

EPA SAMPLE NO.

LHP101

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

Lab Name: RECRA ENVIRON Contract: C002989

Lab Code: RECNY Case No.: SH997 SAS No.: SDG No.: 0715

Matrix: (soil/water) SOIL Lab Sample ID: A7246801

Sample wt/vol: 30.9 (g/mL) G Lab File ID: Z30526

Level: (low/med) LOW Date Received: 07/15/97

% Moisture: 3 decanted: (Y/N) N Date Extracted: 07/16/97

Concentrated Extract Volume: 500.0 (uL) Date Analyzed: 08/08/97

Injection Volume: 2.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 7.4

Number TICs found: 14

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

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.		suspected aldol cond.product	4.27	540	ABJ
2.		oxygenated cmpd	4.52	140	BJ
3.		Cyclohexen-1-ol isomer	5.32	67	J
4.		Cyclohexen-1-one isomer	6.30	73	BJ
5.		unknown	14.78	130	J
6.		unknown	15.33	130	J
7.		unknown alkane	15.38	240	J
8.		unknown cyclic hydrocarbon	15.70	120	J
9.		unknown alkane	15.82	170	J
10.		dimethyl Naphthalene isomer	16.12	200	J
11.		unknown	16.23	510	J
12.		unknown	16.70	190	J
13.		unknown	16.87	710	J
14.		unknown	36.45	670	J

1B
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.
LHP201

Lab Name: RECRA ENVIRON Contract: C002989

Lab Code: RECNY Case No.: SH997 SAS No.: _____ SDG No.: 0715

Matrix: (soil/water) SOIL Lab Sample ID: A7246803

Sample wt/vol: 30.8 (g/mL) G Lab File ID: Z30527

Level: (low/med) LOW Date Received: 07/15/97

% Moisture: 2 decanted: (Y/N) N Date Extracted: 07/16/97

Concentrated Extract Volume: 500.0 (uL) Date Analyzed: 08/08/97

Injection Volume: 2.0 (uL) Dilution Factor: 1.0

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	52	J
77-47-4	Hexachlorocyclopentadiene	330	U
88-06-2	2,4,6-Trichlorophenol	330	U
95-95-4	2,4,5-Trichlorophenol	800	U
91-58-7	2-Chloronaphthalene	330	U
88-74-4	2-Nitroaniline	800	U
131-11-3	Dimethyl Phthalate	330	U
208-96-8	Acenaphthylene	330	U
606-20-2	2,6-Dinitrotoluene	330	U
99-09-2	3-Nitroaniline	800	U
83-32-9	Acenaphthene	330	U

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

000017

LHP201

Lab Name: RECRA ENVIRON Contract: C002989

Lab Code: RECNY Case No.: SH997 SAS No.: SDG No.: 0715

Matrix: (soil/water) SOIL Lab Sample ID: A7246803

Sample wt/vol: 30.8 (g/mL) G Lab File ID: Z30527

Level: (low/med) LOW Date Received: 07/15/97

% Moisture: 2 decanted: (Y/N) N Date Extracted: 07/16/97

Concentrated Extract Volume: 500.0 (uL) Date Analyzed: 08/08/97

Injection Volume: 2.0(uL) Dilution Factor: 1.0

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	800	U
100-02-7	4-Nitrophenol	800	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	800	U
534-52-1	4,6-Dinitro-2-Methylphenol	800	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	800	U
85-01-8	Phenanthrene	600	
120-12-7	Anthracene	330	U
86-74-8	Carbazole	330	U
84-74-2	Di-n-Butylphthalate	330	U
206-44-0	Fluoranthene	560	
129-00-0	Pyrene	2200	
85-68-7	Butylbenzylphthalate	330	U
91-94-1	3,3'-Dichlorobenzidine	330	U
56-55-3	Benzo(a)Anthracene	500	
218-01-9	Chrysene	210	J
117-81-7	Bis(2-Ethylhexyl)Phthalate	1600	
117-84-0	Di-n-Octyl Phthalate	330	U
205-99-2	Benzo(b)Fluoranthene	630	
207-08-9	Benzo(k)Fluoranthene	220	J
50-32-8	Benzo(a)Pyrene	330	
193-39-5	Indeno(1,2,3-cd)Pyrene	170	J
53-70-3	Dibenz(a,h)Anthracene	38	J
191-24-2	Benzo(g,h,i)Perylene	330	U

000013

1F

EPA SAMPLE NO.

LHP201

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

Lab Name: RECRA ENVIRON Contract: C002989

Lab Code: RECNY Case No.: SH997 SAS No.: _____ SDG No.: 0715

Matrix: (soil/water) SOIL Lab Sample ID: A7246803

Sample wt/vol: 30.8 (g/mL) G Lab File ID: Z30527

Level: (low/med) LOW Date Received: 07/15/97

% Moisture: 2 decanted: (Y/N) N Date Extracted: 07/16/97

Concentrated Extract Volume: 500.0 (uL) Date Analyzed: 08/08/97

Injection Volume: 2.0 (uL) Dilution Factor: 1.0

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

Number TICs found: 10

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

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.		suspected aldol cond.product	4.27	670	ABJ
2.		oxygenated cmpd	4.52	170	J
3.		cyclohexene-1-one isomer	6.28	76	BJ
4.		hexene der	6.73	96	J
5.		unknown alkane	13.52	95	J
6.		unknown alkane	14.05	130	J
7.		unknown	14.78	360	J
8.		unknown	15.07	180	J
9.		unknown alkane	15.82	210	J
10.		unknown	16.23	660	J

000019

1B

EPA SAMPLE NO.

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

LHP201RE

Lab Name: RECRA ENVIRON Contract: C002989

Lab Code: RECNY Case No.: SH997 SAS No.: SDG No.: 0715

Matrix: (soil/water) SOIL Lab Sample ID: A7246803RI

Sample wt/vol: 30.8 (g/mL) G Lab File ID: Z30563

Level: (low/med) LOW Date Received: 07/15/97

% Moisture: 2 decanted: (Y/N) N Date Extracted: 07/16/97

Concentrated Extract Volume: 500.0 (uL) Date Analyzed: 08/11/97

Injection Volume: 2.0 (uL) Dilution Factor: 1.0

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	800	U
91-58-7	2-Chloronaphthalene	330	U
88-74-4	2-Nitroaniline	800	U
131-11-3	Dimethyl Phthalate	330	U
208-96-8	Acenaphthylene	330	U
606-20-2	2,6-Dinitrotoluene	330	U
99-09-2	3-Nitroaniline	800	U
83-32-9	Acenaphthene	330	U

000029

1C

EPA SAMPLE NO.

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

LHP201RE

Lab Name: RECRA ENVIRON Contract: C002989

Lab Code: RECNY Case No.: SH997 SAS No.: SDG No.: 0715

Matrix: (soil/water) SOIL Lab Sample ID: A7246803RI

Sample wt/vol: 30.8 (g/mL) G Lab File ID: Z30563

Level: (low/med) LOW Date Received: 07/15/97

% Moisture: 2 decanted: (Y/N) N Date Extracted: 07/16/97

Concentrated Extract Volume: 500.0 (uL) Date Analyzed: 08/11/97

Injection Volume: 2.0 (uL) Dilution Factor: 1.0

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	800	U
100-02-7	4-Nitrophenol	800	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	800	U
534-52-1	4,6-Dinitro-2-Methylphenol	800	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	800	U
85-01-8	Phenanthrene	740	
120-12-7	Anthracene	330	U
86-74-8	Carbazole	330	U
84-74-2	Di-n-Butylphthalate	330	U
206-44-0	Fluoranthene	480	
129-00-0	Pyrene	730	
85-68-7	Butylbenzylphthalate	330	U
91-94-1	3,3'-Dichlorobenzidine	330	U
56-55-3	Benzo(a)Anthracene	300	J
218-01-9	Chrysene	170	J
117-81-7	Bis(2-Ethylhexyl)Phthalate	1200	
117-84-0	Di-n-Octyl Phthalate	330	U
205-99-2	Benzo(b)Fluoranthene	860	
207-08-9	Benzo(k)Fluoranthene	330	U
50-32-8	Benzo(a)Pyrene	230	J
193-39-5	Indeno(1,2,3-cd)Pyrene	180	J
53-70-3	Dibenz(a,h)Anthracene	330	U
191-24-2	Benzo(g,h,i)Perylene	190	J

1F

EPA SAMPLE NO.

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

LHP201RE

Lab Name: RECRA ENVIRON Contract: C002989

Lab Code: RECNY Case No.: SH997 SAS No.: _____ SDG No.: 0715

Matrix: (soil/water) SOIL Lab Sample ID: A7246803RI

Sample wt/vol: 30.8 (g/mL) G Lab File ID: Z30563

Level: (low/med) LOW Date Received: 07/15/97

% Moisture: 2 decanted: (Y/N) N Date Extracted: 07/16/97

Concentrated Extract Volume: 500.0 (uL) Date Analyzed: 08/11/97

Injection Volume: 2.0 (uL) Dilution Factor: 1.0

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

Number TICs found: 12

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

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.		suspected aldol cond.product	4.07	590	ABJ
2.		oxygenated cmpd	4.32	160	BJ
3.		Cyclohexen-1-ol isomer	5.12	72	J
4.		Cyclohexen-1-one isomer	6.08	69	BJ
5.		hexene der	6.52	100	J
6.		unknown alkane	13.30	67	J
7.		unknown pah der	14.78	190	J
8.		unknown pah der	15.08	370	J
9.		unknown alkane	15.15	260	J
10.		unknown alkane	15.58	190	J
11.		unknown pah der	15.98	470	J
12.		unknown	16.62	1100	J

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

LPH301

Lab Name: RECRA ENVIRON Contract: C002989

Lab Code: RECNY Case No.: SH997 SAS No.: SDG No.: 0715

Matrix: (soil/water) SOIL Lab Sample ID: A7246805

Sample wt/vol: 30.9 (g/mL) G Lab File ID: Z30529

Level: (low/med) LOW Date Received: 07/15/97

% Moisture: 6 decanted: (Y/N) N Date Extracted: 07/16/97

Concentrated Extract Volume: 500.0 (uL) Date Analyzed: 08/08/97

Injection Volume: 2.0(uL) Dilution Factor: 1.0

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	340	U
111-44-4	bis(2-Chloroethyl)Ether	340	U
95-57-8	2-Chlorophenol	340	U
541-73-1	1,3-Dichlorobenzene	340	U
106-46-7	1,4-Dichlorobenzene	340	U
95-50-1	1,2-Dichlorobenzene	340	U
95-48-7	2-Methylphenol	340	U
108-60-1	2,2'-oxybis(1-Chloropropane)	340	U
106-44-5	4-Methylphenol	340	U
621-64-7	N-Nitroso-Di-n-Propylamine	340	U
67-72-1	Hexachloroethane	340	U
98-95-3	Nitrobenzene	340	U
78-59-1	Isophorone	340	U
88-75-5	2-Nitrophenol	340	U
105-67-9	2,4-Dimethylphenol	340	U
111-91-1	bis(2-Chloroethoxy)Methane	340	U
120-83-2	2,4-Dichlorophenol	340	U
120-82-1	1,2,4-Trichlorobenzene	340	U
91-20-3	Naphthalene	110	J
106-47-8	4-Chloroaniline	340	U
87-68-3	Hexachlorobutadiene	340	U
59-50-7	4-Chloro-3-Methylphenol	340	U
91-57-6	2-Methylnaphthalene	92	J
77-47-4	Hexachlorocyclopentadiene	340	U
88-06-2	2,4,6-Trichlorophenol	340	U
95-95-4	2,4,5-Trichlorophenol	830	U
91-58-7	2-Chloronaphthalene	340	U
88-74-4	2-Nitroaniline	830	U
131-11-3	Dimethyl Phthalate	340	U
208-96-8	Acenaphthylene	38	J
606-20-2	2,6-Dinitrotoluene	340	U
99-09-2	3-Nitroaniline	830	U
83-32-9	Acenaphthene	410	

000023

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

LPH301

Lab Name: RECRA ENVIRON Contract: C002989

Lab Code: RECNY Case No.: SH997 SAS No.: _____ SDG No.: 0715

Matrix: (soil/water) SOIL Lab Sample ID: A7246805

Sample wt/vol: 30.9 (g/mL) G Lab File ID: Z30529

Level: (low/med) LOW Date Received: 07/15/97

% Moisture: 6 decanted: (Y/N) N Date Extracted: 07/16/97

Concentrated Extract Volume: 500.0 (uL) Date Analyzed: 08/08/97

Injection Volume: 2.0 (uL) Dilution Factor: 1.0

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	830	U
100-02-7	4-Nitrophenol	830	U
132-64-9	Dibenzofuran	230	J
121-14-2	2,4-Dinitrotoluene	340	U
84-66-2	Diethylphthalate	340	U
7005-72-3	4-Chlorophenyl-phenylether	340	U
86-73-7	Fluorene	420	
100-01-6	4-Nitroaniline	830	U
534-52-1	4,6-Dinitro-2-Methylphenol	830	U
86-30-6	N-Nitrosodiphenylamine (1)	340	U
101-55-3	4-Bromophenyl-phenylether	340	U
118-74-1	Hexachlorobenzene	340	U
87-86-5	Pentachlorophenol	830	U
85-01-8	Phenanthrene	2600	
120-12-7	Anthracene	980	
86-74-8	Carbazole	400	
84-74-2	Di-n-Butylphthalate	51	J
206-44-0	Fluoranthene	3700	E
129-00-0	Pyrene	3900	E
85-68-7	Butylbenzylphthalate	390	
91-94-1	3,3'-Dichlorobenzidine	340	U
56-55-3	Benzo(a)Anthracene	2400	
218-01-9	Chrysene	1600	
117-81-7	Bis(2-Ethylhexyl)Phthalate	280	J
117-84-0	Di-n-Octyl Phthalate	340	U
205-99-2	Benzo(b)Fluoranthene	3600	E
207-08-9	Benzo(k)Fluoranthene	1100	
50-32-8	Benzo(a)Pyrene	1800	
193-39-5	Indeno(1,2,3-cd)Pyrene	750	
53-70-3	Dibenz(a,h)Anthracene	160	J
191-24-2	Benzo(g,h,i)Perylene	590	

000021

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

LPH301

Lab Name: RECRA ENVIRON Contract: C002989

Lab Code: RECNY Case No.: SH997 SAS No.: ______ SDG No.: 0715

Matrix: (soil/water) SOIL Lab Sample ID: A7246805

Sample wt/vol: 30.9 (g/mL) G Lab File ID: Z30529

Level: (low/med) LOW Date Received: 07/15/97

% Moisture: 6 decanted: (Y/N) N Date Extracted: 07/16/97

Concentrated Extract Volume: 500.0 (uL) Date Analyzed: 08/08/97

Injection Volume: 2.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 7.9

Number TICs found: 18

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	suspected aldol cond.product	4.28	800	ABJ
2.	oxygenated cmpd	4.55	200	BJ
3.	Cyclohexen-1-one isomer	6.30	97	BJ
4.	hexene der	6.73	180	J
5. 111-46-6	Ethanol, 2,2'-oxybis-	7.43	110	JN
6.	unknown pentane der	7.80	110	J
7.	dimethyl Naphthalene isomer	16.12	150	J
8.	dimethyl Naphthalene isomer	16.45	150	J
9.	pah der	16.87	350	J
10.	unknown alkane	17.48	140	J
11.	trimethyl Naphthalene isomer	18.20	240	J
12.	pah der	18.32	240	J
13.	unknown	18.40	230	J
14.	unknown alkane	18.50	210	J
15.	unknown alkane	19.08	200	J
16.	unknown alkane	20.65	260	J
17.	unknown alkane	22.15	230	J
18.	pah der	36.45	690	J

000025

1B

EPA SAMPLE NO.

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

LHP301DL

Lab Name: RECRA ENVIRON Contract: C002989

Lab Code: RECNY Case No.: SH997 SAS No.: _____ SDG No.: 0715

Matrix: (soil/water) SOIL Lab Sample ID: A7246805DL

Sample wt/vol: 30.9 (g/mL) G Lab File ID: Z30561

Level: (low/med) LOW Date Received: 07/15/97

% Moisture: 6 decanted: (Y/N) N Date Extracted: 07/16/97

Concentrated Extract Volume: 500.0 (uL) Date Analyzed: 08/11/97

Injection Volume: 2.0 (uL) Dilution Factor: 4.0

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	1400	U
111-44-4	bis(2-Chloroethyl)Ether	1400	U
95-57-8	2-Chlorophenol	1400	U
541-73-1	1,3-Dichlorobenzene	1400	U
106-46-7	1,4-Dichlorobenzene	1400	U
95-50-1	1,2-Dichlorobenzene	1400	U
95-48-7	2-Methylphenol	1400	U
108-60-1	2,2'-oxybis(1-Chloropropane)	1400	U
106-44-5	4-Methylphenol	1400	U
621-64-7	N-Nitroso-Di-n-Propylamine	1400	U
67-72-1	Hexachloroethane	1400	U
98-95-3	Nitrobenzene	1400	U
78-59-1	Isophorone	1400	U
88-75-5	2-Nitrophenol	1400	U
105-67-9	2,4-Dimethylphenol	1400	U
111-91-1	bis(2-Chloroethoxy)Methane	1400	U
120-83-2	2,4-Dichlorophenol	1400	U
120-82-1	1,2,4-Trichlorobenzene	1400	U
91-20-3	Naphthalene	1400	U
106-47-8	4-Chloroaniline	1400	U
87-68-3	Hexachlorobutadiene	1400	U
59-50-7	4-Chloro-3-Methylphenol	1400	U
91-57-6	2-Methylnaphthalene	1400	U
77-47-4	Hexachlorocyclopentadiene	1400	U
88-06-2	2,4,6-Trichlorophenol	1400	U
95-95-4	2,4,5-Trichlorophenol	3300	U
91-58-7	2-Chloronaphthalene	1400	U
88-74-4	2-Nitroaniline	3300	U
131-11-3	Dimethyl Phthalate	1400	U
208-96-8	Acenaphthylene	1400	U
606-20-2	2,6-Dinitrotoluene	1400	U
99-09-2	3-Nitroaniline	3300	U
83-32-9	Acenaphthene	450	DJ

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

LHP301DL

Lab Name: RECRA ENVIRON Contract: C002989

Lab Code: RECNY Case No.: SH997 SAS No.: SDG No.: 0715

Matrix: (soil/water) SOIL Lab Sample ID: A7246805DL

Sample wt/vol: 30.9 (g/mL) G Lab File ID: Z30561

Level: (low/med) LOW Date Received: 07/15/97

% Moisture: 6 decanted: (Y/N) N Date Extracted: 07/16/97

Concentrated Extract Volume: 500.0 (uL) Date Analyzed: 08/11/97

Injection Volume: 2.0 (uL) Dilution Factor: 4.0

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	3300	U
100-02-7	4-Nitrophenol	3300	U
132-64-9	Dibenzofuran	230	DJ
121-14-2	2,4-Dinitrotoluene	1400	U
84-66-2	Diethylphthalate	1400	U
7005-72-3	4-Chlorophenyl-phenylether	1400	U
86-73-7	Fluorene	520	DJ
100-01-6	4-Nitroaniline	3300	U
534-52-1	4,6-Dinitro-2-Methylphenol	3300	U
86-30-6	N-Nitrosodiphenylamine (1)	1400	U
101-55-3	4-Bromophenyl-phenylether	1400	U
118-74-1	Hexachlorobenzene	1400	U
87-86-5	Pentachlorophenol	3300	U
85-01-8	Phenanthrene	3200	D
120-12-7	Anthracene	1100	DJ
86-74-8	Carbazole	430	DJ
84-74-2	Di-n-Butylphthalate	1400	U
206-44-0	Fluoranthene	4100	D
129-00-0	Pyrene	4100	D
85-68-7	Butylbenzylphthalate	400	DJ
91-94-1	3,3'-Dichlorobenzidine	1400	U
56-55-3	Benzo(a)Anthracene	2100	D
218-01-9	Chrysene	2100	D
117-81-7	Bis(2-Ethylhexyl)Phthalate	300	DJ
117-84-0	Di-n-Octyl Phthalate	1400	U
205-99-2	Benzo(b)Fluoranthene	2900	D
207-08-9	Benzo(k)Fluoranthene	1300	DJ
50-32-8	Benzo(a)Pyrene	2000	D
193-39-5	Indeno(1,2,3-cd)Pyrene	1000	DJ
53-70-3	Dibenz(a,h)Anthracene	1400	U
191-24-2	Benzo(g,h,i)Perylene	830	DJ

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

LHP301DL

Lab Name: RECRA ENVIRON Contract: C002989

Lab Code: RECNY Case No.: SH997 SAS No.: _____ SDG No.: 0715

Matrix: (soil/water) SOIL Lab Sample ID: A7246805DL

Sample wt/vol: 30.9 (g/mL) G Lab File ID: Z30561

Level: (low/med) LOW Date Received: 07/15/97

% Moisture: 6 decanted: (Y/N) N Date Extracted: 07/16/97

Concentrated Extract Volume: 500.0 (uL) Date Analyzed: 08/11/97

Injection Volume: 2.0(uL) Dilution Factor: 4.0

GPC Cleanup: (Y/N) Y pH: 7.9

Number TICs found: 15

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

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.		suspected aldol cond.product	4.03	720	AJ
2.		unknown	16.60	370	J
3.		unknown	18.05	290	J
4.		unknown alkane	20.35	930	J
5.		unknown pah der	20.70	500	J
6.	132-65-0	Dibenzothiophene	21.02	300	JN
7.		unknown pah der	21.72	300	J
8.		unknown alkane	21.82	930	J
9.	16587-52-3	Dibenzothiophene, 3-methyl-	22.42	300	JN
10.		unknown pah der	23.00	340	J
11.		unknown pah der	23.08	560	J
12.		unknown pah der	24.00	550	J
13.		unknown pah der	27.17	2800	J
14.		unknown pah der	35.25	2800	J
15.		unknown pah der	35.98	1900	J

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

LHP301DLRE

ab Name: RECRA ENVIRON Contract: C002989

Lab Code: RECNY Case No.: SH997 SAS No.: SDG No.: 0715

atrix: (soil/water) SOIL Lab Sample ID: A7246805V

Sample wt/vol: 30.9 (g/mL) G Lab File ID: Z30668

evel: (low/med) LOW Date Received: 07/15/97

% Moisture: 6 decanted: (Y/N) N Date Extracted: 07/16/97

Concentrated Extract Volume: 500.0 (uL) Date Analyzed: 08/19/97

njection Volume: 2.0(uL) Dilution Factor: 4.0

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	1400	U
111-44-4	bis(2-Chloroethyl)Ether	1400	U
95-57-8	2-Chlorophenol	1400	U
541-73-1	1,3-Dichlorobenzene	1400	U
106-46-7	1,4-Dichlorobenzene	1400	U
95-50-1	1,2-Dichlorobenzene	1400	U
95-48-7	2-Methylphenol	1400	U
108-60-1	2,2'-oxybis(1-Chloropropane)	1400	U
106-44-5	4-Methylphenol	1400	U
621-64-7	N-Nitroso-Di-n-Propylamine	1400	U
67-72-1	Hexachloroethane	1400	U
98-95-3	Nitrobenzene	1400	U
78-59-1	Isophorone	1400	U
88-75-5	2-Nitrophenol	1400	U
105-67-9	2,4-Dimethylphenol	1400	U
111-91-1	bis(2-Chloroethoxy)Methane	1400	U
120-83-2	2,4-Dichlorophenol	1400	U
120-82-1	1,2,4-Trichlorobenzene	1400	U
91-20-3	Naphthalene	1400	U
106-47-8	4-Chloroaniline	1400	U
87-68-3	Hexachlorobutadiene	1400	U
59-50-7	4-Chloro-3-Methylphenol	1400	U
91-57-6	2-Methylnaphthalene	1400	U
77-47-4	Hexachlorocyclopentadiene	1400	U
88-06-2	2,4,6-Trichlorophenol	1400	U
95-95-4	2,4,5-Trichlorophenol	3300	U
91-58-7	2-Chloronaphthalene	1400	U
88-74-4	2-Nitroaniline	3300	U
131-11-3	Dimethyl Phthalate	1400	U
208-96-8	Acenaphthylene	1400	U
606-20-2	2,6-Dinitrotoluene	1400	U
99-09-2	3-Nitroaniline	3300	U
83-32-9	Acenaphthene	410	DJ

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

LHP301DLRE

Lab Name: RECRA ENVIRON Contract: C002989

Lab Code: RECNY Case No.: SH997 SAS No.: SDG No.: 0715

Matrix: (soil/water) SOIL Lab Sample ID: A7246805V

Sample wt/vol: 30.9 (g/mL) G Lab File ID: Z30668

Level: (low/med) LOW Date Received: 07/15/97

% Moisture: 6 decanted: (Y/N) N Date Extracted: 07/16/97

Concentrated Extract Volume: 500.0 (uL) Date Analyzed: 08/19/97

Injection Volume: 2.0 (uL) Dilution Factor: 4.0

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	3300	U
100-02-7	4-Nitrophenol	3300	U
132-64-9	Dibenzofuran	210	DJ
121-14-2	2,4-Dinitrotoluene	1400	U
84-66-2	Diethylphthalate	1400	U
7005-72-3	4-Chlorophenyl-phenylether	1400	U
86-73-7	Fluorene	500	DJ
100-01-6	4-Nitroaniline	3300	U
534-52-1	4,6-Dinitro-2-Methylphenol	3300	U
86-30-6	N-Nitrosodiphenylamine (1)	1400	U
101-55-3	4-Bromophenyl-phenylether	1400	U
118-74-1	Hexachlorobenzene	1400	U
87-86-5	Pentachlorophenol	3300	U
85-01-8	Phenanthrene	3400	D
120-12-7	Anthracene	990	DJ
86-74-8	Carbazole	450	DJ
84-74-2	Di-n-Butylphthalate	1400	U
206-44-0	Fluoranthene	5000	D
129-00-0	Pyrene	4900	D
85-68-7	Butylbenzylphthalate	420	DJ
91-94-1	3,3'-Dichlorobenzidine	1400	U
56-55-3	Benzo(a)Anthracene	2500	D
218-01-9	Chrysene	1900	D
117-81-7	Bis(2-Ethylhexyl)Phthalate	300	DJ
117-84-0	Di-n-Octyl Phthalate	1400	U
205-99-2	Benzo(b)Fluoranthene	3100	D
207-08-9	Benzo(k)Fluoranthene	1000	DJ
50-32-8	Benzo(a)Pyrene	2000	D
193-39-5	Indeno(1,2,3-cd)Pyrene	840	DJ
53-70-3	Dibenz(a,h)Anthracene	180	DJ
191-24-2	Benzo(g,h,i)Perylene	580	DJ

1F

EPA SAMPLE NO.

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

LHP301DLRE

Lab Name: RECRA ENVIRON Contract: C002989

Lab Code: RECNY Case No.: SH997 SAS No.: _____ SDG No.: 0715

Matrix: (soil/water) SOIL Lab Sample ID: A7246805V

Sample wt/vol: 30.9 (g/mL) G Lab File ID: Z30668

Level: (low/med) LOW Date Received: 07/15/97

Moisture: 6 decanted: (Y/N) N Date Extracted: 07/16/97

Concentrated Extract Volume: 500.0 (uL) Date Analyzed: 08/19/97

Injection Volume: 2.0(uL) Dilution Factor: 4.0

GPC Cleanup: (Y/N) Y pH: 7.9

Number TICs found: 12

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

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.		suspected aldol cond.product	3.73	940	AJ
2.		unknown alkane	20.00	1200	J
3.	132-65-0	Dibenzothiophene	20.65	290	JN
4.		unknown alkane	21.45	920	J
5.		unknown	22.52	400	J
6.		unknown pah der	22.68	650	J
7.		unknown pah der	22.87	460	J
8.		unknown pah der	23.63	570	J
9.		unknown alkane	24.93	1100	J
10.		unknown pah der	28.53	2800	J
11.		unknown pah der	34.85	1200	J
12.		unknown pah der	35.55	730	J

090031

1B

EPA SAMPLE NO.

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

LHP401

Lab Name: RECRA ENVIRON Contract: C002989

Lab Code: RECNY Case No.: SH997 SAS No.: SDG No.: 0715

Matrix: (soil/water) SOIL Lab Sample ID: A7246807

Sample wt/vol: 30.5 (g/mL) G Lab File ID: Z30530

Level: (low/med) LOW Date Received: 07/15/97

% Moisture: 5 decanted: (Y/N) N Date Extracted: 07/16/97

Concentrated Extract Volume: 500.0 (uL) Date Analyzed: 08/08/97

Injection Volume: 2.0(uL) Dilution Factor: 1.0

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	340	U
111-44-4	bis(2-Chloroethyl)Ether	340	U
95-57-8	2-Chlorophenol	340	U
541-73-1	1,3-Dichlorobenzene	340	U
106-46-7	1,4-Dichlorobenzene	340	U
95-50-1	1,2-Dichlorobenzene	340	U
95-48-7	2-Methylphenol	340	U
108-60-1	2,2'-oxybis(1-Chloropropane)	340	U
106-44-5	4-Methylphenol	340	U
621-64-7	N-Nitroso-Di-n-Propylamine	340	U
67-72-1	Hexachloroethane	340	U
98-95-3	Nitrobenzene	340	U
78-59-1	Isophorone	340	U
88-75-5	2-Nitrophenol	340	U
105-67-9	2,4-Dimethylphenol	340	U
111-91-1	bis(2-Chloroethoxy)Methane	340	U
120-83-2	2,4-Dichlorophenol	340	U
120-82-1	1,2,4-Trichlorobenzene	340	U
91-20-3	Naphthalene	150	J
106-47-8	4-Chloroaniline	340	U
87-68-3	Hexachlorobutadiene	340	U
59-50-7	4-Chloro-3-Methylphenol	340	U
91-57-6	2-Methylnaphthalene	140	J
77-47-4	Hexachlorocyclopentadiene	340	U
88-06-2	2,4,6-Trichlorophenol	340	U
95-95-4	2,4,5-Trichlorophenol	830	U
91-58-7	2-Chloronaphthalene	340	U
88-74-4	2-Nitroaniline	830	U
131-11-3	Dimethyl Phthalate	340	U
208-96-8	Acenaphthylene	42	J
606-20-2	2,6-Dinitrotoluene	340	U
99-09-2	3-Nitroaniline	830	U
83-32-9	Acenaphthene	610	

000032

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

LHP401

Lab Name: RECRA ENVIRON Contract: C002989

Lab Code: RECNY Case No.: SH997 SAS No.: _____ SDG No.: 0715

Matrix: (soil/water) SOIL Lab Sample ID: A7246807

Sample wt/vol: 30.5 (g/mL) G Lab File ID: Z30530

Level: (low/med) LOW Date Received: 07/15/97

% Moisture: 5 decanted: (Y/N) N Date Extracted: 07/16/97

Concentrated Extract Volume: 500.0 (uL) Date Analyzed: 08/08/97

Injection Volume: 2.0 (uL) Dilution Factor: 1.0

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	830	U
100-02-7	4-Nitrophenol	830	U
132-64-9	Dibenzofuran	330	J
121-14-2	2,4-Dinitrotoluene	340	U
84-66-2	Diethylphthalate	340	U
7005-72-3	4-Chlorophenyl-phenylether	340	U
86-73-7	Fluorene	700	
100-01-6	4-Nitroaniline	830	U
534-52-1	4,6-Dinitro-2-Methylphenol	830	U
86-30-6	N-Nitrosodiphenylamine (1)	340	U
101-55-3	4-Bromophenyl-phenylether	340	U
118-74-1	Hexachlorobenzene	340	U
87-86-5	Pentachlorophenol	830	U
85-01-8	Phenanthrene	3700	E
120-12-7	Anthracene	1500	
86-74-8	Carbazole	640	
84-74-2	Di-n-Butylphthalate	340	U
206-44-0	Fluoranthene	6000	E
129-00-0	Pyrene	7600	E
85-68-7	Butylbenzylphthalate	180	J
91-94-1	3,3'-Dichlorobenzidine	340	U
56-55-3	Benzo(a)Anthracene	4300	E
218-01-9	Chrysene	2500	
117-81-7	Bis(2-Ethylhexyl)Phthalate	250	J
117-84-0	Di-n-Octyl Phthalate	340	U
205-99-2	Benzo(b)Fluoranthene	5900	E
207-08-9	Benzo(k)Fluoranthene	1500	
50-32-8	Benzo(a)Pyrene	3300	E
193-39-5	Indeno(1,2,3-cd)Pyrene	1400	
53-70-3	Dibenz(a,h)Anthracene	110	J
191-24-2	Benzo(g,h,i)Perylene	1000	

000035
EPA SAMPLE NO.

1F
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

LHP401

Lab Name: RECRA ENVIRON Contract: C002989

Lab Code: RECNY Case No.: SH997 SAS No.: _____ SDG No.: 0715

Matrix: (soil/water) SOIL Lab Sample ID: A7246807

Sample wt/vol: 30.5 (g/mL) G Lab File ID: Z30530

Level: (low/med) LOW Date Received: 07/15/97

% Moisture: 5 decanted: (Y/N) N Date Extracted: 07/16/97

Concentrated Extract Volume: 500.0 (uL) Date Analyzed: 08/08/97

Injection Volume: 2.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 7.9

Number TICs found: 19

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

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.		suspected aldol cond.product	4.30	430	ABJ
2.		hexene der	6.73	160	J
3.	111-46-6	Ethanol, 2,2'-oxybis-	7.47	190	JN
4.		dimethyl Naphthalene isomer	16.12	150	J
5.		trimethyl Naphthalene isomer	18.20	200	J
6.		trimethyl Naphthalene isomer	18.28	140	J
7.		trimethyl Naphthalene isomer	18.50	140	J
8.	643-58-3	methyl-1,1'-Biphenyl isomer	19.07	410	JN
9.		unknown alkane	19.77	610	J
10.		Naphthalene der	20.02	140	J
11.		Naphthalene der	20.10	190	J
12.		pah der	20.18	270	J
13.		unknown alkane	20.63	1400	J
14.		pah der	20.80	320	J
15.	132-65-0	Dibenzothiophene	21.35	1200	JN
16.		pah der	22.10	1400	J
17.		pah der	23.37	970	J
18.		pah der	35.67	2000	J
19.		pah der	36.42	690	J

1B
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.
LHP401DL

Lab Name: RECRA ENVIRON Contract: C002989

Lab Code: RECNY Case No.: SH997 SAS No.: SDG No.: 0715

Matrix: (soil/water) SOIL Lab Sample ID: A7246807DL

Sample wt/vol: 30.5 (g/mL) G Lab File ID: Z30669

Level: (low/med) LOW Date Received: 07/15/97

% Moisture: 5 decanted: (Y/N) N Date Extracted: 07/16/97

Concentrated Extract Volume: 500.0 (uL) Date Analyzed: 08/19/97

Injection Volume: 2.0(uL) Dilution Factor: 5.0

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	1700	U
111-44-4	bis(2-Chloroethyl)Ether	1700	U
95-57-8	2-Chlorophenol	1700	U
541-73-1	1,3-Dichlorobenzene	1700	U
106-46-7	1,4-Dichlorobenzene	1700	U
95-50-1	1,2-Dichlorobenzene	1700	U
95-48-7	2-Methylphenol	1700	U
108-60-1	2,2'-oxybis(1-Chloropropane)	1700	U
106-44-5	4-Methylphenol	1700	U
621-64-7	N-Nitroso-Di-n-Propylamine	1700	U
67-72-1	Hexachloroethane	1700	U
98-95-3	Nitrobenzene	1700	U
78-59-1	Isophorone	1700	U
88-75-5	2-Nitrophenol	1700	U
105-67-9	2,4-Dimethylphenol	1700	U
111-91-1	bis(2-Chloroethoxy)Methane	1700	U
120-83-2	2,4-Dichlorophenol	1700	U
120-82-1	1,2,4-Trichlorobenzene	1700	U
91-20-3	Naphthalene	1700	U
106-47-8	4-Chloroaniline	1700	U
87-68-3	Hexachlorobutadiene	1700	U
59-50-7	4-Chloro-3-Methylphenol	1700	U
91-57-6	2-Methylnaphthalene	1700	U
77-47-4	Hexachlorocyclopentadiene	1700	U
88-06-2	2,4,6-Trichlorophenol	1700	U
95-95-4	2,4,5-Trichlorophenol	4100	U
91-58-7	2-Chloronaphthalene	1700	U
88-74-4	2-Nitroaniline	4100	U
131-11-3	Dimethyl Phthalate	1700	U
208-96-8	Acenaphthylene	1700	U
606-20-2	2,6-Dinitrotoluene	1700	U
99-09-2	3-Nitroaniline	4100	U
83-32-9	Acenaphthene	660	DJ

1C

EPA SAMPLE NO.

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

LHP401DL

Lab Name: RECRA ENVIRON Contract: C002989

Lab Code: RECNY Case No.: SH997 SAS No.: SDG No.: 0715

Matrix: (soil/water) SOIL Lab Sample ID: A7246807DL

Sample wt/vol: 30.5 (g/mL) G Lab File ID: Z30669

Level: (low/med) LOW Date Received: 07/15/97

% Moisture: 5 decanted: (Y/N) N Date Extracted: 07/16/97

Concentrated Extract Volume: 500.0 (uL) Date Analyzed: 08/19/97

Injection Volume: 2.0(uL) Dilution Factor: 5.0

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	4100	U
100-02-7	4-Nitrophenol	4100	U
132-64-9	Dibenzofuran	340	DJ
121-14-2	2,4-Dinitrotoluene	1700	U
84-66-2	Diethylphthalate	1700	U
7005-72-3	4-Chlorophenyl-phenylether	1700	U
86-73-7	Fluorene	850	DJ
100-01-6	4-Nitroaniline	4100	U
534-52-1	4,6-Dinitro-2-Methylphenol	4100	U
86-30-6	N-Nitrosodiphenylamine (1)	1700	U
101-55-3	4-Bromophenyl-phenylether	1700	U
118-74-1	Hexachlorobenzene	1700	U
87-86-5	Pentachlorophenol	4100	U
85-01-8	Phenanthrene	5500	D
120-12-7	Anthracene	1700	DJ
86-74-8	Carbazole	780	DJ
84-74-2	Di-n-Butylphthalate	1700	U
206-44-0	Fluoranthene	7800	D
129-00-0	Pyrene	8400	D
85-68-7	Butylbenzylphthalate	200	DJ
91-94-1	3,3'-Dichlorobenzidine	1700	U
56-55-3	Benzo(a)Anthracene	4600	D
218-01-9	Chrysene	3600	D
117-81-7	Bis(2-Ethylhexyl)Phthalate	280	DJ
117-84-0	Di-n-Octyl Phthalate	1700	U
205-99-2	Benzo(b)Fluoranthene	5500	D
207-08-9	Benzo(k)Fluoranthene	1900	D
50-32-8	Benzo(a)Pyrene	3800	D
193-39-5	Indeno(1,2,3-cd)Pyrene	1900	D
53-70-3	Dibenz(a,h)Anthracene	1700	U
191-24-2	Benzo(g,h,i)Perylene	1300	DJ

C0C036
EPA SAMPLE NO.

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

LHP401DL

Lab Name: RECRA ENVIRON Contract: C002989

Lab Code: RECNY Case No.: SH997 SAS No.: _____ SDG No.: 0715

Matrix: (soil/water) SOIL Lab Sample ID: A7246807DL

Sample wt/vol: 30.5 (g/mL) G Lab File ID: Z30669

Level: (low/med) LOW Date Received: 07/15/97

% Moisture: 5 decanted: (Y/N) N Date Extracted: 07/16/97

Concentrated Extract Volume: 500.0 (uL) Date Analyzed: 08/19/97

Injection Volume: 2.0(uL) Dilution Factor: 5.0

GPC Cleanup: (Y/N) Y pH: 7.9

Number TICs found: 20

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

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.		suspected aldol cond.product	3.73	670	AJ
2.		unknown alkane	19.98	700	J
3.	132-65-0	Dibenzothiophene	20.63	370	JN
4.		unknown alkane	21.43	590	J
5.		unknown pah der	22.58	780	J
6.		unknown pah der	22.67	950	J
7.		unknown pah der	22.85	1300	J
8.		unknown pah der	22.97	420	J
9.		unknown pah der	23.58	850	J
10.		unknown	24.90	700	J
11.		unknown pah der	25.85	390	J
12.		unknown pah der	26.42	360	J
13.		unknown pah der	26.52	590	J
14.		unknown pah der	26.73	720	J
15.		unknown alkane	27.65	390	J
16.		unknown pah der	28.48	610	J
17.		unknown pah der	29.48	460	J
18.		unknown pah der	32.55	750	J
19.		unknown pah der	34.80	910	J
20.		unknown pah der	35.50	530	J

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

LHP501

Lab Name: RECRA ENVIRON Contract: C002989

Lab Code: RECNY Case No.: SH997 SAS No.: _____ SDG No.: 0715

Matrix: (soil/water) SOIL Lab Sample ID: A7246809

Sample wt/vol: 30.6 (g/mL) G Lab File ID: Z30528

Level: (low/med) LOW Date Received: 07/15/97

% Moisture: 9 decanted: (Y/N) N Date Extracted: 07/16/97

Concentrated Extract Volume: 500.0 (uL) Date Analyzed: 08/08/97

Injection Volume: 2.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 7.6

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
108-95-2	Phenol	360	U
111-44-4	bis(2-Chloroethyl)Ether	360	U
95-57-8	2-Chlorophenol	360	U
541-73-1	1,3-Dichlorobenzene	360	U
106-46-7	1,4-Dichlorobenzene	360	U
95-50-1	1,2-Dichlorobenzene	360	U
95-48-7	2-Methylphenol	360	U
108-60-1	2,2'-oxybis(1-Chloropropane)	360	U
106-44-5	4-Methylphenol	360	U
621-64-7	N-Nitroso-Di-n-Propylamine	360	U
67-72-1	Hexachloroethane	360	U
98-95-3	Nitrobenzene	360	U
78-59-1	Isophorone	360	U
88-75-5	2-Nitrophenol	360	U
105-67-9	2,4-Dimethylphenol	360	U
111-91-1	bis(2-Chloroethoxy)Methane	360	U
120-83-2	2,4-Dichlorophenol	360	U
120-82-1	1,2,4-Trichlorobenzene	360	U
91-20-3	Naphthalene	360	U
106-47-8	4-Chloroaniline	360	U
87-68-3	Hexachlorobutadiene	360	U
59-50-7	4-Chloro-3-Methylphenol	360	U
91-57-6	2-Methylnaphthalene	360	U
77-47-4	Hexachlorocyclopentadiene	360	U
88-06-2	2,4,6-Trichlorophenol	360	U
95-95-4	2,4,5-Trichlorophenol	860	U
91-58-7	2-Chloronaphthalene	360	U
88-74-4	2-Nitroaniline	860	U
131-11-3	Dimethyl Phthalate	360	U
208-96-8	Acenaphthylene	41	J
606-20-2	2,6-Dinitrotoluene	360	U
99-09-2	3-Nitroaniline	860	U
83-32-9	Acenaphthene	360	U

1C
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

LHP501

Lab Name: RECRA ENVIRON Contract: C002989

Lab Code: RECNY Case No.: SH997 SAS No.: _____ SDG No.: 0715

Matrix: (soil/water) SOIL Lab Sample ID: A7246809

Sample wt/vol: 30.6 (g/mL) G Lab File ID: Z30528

Level: (low/med) LOW Date Received: 07/15/97

% Moisture: 9 decanted: (Y/N) N Date Extracted: 07/16/97

Concentrated Extract Volume: 500.0 (uL) Date Analyzed: 08/08/97

Injection Volume: 2.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 7.6

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
51-28-5	2,4-Dinitrophenol	860	U
100-02-7	4-Nitrophenol	860	U
132-64-9	Dibenzofuran	360	U
121-14-2	2,4-Dinitrotoluene	360	U
84-66-2	Diethylphthalate	360	U
7005-72-3	4-Chlorophenyl-phenylether	360	U
86-73-7	Fluorene	360	U
100-01-6	4-Nitroaniline	860	U
534-52-1	4,6-Dinitro-2-Methylphenol	860	U
86-30-6	N-Nitrosodiphenylamine (1)	360	U
101-55-3	4-Bromophenyl-phenylether	360	U
118-74-1	Hexachlorobenzene	360	U
87-86-5	Pentachlorophenol	860	U
85-01-8	Phenanthrene	140	J
120-12-7	Anthracene	53	J
86-74-8	Carbazole	360	U
84-74-2	Di-n-Butylphthalate	200	J
206-44-0	Fluoranthene	390	
129-00-0	Pyrene	530	
85-68-7	Butylbenzylphthalate	1300	
91-94-1	3,3'-Dichlorobenzidine	360	U
56-55-3	Benzo(a)Anthracene	300	J
218-01-9	Chrysene	490	
117-81-7	Bis(2-Ethylhexyl)Phthalate	98	J
117-84-0	Di-n-Octyl Phthalate	360	U
205-99-2	Benzo(b)Fluoranthene	980	
207-08-9	Benzo(k)Fluoranthene	250	J
50-32-8	Benzo(a)Pyrene	410	
193-39-5	Indeno(1,2,3-cd)Pyrene	140	J
53-70-3	Dibenz(a,h)Anthracene	360	U
191-24-2	Benzo(g,h,i)Perylene	98	J

C90039

EPA SAMPLE NO.

LHP501

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

Lab Name: RECRA ENVIRON Contract: C002989

Lab Code: RECNY Case No.: SH997 SAS No.: _____ SDG No.: 0715

Matrix: (soil/water) SOIL Lab Sample ID: A7246809

Sample wt/vol: 30.6 (g/mL) G Lab File ID: Z30528

Level: (low/med) LOW Date Received: 07/15/97

% Moisture: 9 decanted: (Y/N) N Date Extracted: 07/16/97

Concentrated Extract Volume: 500.0 (uL) Date Analyzed: 08/08/97

Injection Volume: 2.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 7.6

Number TICs found: 19

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

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.		suspected aldol cond.product	4.30	950	ABJ
2.		oxygenated cmpd	4.55	250	BJ
3.		Cyclohexen-1-ol isomer	5.35	97	J
4.		Cyclohexen-1-one isomer	6.30	97	BJ
5.		hexene der	6.73	92	J
6.		Pentane der	7.78	100	J
7.	57-10-3	Hexadecanoic acid	24.13	160	BJN
8.		unknown	25.65	250	J
9.		unknown acid	26.33	100	J
10.		unknown pah der	27.10	86	J
11.		unknown alkane	28.15	89	J
12.		unknown pah der	28.75	98	J
13.	123-95-5	Octadecanoic acid, butyl est	29.12	410	BJN
14.		unknown alkane	30.23	320	BJ
15.		unknown alkane	32.30	1700	J
16.		unknown pah der	33.25	370	J
17.		unknown alkane	34.17	1600	J
18.		unknown alkane	35.92	740	J
19.		unknown	38.13	360	J

1D

PESTICIDE ORGANICS ANALYSIS DATA SHEET

000040
EPA SAMPLE NO.

LHP101

Lab Name: RECRA ENVIRON Contract: C002989

Lab Code: RECNY Case No.: SH997 SAS No.: SDG No.: 0715

Matrix: (soil/water) SOIL Lab Sample ID: A7246801

Sample wt/vol: 30.4 (g/mL) G Lab File ID:

% Moisture: 3 decanted: (Y/N) N Date Received: 07/15/97

Extraction: (SepF/Cont/Sonc) SONC Date Extracted: 07/16/97

Concentrated Extract Volume: 5000 (uL) Date Analyzed: 08/08/97

Injection Volume: 1.00 (uL) Dilution Factor: 10.0

GPC Cleanup: (Y/N) Y pH: 7.4 Sulfur Cleanup: (Y/N) N

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
319-84-6	alpha-BHC	17	U
319-85-7	beta-BHC	17	U
319-86-8	delta-BHC	17	U
58-89-9	gamma-BHC (Lindane)	17	U
76-44-8	Heptachlor	17	U
309-00-2	Aldrin	17	U
1024-57-3	Heptachlor epoxide	17	U
959-98-8	Endosulfan I	17	U
60-57-1	Dieldrin	34	U
72-55-9	4,4'-DDE	34	U
72-20-8	Endrin	34	U
33213-65-9	Endosulfan II	34	U
72-54-8	4,4'-DDD	34	U
1031-07-8	Endosulfan sulfate	34	U
50-29-3	4,4'-DDT	34	U
72-43-5	Methoxychlor	170	U
53494-70-5	Endrin ketone	34	U
7421-93-4	Endrin aldehyde	34	U
5103-71-9	alpha-Chlordane	17	U
5103-74-2	gamma-Chlordane	17	U
8001-35-2	Toxaphene	1700	U
12674-11-2	Aroclor-1016	340	U
11104-28-2	Aroclor-1221	680	U
11141-16-5	Aroclor-1232	340	U
53469-21-9	Aroclor-1242	340	U
12672-29-6	Aroclor-1248	290	JXP
11097-69-1	Aroclor-1254	1200	X
11096-82-5	Aroclor-1260	340	U

1D
PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.
LHP201

Lab Name: RECRA ENVIRON Contract: C002989

Lab Code: RECNY Case No.: SH997 SAS No.: _____ SDG No.: 0715

Matrix: (soil/water) SOIL Lab Sample ID: A7246803

Sample wt/vol: 30.9 (g/mL) G Lab File ID: _____

% Moisture: 2 decanted: (Y/N) N Date Received: 07/15/97

Extraction: (SepF/Cont/Sonc) SONC Date Extracted: 07/16/97

Concentrated Extract Volume: 5000 (uL) Date Analyzed: 08/08/97

Injection Volume: 1.00 (uL) Dilution Factor: 2.00

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
319-84-6	alpha-BHC	3.4	U
319-85-7	beta-BHC	3.4	U
319-86-8	delta-BHC	3.4	U
58-89-9	gamma-BHC (Lindane)	3.4	U
76-44-8	Heptachlor	3.4	U
309-00-2	Aldrin	3.4	U
1024-57-3	Heptachlor epoxide	3.4	U
959-98-8	Endosulfan I	3.4	U
60-57-1	Dieldrin	6.5	U
72-55-9	4,4'-DDE	6.5	U
72-20-8	Endrin	6.5	U
33213-65-9	Endosulfan II	6.5	U
72-54-8	4,4'-DDD	6.5	U
1031-07-8	Endosulfan sulfate	6.5	U
50-29-3	4,4'-DDT	6.5	U
72-43-5	Methoxychlor	34	U
53494-70-5	Endrin ketone	6.5	U
7421-93-4	Endrin aldehyde	6.5	U
5103-71-9	alpha-Chlordane	3.4	U
5103-74-2	gamma-Chlordane	3.4	U
8001-35-2	Toxaphene	340	U
12674-11-2	Aroclor-1016	65	U
11104-28-2	Aroclor-1221	130	U
11141-16-5	Aroclor-1232	65	U
53469-21-9	Aroclor-1242	65	U
12672-29-6	Aroclor-1248	94	X
11097-69-1	Aroclor-1254	310	X
11096-82-5	Aroclor-1260	65	U

1D

PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

LHP301

Lab Name: RECRA ENVIRON Contract: C002989

Lab Code: RECNY Case No.: SH997 SAS No.: SDG No.: 0715

Matrix: (soil/water) SOIL Lab Sample ID: A7246805

Sample wt/vol: 30.7 (g/mL) G Lab File ID:

% Moisture: 6 decanted: (Y/N) N Date Received: 07/15/97

Extraction: (SepF/Cont/Sonc) SONC Date Extracted: 07/16/97

Concentrated Extract Volume: 5000 (uL) Date Analyzed: 08/08/97

Injection Volume: 1.00 (uL) Dilution Factor: 2.00

GPC Cleanup: (Y/N) Y pH: 7.9 Sulfur Cleanup: (Y/N) N

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
319-84-6	alpha-BHC	3.5	U
319-85-7	beta-BHC	3.5	U
319-86-8	delta-BHC	3.5	U
58-89-9	gamma-BHC (Lindane)	3.5	U
76-44-8	Heptachlor	3.5	U
309-00-2	Aldrin	3.5	U
1024-57-3	Heptachlor epoxide	3.5	U
959-98-8	Endosulfan I	3.5	U
60-57-1	Dieldrin	6.9	U
72-55-9	4,4'-DDE	6.9	U
72-20-8	Endrin	6.9	U
33213-65-9	Endosulfan II	6.9	U
72-54-8	4,4'-DDD	6.9	U
1031-07-8	Endosulfan sulfate	6.9	U
50-29-3	4,4'-DDT	6.9	U
72-43-5	Methoxychlor	35	U
53494-70-5	Endrin ketone	6.9	U
7421-93-4	Endrin aldehyde	6.9	U
5103-71-9	alpha-Chlordane	3.5	U
5103-74-2	gamma-Chlordane	3.5	U
8001-35-2	Toxaphene	350	U
12674-11-2	Aroclor-1016	69	U
11104-28-2	Aroclor-1221	140	U
11141-16-5	Aroclor-1232	69	U
53469-21-9	Aroclor-1242	69	U
12672-29-6	Aroclor-1248	170	X
11097-69-1	Aroclor-1254	200	PX
11096-82-5	Aroclor-1260	69	U

000043

1D

EPA SAMPLE NO.

PESTICIDE ORGANICS ANALYSIS DATA SHEET

LHP401

Lab Name: RECRA ENVIRON Contract: C002989

Lab Code: RECNY Case No.: SH997 SAS No.: _____ SDG No.: 0715

Matrix: (soil/water) SOIL Lab Sample ID: A7246807

Sample wt/vol: 30.6 (g/mL) G Lab File ID: _____

% Moisture: 5 decanted: (Y/N) N Date Received: 07/15/97

Extraction: (SepF/Cont/Sonc) SONC Date Extracted: 07/16/97

Concentrated Extract Volume: 10000 (uL) Date Analyzed: 08/08/97

Injection Volume: 1.00 (uL) Dilution Factor: 2.00

GPC Cleanup: (Y/N) Y pH: 7.9 Sulfur Cleanup: (Y/N) N

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
319-84-6	alpha-BHC	7.0	U
319-85-7	beta-BHC	7.0	U
319-86-8	delta-BHC	7.0	U
58-89-9	gamma-BHC (Lindane)	7.0	U
76-44-8	Heptachlor	7.0	U
309-00-2	Aldrin	7.0	U
1024-57-3	Heptachlor epoxide	7.0	U
959-98-8	Endosulfan I	7.0	U
60-57-1	Dieldrin	14	U
72-55-9	4,4'-DDE	14	U
72-20-8	Endrin	14	U
33213-65-9	Endosulfan II	14	U
72-54-8	4,4'-DDD	14	U
1031-07-8	Endosulfan sulfate	14	U
50-29-3	4,4'-DDT	14	U
72-43-5	Methoxychlor	70	U
53494-70-5	Endrin ketone	14	U
7421-93-4	Endrin aldehyde	14	U
5103-71-9	alpha-Chlordane	7.0	U
5103-74-2	gamma-Chlordane	7.0	U
8001-35-2	Toxaphene	700	U
12674-11-2	Aroclor-1016	140	U
11104-28-2	Aroclor-1221	280	U
11141-16-5	Aroclor-1232	140	U
53469-21-9	Aroclor-1242	140	U
12672-29-6	Aroclor-1248	170	X
11097-69-1	Aroclor-1254	370	PX
11096-82-5	Aroclor-1260	140	U

1D

PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO. LHP501

Lab Name: RECRA ENVIRON Contract: C002989

Lab Code: RECNY Case No.: SH997 SAS No.: _____ SDG No.: 0715

Matrix: (soil/water) SOIL Lab Sample ID: A7246809

Sample wt/vol: 30.8 (g/mL) G Lab File ID: _____

% Moisture: 9 decanted: (Y/N) N Date Received: 07/15/97

Extraction: (SepF/Cont/Sonc) SONC Date Extracted: 07/16/97

Concentrated Extract Volume: 5000 (uL) Date Analyzed: 08/09/97

Injection Volume: 1.00 (uL) Dilution Factor: 1.00

GPC Cleanup: (Y/N) Y pH: 7.6 Sulfur Cleanup: (Y/N) N

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
319-84-6	alpha-BHC	1.8	U
319-85-7	beta-BHC	1.8	U
319-86-8	delta-BHC	1.8	U
58-89-9	gamma-BHC (Lindane)	1.8	U
76-44-8	Heptachlor	1.8	U
309-00-2	Aldrin	1.8	U
1024-57-3	Heptachlor epoxide	1.8	U
959-98-8	Endosulfan I	1.8	U
60-57-1	Dieldrin	3.5	U
72-55-9	4,4'-DDE	3.5	U
72-20-8	Endrin	3.5	U
33213-65-9	Endosulfan II	3.5	U
72-54-8	4,4'-DDD	3.5	U
1031-07-8	Endosulfan sulfate	3.5	U
50-29-3	4,4'-DDT	3.5	U
72-43-5	Methoxychlor	18	U
53494-70-5	Endrin ketone	3.5	U
7421-93-4	Endrin aldehyde	3.5	U
5103-71-9	alpha-Chlordane	1.8	U
5103-74-2	gamma-Chlordane	1.8	U
8001-35-2	Toxaphene	180	U
12674-11-2	Aroclor-1016	35	U
11104-28-2	Aroclor-1221	72	U
11141-16-5	Aroclor-1232	35	U
53469-21-9	Aroclor-1242	35	U
12672-29-6	Aroclor-1248	43	PX
11097-69-1	Aroclor-1254	140	PX
11096-82-5	Aroclor-1260	35	U

NYSDEC ASP

COVER PAGE - INORGANIC ANALYSES DATA PACKAGE

Lab Name: RECRA_LABNET_INC._____ Contract: C002989___

Lab Code: RECNY_ Case No.: SH997 SAS No.: _____ SDG No.:0715__

Protocol Version: ASP95

NYSDEC Sample No.	Lab Sample ID.
_LHP102_____	__AD711148____
_LHP202_____	__AD711149____
_LHP302_____	__AD711150____
_LHP402_____	__AD711151____
_LHP502_____	__AD711152____
_____	_____
_____	_____
_____	_____
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_____	_____
_____	_____

Were ICP interelement corrections applied ? Yes/No YES

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

Comments:

_____

_____

_____

_____

I certify that this data package is in compliance with the terms and conditions of the Protocol, 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 diskette has been authorized by the Laboratory Manager or the Manager's designee, as verified by the following signature.

Signature: K E Kasperek Name: Kenneth_E._Kasperek_____

Date: 8/21/97 Title: Laboratory_Director_____

NYSDEC ASP

1

NYSDEC SAMPLE NO.

INORGANIC ANALYSES DATA SHEET

LHP102

Lab Name: RECRA_LABNET_INC._____ Contract: C002989___

Lab Code: RECNY_ Case No.: SH997 SAS No.: _____ SDG No.: 0715__

Matrix (soil/water): SOIL_ Lab Sample ID: AD711148

Level (low/med): LOW__ Date Received: 07/15/97

% Solids: _95.8

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	6900		E	P
7440-36-0	Antimony	2.9	B		P
7440-38-2	Arsenic	27.0			P
7440-39-3	Barium	109			P
7440-41-7	Beryllium	0.60	B		P
7440-43-9	Cadmium	0.21	U		P
7440-70-2	Calcium	9230		E	P
7440-47-3	Chromium	378			P
7440-48-4	Cobalt	11.8			P
7440-50-8	Copper	2060		E	P
7439-89-6	Iron	96600		E	P
7439-92-1	Lead	372		E	P
7439-95-4	Magnesium	3220		E	P
7439-96-5	Manganese	1670		E	P
7439-97-6	Mercury	0.10	U		CV
7440-02-0	Nickel	147		E	P
7440-09-7	Potassium	459	B		P
7782-49-2	Selenium	2.7			P
7440-22-4	Silver	0.90	U		P
7440-23-5	Sodium	329	B		P
7440-28-0	Thallium	3.0			P
7440-62-2	Vanadium	57.9			P
7440-66-6	Zinc	455			P
	Cyanide				NR

Color Before: BROWN____ Clarity Before: _____ Texture: MEDIUM

Color After: COLORLESS Clarity After: CLEAR_ Artifacts: ___

Comments:

LAB_SAMPLE_ID:__A7246802-SG000010

RE-DIGESTION_ID:__AD711972

NYSDEC ASP

1
INORGANIC ANALYSES DATA SHEET

NYSDEC SAMPLE NO.
LHP202

Lab Name: RECRA_LABNET_INC._____ Contract: C002989___

Lab Code: RECNY_ Case No.: SH997 SAS No.: _____ SDG No.: 0715__

Matrix (soil/water): SOIL_ Lab Sample ID: AD711149

Level (low/med): LOW__ Date Received: 07/15/97

% Solids: _97.6

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	6340		E	P
7440-36-0	Antimony	3.9	B		P
7440-38-2	Arsenic	25.9			P
7440-39-3	Barium	75.6			P
7440-41-7	Beryllium	0.50	B		P
7440-43-9	Cadmium	0.20	U		P
7440-70-2	Calcium	105000		E	P
7440-47-3	Chromium	185			P
7440-48-4	Cobalt	14.0			P
7440-50-8	Copper	341		E	P
7439-89-6	Iron	118000		E	P
7439-92-1	Lead	224		E	P
7439-95-4	Magnesium	3010		E	P
7439-96-5	Manganese	1290		E	P
7439-97-6	Mercury	0.10	U		CV
7440-02-0	Nickel	211		E	P
7440-09-7	Potassium	557	B		P
7782-49-2	Selenium	2.1			P
7440-22-4	Silver	0.88	U		P
7440-23-5	Sodium	572	B		P
7440-28-0	Thallium	3.9			P
7440-62-2	Vanadium	37.3			P
7440-66-6	Zinc	305			P
	Cyanide				NR

Color Before: BROWN____ Clarity Before: _____ Texture: MEDIUM

Color After: COLORLESS Clarity After: CLEAR_ Artifacts: ___

Comments:
LAB_SAMPLE_ID:__A7246804-SG000010
RE-DIGESTION_ID:_AD711973

NYSDEC ASP

1

NYSDEC SAMPLE NO.

INORGANIC ANALYSES DATA SHEET

LHP302

Lab Name: RECRA_LABNET_INC._____ Contract: C002989___

Lab Code: RECNY_ Case No.: SH997 SAS No.: _____ SDG No.: 0715__

Matrix (soil/water): SOIL_ Lab Sample ID: AD711150

Level (low/med): LOW__ Date Received: 07/15/97

% Solids: _94.1

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	8580		E	P
7440-36-0	Antimony	3.4	B		P
7440-38-2	Arsenic	15.3			P
7440-39-3	Barium	88.1			P
7440-41-7	Beryllium	0.69	B		P
7440-43-9	Cadmium	0.21	U		P
7440-70-2	Calcium	27100		E	P
7440-47-3	Chromium	59.4			P
7440-48-4	Cobalt	7.7	B		P
7440-50-8	Copper	135		E	P
7439-89-6	Iron	37300		E	P
7439-92-1	Lead	259		E	P
7439-95-4	Magnesium	5400		E	P
7439-96-5	Manganese	953		E	P
7439-97-6	Mercury	0.31			CV
7440-02-0	Nickel	60.3		E	P
7440-09-7	Potassium	753	B		P
7782-49-2	Selenium	2.1			P
7440-22-4	Silver	0.90	U		P
7440-23-5	Sodium	745	B		P
7440-28-0	Thallium	1.7	B		P
7440-62-2	Vanadium	26.9			P
7440-66-6	Zinc	364			P
	Cyanide				NR

Color Before: BROWN____ Clarity Before: _____ Texture: MEDIUM

Color After: COLORLESS Clarity After: CLEAR_ Artifacts: ___

Comments:

LAB_SAMPLE_ID:__A7246806-SG000010_____

RE-DIGESTION_ID:__AD711974_____

NYSDEC ASP

1

INORGANIC ANALYSES DATA SHEET

NYSDEC SAMPLE NO.

LHP402

Lab Name: RECRA_LABNET_INC._____ Contract: C002989___

Lab Code: RECNY_ Case No.: SH997 SAS No.: _____ SDG No.: 0715__

Matrix (soil/water): SOIL_ Lab Sample ID: AD711151

Level (low/med): LOW__ Date Received: 07/15/97

% Solids: _93.8

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	7110		E	P
7440-36-0	Antimony	2.5	B		P
7440-38-2	Arsenic	13.4			P
7440-39-3	Barium	80.3			P
7440-41-7	Beryllium	0.60	B		P
7440-43-9	Cadmium	0.21	U		P
7440-70-2	Calcium	33100		E	P
7440-47-3	Chromium	38.7			P
7440-48-4	Cobalt	6.5	B		P
7440-50-8	Copper	90.9		E	P
7439-89-6	Iron	29500		E	P
7439-92-1	Lead	201		E	P
7439-95-4	Magnesium	4820		E	P
7439-96-5	Manganese	709		E	P
7439-97-6	Mercury	0.29			CV
7440-02-0	Nickel	37.0		E	P
7440-09-7	Potassium	631	B		P
7782-49-2	Selenium	1.4			P
7440-22-4	Silver	0.91	U		P
7440-23-5	Sodium	580	B		P
7440-28-0	Thallium	1.1	B		P
7440-62-2	Vanadium	21.6			P
7440-66-6	Zinc	311			P
	Cyanide				NR

Color Before: BROWN____ Clarity Before: _____ Texture: MEDIUM

Color After: COLORLESS Clarity After: CLEAR_ Artifacts: ___

Comments:

LAB_SAMPLE_ID:__A7246808-SG000010

RE-DIGESTION_ID:__AD711975

NYSDEC ASP

1

INORGANIC ANALYSES DATA SHEET

NYSDEC SAMPLE NO.

LHP502

Lab Name: RECRA_LABNET_INC._____ Contract: C002989___

Lab Code: RECNY_ Case No.: SH997 SAS No.: _____ SDG No.: 0715__

Matrix (soil/water): SOIL_ Lab Sample ID: AD711152

Level (low/med): LOW__ Date Received: 07/15/97

% Solids: _92.8

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	8910		E	P
7440-36-0	Antimony	2.4	U		P
7440-38-2	Arsenic	8.2			P
7440-39-3	Barium	73.6			P
7440-41-7	Beryllium	0.58	B		P
7440-43-9	Cadmium	0.44	B		P
7440-70-2	Calcium	11100		E	P
7440-47-3	Chromium	17.6			P
7440-48-4	Cobalt	5.5	B		P
7440-50-8	Copper	63.5		E	P
7439-89-6	Iron	16400		E	P
7439-92-1	Lead	101		E	P
7439-95-4	Magnesium	2340		E	P
7439-96-5	Manganese	355		E	P
7439-97-6	Mercury	0.15			CV
7440-02-0	Nickel	37.0		E	P
7440-09-7	Potassium	687	B		P
7782-49-2	Selenium	1.2			P
7440-22-4	Silver	0.92	U		P
7440-23-5	Sodium	573	B		P
7440-28-0	Thallium	0.92	U		P
7440-62-2	Vanadium	20.1			P
7440-66-6	Zinc	277			P
	Cyanide				NR

Color Before: BROWN____ Clarity Before: _____ Texture: MEDIUM

Color After: COLORLESS Clarity After: CLEAR_ Artifacts: ___

Comments:

LAB_SAMPLE_ID:__A7246810-SG000010

RE-DIGESTION_ID:__AD711976

2D

SOIL SEMIVOLATILE SURROGATE RECOVERY

Lab Name: RECRA ENVIRON Contract: C002989

Lab Code: RECNY Case No.: SH997 SAS No.: _____ SDG No.: 0715

Level:(low/med) LOW

	EPA SAMPLE NO.	S1 (NBZ)#	S2 (FBP)#	S3 (TPH)#	S4 (PHL)#	S5 (2FP)#	S6 (TBP)#	S7 (2CP)#	S8 (DCB)#	TOT OUT
01	LHP101	48	96	70	64	52	85	59	50	0
02	LHP201	62	73	185 *	74	78	46	65	55	1
03	LHP201RE	62	68	55	65	58	36	64	56	0
04	LHP301DL	74 D	84 D	87 D	77 D	70 D	82 D	80 D	68 D	0
05	LHP301DLRE	23 D	79 D	96 D	86 D	74 D	110 D	78 D	52 D	0
06	LHP401	50	71	106	69	44	106	64	62	0
07	LHP401DL	65 D	77 D	98 D	72 D	66 D	105 D	69 D	58 D	0
08	LHP501	69	45	69	81	80	95	65	50	0
09	LPH301	67	77	90	78	75	120	70	66	0
10	MSBD	56	57	73	71	67	88	63	56	0
11	MSBLANK	62	65	83	81	75	94	69	62	0
12	SBLK02	58	68	60	73	63	76	68	59	0

		QC LIMITS	
S1 (NBZ)	= Nitrobenzene-d5	(23-120)	
S2 (FBP)	= 2-Fluorobiphenyl	(30-115)	
S3 (TPH)	= Terphenyl-d14	(18-137)	
S4 (PHL)	= Phenol-d5	(24-113)	
S5 (2FP)	= 2-Fluorophenol	(25-121)	
S6 (TBP)	= 2,4,6-Tribromophenol	(19-122)	
S7 (2CP)	= 2-Chlorophenol-d4	(20-130)	(advisory)
S8 (DCB)	= 1,2-Dichlorobenzene-d4	(20-130)	(advisory)

Column to be used to flag recovery values
* Values outside of contract required QC limits
D Surrogate diluted out

2F
SOIL PESTICIDE SURROGATE RECOVERY

Lab Name: RECRA ENVIRON Contract: C002989

Lab Code: RECNY Case No.: SH997 SAS No.: _____ SDG No.: 0715

GC Column(1): DB50 ID: 0.53(mm) GC Column(2): DB5 ID: 0.53(mm)

	EPA SAMPLE NO.	TCX 1 %REC #	TCX 2 %REC #	DCB 1 %REC #	DCB 2 %REC #	OTHER (1)	OTHER (2)	TOT OUT
01	PBLK01	68	60	96	91			0
02	LHP101	0D	0D	0D	0D			0
03	LHP201	14*	14*	25*	20*			4
04	LHP301	34*	38*	64	21*			3
05	LHP401	68	53*	148	305*			2
06	LHP501	86	76	132	95			0
07	MSB01	78	63	102	94			0
08	MSBD02	68	58*	91	92			1

	ADVISORY QC LIMITS
TCX = Tetrachloro-m-xylene	(60-150)
DCB = Decachlorobiphenyl	(60-150)

Column to be used to flag recovery values
* Values outside of contract required QC limits
D Surrogate diluted out

3D

SOIL SEMIVOLATILE MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

Lab Name: RECRA ENVIRON Contract: C002989

Lab Code: RECNY Case No.: SH997 SAS No.: _____ SDG No.: 0715

Matrix Spike - EPA Sample No.: ~~SBLK02~~ MSB/MSD Level:(low/med) LOW

MS 8/15/97

COMPOUND	SPIKE ADDED (ug/Kg)	SAMPLE CONCENTRATION (ug/Kg)	MS CONCENTRATION (ug/Kg)	MS % REC #	QC LIMITS REC.
Phenol	2480	0	1458	59	26- 90
2-Chlorophenol	2480	0	1746	70	25-102
1,4-Dichlorobenzene	1650	0	950.9	58	28-104
N-Nitroso-di-n-prop.(1)	1650	0	1170	71	41-126
1,2,4-Trichlorobenzene	1650	0	965.6	59	38-107
4-Chloro-3-methylphenol	2480	0	1902	77	26-103
Acenaphthene	1650	0	1041	63	31-137
4-Nitrophenol	2480	0	2454	99	11-114
2,4-Dinitrotoluene	1650	0	1314	80	28- 89
Pentachlorophenol	2480	0	2165	87	17-109
Pyrene	1650	0	1421	86	35-142

COMPOUND	SPIKE ADDED (ug/Kg)	MSD CONCENTRATION (ug/Kg)	MSD % REC #	% RPD #	QC LIMITS RPD	QC LIMITS REC.
Phenol	2440	1319	54	9	35	26- 90
2-Chlorophenol	2440	1490	61	14	50	25-102
1,4-Dichlorobenzene	1620	834.4	52	11	27	28-104
N-Nitroso-di-n-prop.(1)	1620	1023	63	12	38	41-126
1,2,4-Trichlorobenzene	1620	846.4	52	13	23	38-107
4-Chloro-3-methylphenol	2440	1782	73	5	33	26-103
Acenaphthene	1620	921.9	57	10	19	31-137
4-Nitrophenol	2440	2558	105	6	50	11-114
2,4-Dinitrotoluene	1620	1193	74	8	47	28- 89
Pentachlorophenol	2440	1915	78	11	47	17-109
Pyrene	1620	1264	78	10	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: 0 out of 11 outside limits
Spike Recovery: 0 out of 22 outside limits

COMMENTS: 2051R 35 280 1.00
0 9

3E

SOIL PESTICIDE MATRIX SPIKE BLANK/MATRIX SPIKE BLANK DUPLICATE RECOVERY

Lab Name: RECRA ENVIRON Contract: c002989

Lab Code: RECNY Case No.: SH997 SAS No.: _____ SDG No.: 0715

Matrix Spike - EPA Sample No.: MSB01,MSBD01

COMPOUND	SPIKE ADDED (ug/kg)	SAMPLE CONCENTRATION (ug/kg)	MSB CONCENTRATION (ug/kg)	MSB % REC #	QC LIMITS REC.
gamma-BHC	17	0	13	76	46-127
Heptachlor	17	0	13	76	35-130
Aldrin	17	0	13	76	34-132
Dieldrin	33	0	30	91	31-134
Endrin	33	0	34	103	42-139
4,4'-DDT	33	0	33	100	23-134

COMPOUND	SPIKE ADDED (ug/kg)	MSBD CONCENTRATION (ug/kg)	MSBD % REC #	% RPD #	QC LIMITS RPD	QC LIMITS REC.
gamma-BHC (Lindane)	17	12	71	7	50	46-127
Heptachlor	17	12	71	7	31	35-130
Aldrin	17	12	71	7	43	34-132
Dieldrin	33	29	88	3	38	31-134
Endrin	33	33	100	3	45	42-139
4,4'-DDT	33	32	97	3	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:

000055

4B

SEMIVOLATILE METHOD BLANK SUMMARY

EPA SAMPLE NO.

SBLK02

Lab Name: RECRA ENVIRON Contract: C002989

Lab Code: RECNY Case No.: SH997 SAS No.: _____ SDG No.: 0715

Lab File ID: Z30512 Lab Sample ID: SBLK02

Instrument ID: I50Z-A Date Extracted: 07/16/97

Matrix: (soil/water) SOIL Date Analyzed: 08/07/97

Level: (low/med) LOW Time Analyzed: 2051

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES, MS AND MSD:

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED
01	LHP101	A7246801	Z30526	08/08/97
02	LHP201	A7246803	Z30527	08/08/97
03	LHP201RE	A7246803RI	Z30563	08/11/97
04	LHP301DL	A7246805DL	Z30561	08/11/97
05	LHP301DLRE	A7246805V	Z30668	08/19/97
06	LHP401	A7246807	Z30530	08/08/97
07	LHP401DL	A7246807DL	Z30669	08/19/97
08	LHP501	A7246809	Z30528	08/08/97
09	LPH301	A7246805	Z30529	08/08/97
10	MSBD	MSBD	Z30518	08/08/97
11	MSBLANK	MSBLANK	Z30517	08/08/97

COMMENTS: 2051R 35 280 1.00
0 9

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

C00056

SBLK02

Lab Name: RECRA ENVIRON Contract: C002989

Lab Code: RECNY Case No.: SH997 SAS No.: _____ SDG No.: 0715

Matrix: (soil/water) SOIL Lab Sample ID: SBLK02

Sample wt/vol: 30.7 (g/mL) G Lab File ID: Z30512

Level: (low/med) LOW Date Received: _____

% Moisture: _____ decanted: (Y/N) N Date Extracted: 07/16/97

Concentrated Extract Volume: 500.0 (uL) Date Analyzed: 08/07/97

Injection Volume: 2.0 (uL) Dilution Factor: 1.0

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	320	U
111-44-4	bis(2-Chloroethyl)Ether	320	U
95-57-8	2-Chlorophenol	320	U
541-73-1	1,3-Dichlorobenzene	320	U
106-46-7	1,4-Dichlorobenzene	320	U
95-50-1	1,2-Dichlorobenzene	320	U
95-48-7	2-Methylphenol	320	U
108-60-1	2,2'-oxybis(1-Chloropropane)	320	U
106-44-5	4-Methylphenol	320	U
621-64-7	N-Nitroso-Di-n-Propylamine	320	U
67-72-1	Hexachloroethane	320	U
98-95-3	Nitrobenzene	320	U
78-59-1	Isophorone	320	U
88-75-5	2-Nitrophenol	320	U
105-67-9	2,4-Dimethylphenol	320	U
111-91-1	bis(2-Chloroethoxy)Methane	320	U
120-83-2	2,4-Dichlorophenol	320	U
120-82-1	1,2,4-Trichlorobenzene	320	U
91-20-3	Naphthalene	320	U
106-47-8	4-Chloroaniline	320	U
87-68-3	Hexachlorobutadiene	320	U
59-50-7	4-Chloro-3-Methylphenol	320	U
91-57-6	2-Methylnaphthalene	320	U
77-47-4	Hexachlorocyclopentadiene	320	U
88-06-2	2,4,6-Trichlorophenol	320	U
95-95-4	2,4,5-Trichlorophenol	780	U
91-58-7	2-Chloronaphthalene	320	U
88-74-4	2-Nitroaniline	780	U
131-11-3	Dimethyl Phthalate	320	U
208-96-8	Acenaphthylene	320	U
606-20-2	2,6-Dinitrotoluene	320	U
99-09-2	3-Nitroaniline	780	U
83-32-9	Acenaphthene	320	U

1C
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.
SBLK02

Lab Name: RECRA ENVIRON Contract: C002989

Lab Code: RECNY Case No.: SH997 SAS No.: _____ SDG No.: 0715

Matrix: (soil/water) SOIL Lab Sample ID: SBLK02

Sample wt/vol: 30.7 (g/mL) G Lab File ID: Z30512

Level: (low/med) LOW Date Received: _____

% Moisture: _____ decanted: (Y/N) N Date Extracted: 07/16/97

Concentrated Extract Volume: 500.0 (uL) Date Analyzed: 08/07/97

Injection Volume: 2.0 (uL) Dilution Factor: 1.0

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	780	U
100-02-7	4-Nitrophenol	780	U
132-64-9	Dibenzofuran	320	U
121-14-2	2,4-Dinitrotoluene	320	U
84-66-2	Diethylphthalate	320	U
7005-72-3	4-Chlorophenyl-phenylether	320	U
86-73-7	Fluorene	320	U
100-01-6	4-Nitroaniline	780	U
534-52-1	4,6-Dinitro-2-Methylphenol	780	U
86-30-6	N-Nitrosodiphenylamine (1)	320	U
101-55-3	4-Bromophenyl-phenylether	320	U
118-74-1	Hexachlorobenzene	320	U
87-86-5	Pentachlorophenol	780	U
85-01-8	Phenanthrene	320	U
120-12-7	Anthracene	320	U
86-74-8	Carbazole	320	U
84-74-2	Di-n-Butylphthalate	320	U
206-44-0	Fluoranthene	320	U
129-00-0	Pyrene	320	U
85-68-7	Butylbenzylphthalate	320	U
91-94-1	3,3'-Dichlorobenzidine	320	U
56-55-3	Benzo(a)Anthracene	320	U
218-01-9	Chrysene	320	U
117-81-7	Bis(2-Ethylhexyl)Phthalate	320	U
117-84-0	Di-n-Octyl Phthalate	320	U
205-99-2	Benzo(b)Fluoranthene	320	U
207-08-9	Benzo(k)Fluoranthene	320	U
50-32-8	Benzo(a)Pyrene	320	U
193-39-5	Indeno(1,2,3-cd)Pyrene	320	U
53-70-3	Dibenz(a,h)Anthracene	320	U
191-24-2	Benzo(g,h,i)Perylene	320	U

000058

1F

EPA SAMPLE NO.

SBLK02

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

Lab Name: RECRA ENVIRON Contract: C002989

Lab Code: RECNY Case No.: SH997 SAS No.: _____ SDG No.: 0715

Matrix: (soil/water) SOIL Lab Sample ID: SBLK02

Sample wt/vol: 30.7 (g/mL) G Lab File ID: Z30512

Level: (low/med) LOW Date Received: _____

% Moisture: _____ decanted: (Y/N) N Date Extracted: 07/16/97

Concentrated Extract Volume: 500.0 (uL) Date Analyzed: 08/07/97

Injection Volume: 2.0 (uL) Dilution Factor: 1.0

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

Number TICs found: 11

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

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.		suspected aldol cond.product	4.28	610	AJ
2.		oxygenated cmpd	4.55	200	J
3.		Cyclohexen-1-one isomer	6.28	70	J
4.	57-10-3	Hexadecanoic acid	24.07	71	JN
5.		unknown acid	26.27	90	J
6.	123-95-5	Octadecanoic acid, butyl est	29.05	510	JN
7.		unknown alkane	29.20	94	J
8.		unknown alkane	30.23	220	J
9.		unknown alkane	31.25	90	J
10.		unknown alkane	32.22	71	J
11.		unknown	38.08	88	J

000059

4C

EPA SAMPLE NO.

PESTICIDE METHOD BLANK SUMMARY

PBLK01

Lab Name: RECRA ENVIRON Contract: C002989

Lab Code: RECNY Case No.: SH997 SAS No.: _____ SDG No.: 0715

Lab Sample ID: A7B0586203 Lab File ID: _____

Matrix:(soil/water) SOIL Extraction:(SepF/Cont/Sonc) SONC

Sulfur Cleanup: (Y/N) N Date Extracted: 07/16/97

Date Analyzed (1): 08/08/97 Date Analyzed (2): 08/08/97

Time Analyzed (1): 1238 Time Analyzed (2): 1238

Instrument ID (1): 5890AS Instrument ID (2): 5890BS

GC Column (1): DB50 ID: 0.53 (mm) GC Column (2): DB5 ID: 0.53 (mm)

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES, MS AND MSD:

	EPA SAMPLE NO.	LAB SAMPLE ID	DATE ANALYZED 1	DATE ANALYZED 2
01	LHP101	A7246801	08/08/97	08/08/97
02	LHP201	A7246803	08/08/97	08/08/97
03	LHP301	A7246805	08/08/97	08/08/97
04	LHP401	A7246807	08/08/97	08/08/97
05	LHP501	A7246809	08/09/97	08/09/97
06	MSB01	A7B0586201	08/08/97	08/08/97
07	MSBD02	A7B0586202	08/08/97	08/08/97

COMMENTS:

000060

1D

PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

PBLK01

Lab Name: RECRA ENVIRON Contract: C002989

Lab Code: RECNY Case No.: SH997 SAS No.: _____ SDG No.: 0715

Matrix: (soil/water) SOIL Lab Sample ID: A7B0586203

Sample wt/vol: 30.0 (g/mL) G Lab File ID: _____

% Moisture: _____ decanted: (Y/N) ___ Date Received: _____

Extraction: (SepF/Cont/Sonc) SONC Date Extracted: 07/16/97

Concentrated Extract Volume: 5000 (uL) Date Analyzed: 08/08/97

Injection Volume: 1.00 (uL) Dilution Factor: 1.00

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) 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

NYSDEC ASP

3
BLANKS

Lab Name: RECRA_LABNET_INC._____ Contract: C002989___

Lab Code: RECNY_ Case No.: SH997 SAS No.: _____ SDG No.: 0715__

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	28.4	B	142.0	B	79.9	B	82.2	B	13.608	B	P
Antimony	11.0	U	11.0	U	11.0	U	11.0	U	2.200	U	P
Arsenic	6.1	U	6.1	U	6.1	U	6.1	U	1.220	U	P
Barium	1.0	U	1.0	U	1.0	U	1.0	U	0.200	U	P
Beryllium	1.0	U	1.0	U	1.0	U	1.0	U	0.200	U	P
Cadmium	1.0	U	1.0	U	1.0	U	1.0	U	0.200	U	P
Calcium	15.9	B	10.0	U	10.0	U	10.0	U	3.242	B	P
Chromium	3.4	U	3.4	U	3.4	U	3.4	U	0.680	U	P
Cobalt	1.8	U	1.8	U	1.8	U	1.8	U	0.360	U	P
Copper	3.0	U	3.0	U	3.0	U	3.0	U	0.600	U	P
Iron	45.0	U	74.7	B	45.0	U	45.0	U	9.000	U	P
Lead	2.2	U	2.2	U	2.2	U	2.2	U	0.440	U	P
Magnesium	16.0	U	121.8	B	21.2	B	29.6	B	6.182	B	P
Manganese	1.0	U	1.0	U	1.0	U	1.0	U	0.200	U	P
Mercury	0.2	U	0.2	U	0.2	U	0.2	U	0.100	U	CV
Nickel	2.8	U	2.8	U	2.8	U	2.8	U	0.560	U	P
Potassium	100.0	U	100.0	U	100.0	U	100.0	U	20.000	U	P
Selenium	4.9	U	4.9	U	4.9	U	4.9	U	0.980	U	P
Silver	4.3	U	4.3	U	4.3	U	4.3	U	0.860	U	P
Sodium	820.0	U	820.0	U	820.0	U	820.0	U	164.000	U	P
Thallium	4.3	U	4.3	U	4.3	U	4.3	U	0.860	U	P
Vanadium	2.3	U	2.3	U	2.3	U	2.3	U	0.460	U	P
Zinc	1.1	U	1.1	U	1.1	U	1.1	U	0.220	U	P
Cyanide											NR

NYSDEC ASP

3
BLANKS

Lab Name: RECRA_LABNET_INC._____ Contract: C002989___

Lab Code: RECNY_ Case No.: SH997 SAS No.: _____ SDG No.: 0715__

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	Prep-aration 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			0.2	U	0.2	U	0.2	U			CV
Nickel											NR
Potassium											NR
Selenium											NR
Silver											NR
Sodium											NR
Thallium											NR
Vanadium											NR
Zinc											NR
Cyanide											NR

8B

SEMIVOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: RECRA ENVIRON Contract: C002989

Lab Code: RECNY Case No.: SH997 SAS No.: _____ SDG No.: 0715

Lab File ID (Standard): Z30499 Date Analyzed: 08/07/97

Instrument ID: 150Z-A Time Analyzed: 1012

		IS1(DCB) AREA	#	RT	#	IS2(NPT) AREA	#	RT	#	IS3(ANT) AREA	#	RT	#
	12 HOUR STD	77264		8.15		288291		11.75		189452		17.08	
	UPPER LIMIT	154528		8.65		576582		12.25		378904		17.58	
	LOWER LIMIT	38632		7.65		144146		11.25		94726		16.58	
	EPA SAMPLE NO.												
01	SBLK02	79452		8.17		314778		11.73		198517		17.07	

IS1 (DCB) = 1,4-Dichlorobenzene-d4
IS2 (NPT) = Naphthalene-d8
IS3 (ANT) = Acenaphthene-d10

AREA UPPER LIMIT = + 100% of internal standard area.
AREA LOWER LIMIT = - 50% of internal standard area.
RT UPPER LIMIT = +0.50 minutes of internal standard RT.
RT LOWER LIMIT = -0.50 minutes of internal standard RT.

Column used to flag internal standard area values with an asterisk.
* Values outside of QC limits.

8C

SEMIVOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: RECRA ENVIRON Contract: C002989

Lab Code: RECNY Case No.: SH997 SAS No.: _____ SDG No.: 0715

Lab File ID (Standard): Z30499 Date Analyzed: 08/07/97

Instrument ID: I50Z-A Time Analyzed: 1012

		IS4(PHN) AREA #	RT #	IS5(CRY) AREA #	RT #	IS6(PRY) AREA #	RT #
	12 HOUR STD	357532	21.62	403689	29.86	428016	33.94
	UPPER LIMIT	715064	22.12	807378	30.36	856032	34.44
	LOWER LIMIT	178766	21.12	201844	29.36	214008	33.44
	EPA SAMPLE NO.						
01	SBLK02	379876	21.62	503130	29.83	468196	33.93

IS4 (PHN) = Phenanthrene-d10
IS5 (CRY) = Chrysene-d12
IS6 (PRY) = Perylene-d12

AREA UPPER LIMIT = + 100% of internal standard area.
AREA LOWER LIMIT = - 50% of internal standard area.
RT UPPER LIMIT = +0.50 minutes of internal standard RT.
RT LOWER LIMIT = -0.50 minutes of internal standard RT.

Column used to flag internal standard area values with an asterisk.
* Values outside of QC limits.

8B

SEMIVOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: RECRA ENVIRON Contract: C002989

Lab Code: RECNY Case No.: SH997 SAS No.: _____ SDG No.: 0715

Lab File ID (Standard): Z30516 Date Analyzed: 08/08/97

Instrument ID: I50Z-A Time Analyzed: 1159

		IS1(DCB) AREA	#	RT	#	IS2(NPT) AREA	#	RT	#	IS3(ANT) AREA	#	RT	#
	12 HOUR STD	85686		8.17		333018		11.77		180787		17.08	
	UPPER LIMIT	171372		8.67		666036		12.27		361574		17.58	
	LOWER LIMIT	42843		7.67		166509		11.27		90394		16.58	
	EPA SAMPLE NO.												
01	LHP101	102422		8.17		429806		11.75		150869		17.08	
02	LHP201	37924	*	8.17		224210		11.77		313846		17.08	
03	LHP401	74048		8.18		513987		11.77		330245		17.10	
04	LHP501	60682		8.18		258619		11.77		315860		17.10	
05	LPH301	125778		8.18		489220		11.77		258423		17.10	
06	MSBD	108895		8.17		429980		11.75		236488		17.07	
07	MSBLANK	98288		8.17		404146		11.73		218452		17.07	

IS1 (DCB) = 1,4-Dichlorobenzene-d4
IS2 (NPT) = Naphthalene-d8
IS3 (ANT) = Acenaphthene-d10

AREA UPPER LIMIT = + 100% of internal standard area.
AREA LOWER LIMIT = - 50% of internal standard area.
RT UPPER LIMIT = +0.50 minutes of internal standard RT.
RT LOWER LIMIT = -0.50 minutes of internal standard RT.

Column used to flag internal standard area values with an asterisk.
* Values outside of QC limits.

8C

SEMIVOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

000066

Lab Name: RECRA ENVIRON Contract: C002989

Lab Code: RECNY Case No.: SH997 SAS No.: _____ SDG No.: 0715

Lab File ID (Standard): Z30516 Date Analyzed: 08/08/97

Instrument ID: I50Z-A Time Analyzed: 1159

		IS4(PHN) AREA	#	RT	#	IS5(CRY) AREA	#	RT	#	IS6(PRY) AREA	#	RT	#
	12 HOUR STD	309890		21.63		265253		29.86		245818		33.94	
	UPPER LIMIT	619780		22.13		530506		30.36		491636		34.44	
	LOWER LIMIT	154945		21.13		132626		29.36		122909		33.44	
	EPA SAMPLE NO.												
01	LHP101	386322		21.87		168569		30.36		128981		34.23	
02	LHP201	447443		22.00		93036	*	30.43	*	29770	*	34.28	
03	LHP401	469872		21.72		247465		30.23		74436	*	34.23	
04	LHP501	576999		21.65		468384		29.94		200405		34.03	
05	LPH301	331518		21.72		215823		30.23		65980	*	34.23	
06	MSBD	360475		21.63		323188		29.83		257467		33.93	
07	MSBLANK	341930		21.63		288432		29.83		258584		33.93	

IS4 (PHN) = Phenanthrene-d10
IS5 (CRY) = Chrysene-d12
IS6 (PRY) = Perylene-d12

AREA UPPER LIMIT = + 100% of internal standard area.
AREA LOWER LIMIT = - 50% of internal standard area.
RT UPPER LIMIT = +0.50 minutes of internal standard RT.
RT LOWER LIMIT = -0.50 minutes of internal standard RT.

Column used to flag internal standard area values with an asterisk.
* Values outside of QC limits.

8B

SEMIVOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: RECRA ENVIRON Contract: C002989

Lab Code: RECNY Case No.: SH997 SAS No.: _____ SDG No.: 0715

Lab File ID (Standard): Z30549 Date Analyzed: 08/11/97

Instrument ID: I50Z-A Time Analyzed: 0838

		IS1(DCB) AREA #	RT #	IS2(NPT) AREA #	RT #	IS3(ANT) AREA #	RT #
	12 HOUR STD	105050	7.95	399038	11.53	249938	16.83
	UPPER LIMIT	210100	8.45	798076	12.03	499876	17.33
	LOWER LIMIT	52525	7.45	199519	11.03	124969	16.33
	EPA SAMPLE NO.						
01	LHP201RE	75899	7.95	292832	11.52	179825	16.82
02	LHP301DL	83127	7.95	323205	11.52	191947	16.83

IS1 (DCB) = 1,4-Dichlorobenzene-d4
IS2 (NPT) = Naphthalene-d8
IS3 (ANT) = Acenaphthene-d10

AREA UPPER LIMIT = + 100% of internal standard area.
AREA LOWER LIMIT = - 50% of internal standard area.
RT UPPER LIMIT = +0.50 minutes of internal standard RT.
RT LOWER LIMIT = -0.50 minutes of internal standard RT.

Column used to flag internal standard area values with an asterisk.
* Values outside of QC limits.

8C

SEMIVOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: RECRA ENVIRON Contract: C002989

Lab Code: RECNY Case No.: SH997 SAS No.: _____ SDG No.: 0715

Lab File ID (Standard): Z30549 Date Analyzed: 08/11/97

Instrument ID: I50Z-A Time Analyzed: 0838

		IS4(PHN) AREA #		RT #	IS5(CRY) AREA #		RT #	IS6(PRY) AREA #		RT #
	12 HOUR STD	445789		21.37	464116		29.58	467517		33.64
	UPPER LIMIT	891578		21.87	928232		30.08	935034		34.14
	LOWER LIMIT	222894		20.87	232058		29.08	233758		33.14
	EPA SAMPLE NO.									
01	LHP201RE	271922		21.75	173384	*	30.08	48373	*	33.93
02	LHP301DL	339140		21.38	282537		29.68	150052	*	33.74

IS4 (PHN) = Phenanthrene-d10
IS5 (CRY) = Chrysene-d12
IS6 (PRY) = Perylene-d12

AREA UPPER LIMIT = + 100% of internal standard area.
AREA LOWER LIMIT = - 50% of internal standard area.
RT UPPER LIMIT = +0.50 minutes of internal standard RT.
RT LOWER LIMIT = -0.50 minutes of internal standard RT.

Column used to flag internal standard area values with an asterisk.
* Values outside of QC limits.

8B

SEMIVOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: RECRA ENVIRON Contract: C002989

Lab Code: RECNY Case No.: SH997 SAS No.: _____ SDG No.: 0715

Lab File ID (Standard): Z30655 Date Analyzed: 08/19/97

Instrument ID: I50Z-A Time Analyzed: 1152

		IS1(DCB) AREA #	RT #	IS2(NPT) AREA #	RT #	IS3(ANT) AREA #	RT #
	12 HOUR STD	40419	7.60	170584	11.17	96354	16.43
	UPPER LIMIT	80838	8.10	341168	11.67	192708	16.93
	LOWER LIMIT	20210	7.10	85292	10.67	48177	15.93
	EPA SAMPLE NO.						
01	LHP301DLRE	7274 *	7.62	123374	11.17	90064	16.47
02	LHP401DL	40690	7.60	164475	11.17	99631	16.45

IS1 (DCB) = 1,4-Dichlorobenzene-d4
IS2 (NPT) = Naphthalene-d8
IS3 (ANT) = Acenaphthene-d10

AREA UPPER LIMIT = + 100% of internal standard area.
AREA LOWER LIMIT = - 50% of internal standard area.
RT UPPER LIMIT = +0.50 minutes of internal standard RT.
RT LOWER LIMIT = -0.50 minutes of internal standard RT.

Column used to flag internal standard area values with an asterisk.
* Values outside of QC limits.

8C

SEMIVOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: RECRA ENVIRON Contract: C002989

Lab Code: RECNY Case No.: SH997 SAS No.: _____ SDG No.: 0715

Lab File ID (Standard): Z30655 Date Analyzed: 08/19/97

Instrument ID: I50Z-A Time Analyzed: 1152

		IS4(PHN) AREA	#	RT	#	IS5(CRY) AREA	#	RT	#	IS6(PRY) AREA	#	RT	#
	12 HOUR STD	168283		20.95		174109		29.11		151667		33.18	
	UPPER LIMIT	336566		21.45		348218		29.61		303334		33.68	
	LOWER LIMIT	84142		20.45		87054		28.61		75834		32.68	
	EPA SAMPLE NO.												
01	LHP301DLRE	166872		21.00		150651		29.29		91105		33.36	
02	LHP401DL	183968		20.98		163595		29.24		117437		33.31	

IS4 (PHN) = Phenanthrene-d10
IS5 (CRY) = Chrysene-d12
IS6 (PRY) = Perylene-d12

AREA UPPER LIMIT = + 100% of internal standard area.
AREA LOWER LIMIT = - 50% of internal standard area.
RT UPPER LIMIT = +0.50 minutes of internal standard RT.
RT LOWER LIMIT = -0.50 minutes of internal standard RT.

Column used to flag internal standard area values with an asterisk.
* Values outside of QC limits.

SAMPLE DATA PACKAGE

SDG NARRATIVE

Laboratory Name: Recra Labnet, Inc.

Laboratory Code: RECNY

Case Number: SH997

SDG Number: 0715

Sample Identifications:

SH997 0715 LHP101
SH997 0715 LHP102
SH997 0715 LHP201
SH997 0715 LHP202
SH997 0715 LHP301
SH997 0715 LHP302
SH997 0715 LHP401
SH997 0715 LHP402
SH997 0715 LHP501
SH997 0715 LHP502

METHODOLOGY

Analyses were performed in accordance with 1991 New York State Analytical Services protocol. (Revised 1993)

COMMENTS

Comments pertain to data on one or all pages of this report.

The enclosed data has been reported utilizing data qualifiers (Q) as defined on the Organic and Inorganic Data Comment Pages.

Results of soil samples have been corrected for percent solids and are reported on a dry weight basis.

SEMIVOLATILE DATA

Semivolatile sample and standard areas are listed on the corresponding data system printouts.

Semivolatile data was processed utilizing Teknivent Datasystem and QA Formaster software. All compounds determined to be present by the computer-generated autoquantitation were subjected to a manual ion search for secondary and tertiary ions. Unedited quantitation reports have been submitted with this analytical data package.

Sample LHP201 shows the recoveries of internal standards 1,4-Dichlorobenzene-D4, Chrysene-D12, and Perylene-D12 as being outside of the quality control limits. The re-analysis of this sample also shows the recoveries of internal standards Chrysene-D12, and Perylene-D12 as being outside of the quality control limits.

Samples LHP301 and LHP401 both show the recovery of internal standard Perylene-D12 as being outside of the quality control limits. Due to severe sample matrix and the high concentration of some compounds of interest these samples were re-analyzed utilizing a dilution. LHP401DL shows compliant recoveries for all internal standards. LHP301DL shows the recovery of internal standard Perylene-D12 as outside quality control limits. This diluted sample was re-analyzed and showed the recovery of internal standard 1,4-Dichlorobenzene-D4 as being outside of the quality control limits.

PESTICIDE/PCB DATA

Due to the high concentration of Aroclors 1248 and 1254 sample LHP101 was analyzed at an initial dilution of ten. As a result all surrogate compounds were diluted out.

Samples LHP201, LHP301, and LHP401 were analyzed at initial dilutions of two due to sample matrix effects.

Samples LHP201, LHP301, LHP401, and the Matrix Spike Blank Duplicate (MSBD02) showed several surrogate recoveries as being outside of the advisory quality control limits.

Alternate chromatographic peaks were used to calculate the concentration of Aroclors 1248 and 1254 in all samples.

Computer enhanced standard and sample chromatographic comparisons were used to augment the Aroclor identification procedure. Copies of these comparison printouts are included in this data package.

METALS DATA

The samples were re-digested and re-analyzed for calcium due to a non-compliant laboratory control sample.

The cyanide log pages are computer generated. The beginning and end quality control samples such as Method Blanks, Blank Spikes, ect.. appear several times on the log but are actually only analyzed once. The form 14's (Run logs) correctly show them as only being analyzed once.

" 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 electronic deliverable has been authorized by the Laboratory Manager or his designee, as verified by the following signature."

Kenneth E. Kasperek
Laboratory Director

Date

CHAIN OF CUSTODY DOCUMENTATION

74-15-1 (4/91)—9a

Send This Sheet with Sample to Contract Lab

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NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION

CONTRACT LAB SAMPLE INFORMATION SHEET

Part 3

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CAUTION (check if applicable)

☐ Lab Personnel are expected to use caution when handling DEC samples, however, please use special precautions when handling this sample since it is believed to contain significant concentrations of hazardous and/or toxic material(s).

Place QA Label Here

CHECK THE BOX PRECEDING THE REQUESTED ANALYSIS

PRIORITY POLLUTANTS (Water Part 136)—SPDES

- ☐ 2. 13 PP Metals
- ☐ 3. Volatiles—(USEPA 624 GC/MS)
- ☐ 6. Pesticides/PCB's (USEPA 608-GC)
- ☐ 4. Acids Base/Neutrals (USEPA 625-GC/MS)
- ☐ 5. Cyanide
- ☐ 9. BOD
- ☐ 7. Halogenated Volatiles (USEPA 601-GC)
- ☐ 8. Aromatic Volatiles (USEPA 602-GC)
- ☐ 12. TSS
- ☐ 10. pH
- ☐ 11. COD
- ☐ 15. Ammonia
- ☐ 13. Settleable Solids
- ☐ 14. TKN
- ☐ 18. Reactive Phosphorus
- ☐ 16. Nitrate/Nitrite
- ☐ 17. Total Phosphorus
- ☐ 21. Total Phenols
- ☐ 19. Oil/Grease
- ☐ 20. TOC
- ☐ 60. PCB's congener method
- ☐ 22. Other _____
- ☐ 59. PCB's at 0.065 ug/L
- ☐ 64. Total Solids
- ☐ 62. CBOD
- ☐ 65. Volatiles (USEPA 524.2 GC/MS)

CONTRACT LABORATORY PROTOCOLS

- ☐ 23. (ALL)—Water—Includes 24-28
- ☐ 29. (ALL)— Soil/Sediments—Includes 30-34
- ☐ 24. Base/Neutral/Acid (B/N/A)—Water—GC/MS (ASP #89-2)
- ☑ 30. B/N/A—Soils/Sediment—GC/MS (ASP #89-2)
- ☐ 25. Volatile Organic Analysis VOA—Water—GC/MS(ASP #89-1)
- ☐ 31. VOA—Soils/Sediments—GC/MS (ASP #89-1)
- ☐ 26. Pesticides/PCB's—Water—GC(ASP #89-3)
- ☑ 32. Pesticides/PCB's—Soils/Sediment—GC (ASP #89-3)
- ☐ 27. Metals—23 in Water
- ☑ 33. Metals—23 inSoil/Sediment
- ☐ 28. Cyanide—Water
- ☐ 34. Cyanide—Soils/Sediment
- ☐ 66. Dioxin-Water (ASP #89-4)
- ☐ 67. Dioxin-Soil/Sediment (ASP #89-4)
- ☐ 35. Other _____

HAZARDOUS WASTES/RCRA ANALYSIS SW-846

- ☐ 36. EP Toxicity
- ☐ 37. EP Toxicity (Metals Only)
- ☐ 38. Ignitability
- ☐ 39. Corrosivity
- ☐ 40. VOA—(USEPA 8240-GC/MS)
- ☐ 41. BNA—(USEPA 8270-GC/MS)
- ☐ 42. Pesticides/PCB's (USEPA 8080)
- ☐ 43. TCLP
- ☐ 44. TCLP (Metals Only)
- ☐ 45. Reactivity
- ☐ 46. Dioxin (USEPA 8280)
- ☐ 47. Appendix IX
- ☐ 48. Other _____
- ☐ 63. Percent Solids
- ☐ 68. Metals—17 Hazardous

MUNICIPAL SLUDGE

- ☐ 49. RSGB-01 ☐ 50. RSSR-01 ☐ 51. RSGR-01 ☐ 52. RSRB-01 ☐ 53. RSRI-01 (EP Toxicity-Metals only + RSRR-01)
- ☐ 54. RSRO-01 ☐ 55. RSSB-01 ☐ 56. RSRR-01 ☐ 57. RSRR-02 ☐ 58. Other _____

COLLECTED BY:	TELEPHONE NUMBER:	REGION NO:
M. MOORE	(716) 851-7220	9

CONTRACT LAB:	COUNTY:	SAMPLING DATE:	MILITARY TIME:
RECRA	ERIE	7/15/97	

SAMPLE MATRIX:

☐ Air ☒ Soil/Sediment ☐ Groundwater ☐ Surface Water ☐ Wastewater ☐ Other (Specify) _____

CASE NUMBER	SDG NUMBER	SAMPLE NUMBER	CHECK FOR MS/MD	TYPE OF SAMPLE:
SH9907	05	LHP101	☑ This Sample	☒ Composite ☐ Grab ☐ Term ____ hrs

☐ Check if there will be more samples with this SDG sent in this calendar week

Report via Catagory B, unless checked ☐

SAMPLING POINT:

Check if field duplicate ☐ | Outfall Number | Check if sampling is part of inspection ☐

SPDES NUMBER/REGISTRY NUMBER | FLOW GPD MGD

74-15-1 (4/91)—9a

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NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION

CONTRACT LAB SAMPLE INFORMATION SHEET

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CAUTION (check if applicable)

☐ Lab Personnel are expected to use caution when handling DEC samples, however, please use special precautions when handling this sample since it is believed to contain significant concentrations of hazardous and/or toxic material(s).

Place QA Label Here

CHECK THE BOX PRECEDING THE REQUESTED ANALYSIS

PRIORITY POLLUTANTS (Water Part 136)—SPDES

- ☐ 2. 13 PP Metals
- ☐ 3. Volatiles—(USEPA 624 GC/MS)
- ☐ 6. Pesticides/PCB's (USEPA 608-GC)
- ☐ 4. Acids Base/Neutrals (USEPA 625-GC/MS)
- ☐ 5. Cyanide
- ☐ 9. BOD
- ☐ 7. Halogenated Volatiles (USEPA 601-GC)
- ☐ 8. Aromatic Volatiles (USEPA 602-GC)
- ☐ 12. TSS
- ☐ 10. pH
- ☐ 11. COD
- ☐ 15. Ammonia
- ☐ 13. Settleable Solids
- ☐ 14. TKN
- ☐ 18. Reactive Phosphorus
- ☐ 16. Nitrate/Nitrite
- ☐ 17. Total Phosphorus
- ☐ 21. Total Phenols
- ☐ 19. Oil/Grease
- ☐ 20. TOC
- ☐ 60. PCB's congener method
- ☐ 22. Other _____
- ☐ 59. PCB's at 0.065 ug/L
- ☐ 64. Total Solids
- ☐ 62. CBOD
- ☐ 65. Volatiles (USEPA 524.2 GC/MS)

CONTRACT LABORATORY PROTOCOLS

- ☐ 23. (ALL)—Water—Includes 24-28
- ☐ 29. (ALL)— Soil/Sediments—Includes 30-34
- ☐ 24. Base/Neutral/Acid (B/N/A)—Water—GC/MS (ASP #89-2)
- ☐ 30. B/N/A/—Soils/Sediment—GC/MS (ASP #89-2)
- ☐ 25. Volatile Organic Analysis VOA—Water—GC/MS(ASP #89-1)
- ☐ 31. VOA—Soils/Sediments—GC/MS (ASP #89-1)
- ☐ 26. Pesticides/PCB's—Water—GC(ASP #89-3)
- ☐ 32. Pesticides/PCB's—Soils/Sediment—GC (ASP #89-3)
- ☐ 27. Metals—23 In Water
- ☑ 33. Metals—23 inSoil/Sediment
- ☐ 28. Cyanide—Water
- ☐ 34. Cyanide—Soils/Sediment
- ☐ 66. Dioxin-Water (ASP #89-4)
- ☐ 67. Dioxin-Soil/Sediment (ASP #89-4)
- ☐ 35. Other _____

HAZARDOUS WASTES/RCRA ANALYSIS SW-846

- ☐ 36. EP Toxicity
- ☐ 37. EP Toxicity (Metals Only)
- ☐ 38. Ignitability
- ☐ 39. Corrosivity
- ☐ 40. VOA—(USEPA 8240-GC/MS)
- ☐ 41. BNA—(USEPA 8270-GC/MS)
- ☐ 42. Pesticides/PCB's (USEPA 8080)
- ☐ 43. TCLP
- ☐ 44. TCLP (Metals Only)
- ☐ 45. Reactivity
- ☐ 46. Dioxin (USEPA 8280)
- ☐ 47. Appendix IX
- ☐ 48. Other _____
- ☐ 63. Percent Solids
- ☐ 68. Metals—17 Hazardous

MUNICIPAL SLUDGE

- ☐ 49. RSGB-01 ☐ 50. RSSR-01 ☐ 51. RSGR-01 ☐ 52. RSRB-01 ☐ 53. RSRI-01 (EP Toxicity-Metals only + RSRR-01)
- ☐ 54. RSRO-01 ☐ 55. RSSB-01 ☐ 56. RSRR-01 ☐ 57. RSRR-02 ☐ 58. Other _____

COLLECTED BY:	TELEPHONE NUMBER:	REGION NO:
M. Moore	(716) 851-7220	9

CONTRACT LAB:	COUNTY:	SAMPLING DATE:	MILITARY TIME:
RECRA	Erie	7/15/97	

SAMPLE MATRIX:
☐ Air ☒ Soil/Sediment ☐ Groundwater ☐ Surface Water ☐ Wastewater ☐ Other (Specify) _____

CASE NUMBER	SDG NUMBER	SAMPLE NUMBER	CHECK FOR MS/MD	TYPE OF SAMPLE:
SH9707	05	LHP102	☐ This Sample	☒ Composite ☐ Grab ☐ Term ____ hrs

☐ Check if there will be more samples with this SDG sent in this calendar week

Report via Catagory B, unless checked ☐

SAMPLING POINT:	Check if field duplicate ☐	Outfall Number	Check if sampling is part of inspection ☐
	SPDES NUMBER/REGISTRY NUMBER		FLOW GPD MGD

74-15-1 (4/91)—9a

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CONTRACT LAB SAMPLE INFORMATION SHEET

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CAUTION (check if applicable)

☐ Lab Personnel are expected to use caution when handling DEC samples, however, please use special precautions when handling this sample since it is believed to contain significant concentrations of hazardous and/or toxic material(s).

Place QA Label Here

CHECK THE BOX PRECEDING THE REQUESTED ANALYSIS

PRIORITY POLLUTANTS (Water Part 136)—SPDES

- ☐ 2. 13 PP Metals
- ☐ 3. Volatiles—(USEPA 624 GC/MS)
- ☐ 6. Pesticides/PCB's (USEPA 608-GC)
- ☐ 4. Acids Base/Neutrals (USEPA 625-GC/MS)
- ☐ 5. Cyanide
- ☐ 9. BOD
- ☐ 7. Halogenated Volatiles (USEPA 601-GC)
- ☐ 8. Aromatic Volatiles (USEPA 602-GC)
- ☐ 12. TSS
- ☐ 10. pH
- ☐ 11. COD
- ☐ 15. Ammonia
- ☐ 13. Settleable Solids
- ☐ 14. TKN
- ☐ 18. Reactive Phosphorus
- ☐ 16. Nitrate/Nitrite
- ☐ 17. Total Phosphorus
- ☐ 21. Total Phenols
- ☐ 19. Oil/Grease
- ☐ 20. TOC
- ☐ 60. PCB's congener method
- ☐ 22. Other _____
- ☐ 59. PCB's at 0.065 ug/L
- ☐ 64. Total Solids
- ☐ 62. CBOD
- ☐ 65. Volatiles (USEPA 524.2 GC/MS)

CONTRACT LABORATORY PROTOCOLS

- ☐ 23. (ALL)—Water—Includes 24-28
- ☐ 29. (ALL)— Soil/Sediments—Includes 30-34
- ☐ 24. Base/Neutral/Acid (B/N/A)—Water—GC/MS (ASP #89-2)
- ☑ 30. B/N/A/—Soils/Sediment—GC/MS (ASP #89-2)
- ☐ 25. Volatile Organic Analysis VOA—Water—GC/MS(ASP #89-1)
- ☐ 31. VOA—Soils/Sediments—GC/MS (ASP #89-1)
- ☐ 26. Pesticides/PCB's—Water—GC(ASP #89-3)
- ☑ 32. Pesticides/PCB's—Soils/Sediment—GC (ASP #89-3)
- ☐ 27. Metals—23 in Water
- ☑ 33. Metals—23 inSoil/Sediment
- ☐ 28. Cyanide—Water
- ☐ 34. Cyanide—Soils/Sediment
- ☐ 66. Dioxin-Water (ASP #89-4)
- ☐ 67. Dioxin-Soil/Sediment (ASP #89-4)
- ☐ 35. Other _____

HAZARDOUS WASTES/RCRA ANALYSIS SW-846

- ☐ 36. EP Toxicity
- ☐ 37. EP Toxicity (Metals Only)
- ☐ 38. Ignitability
- ☐ 39. Corrosivity
- ☐ 40. VOA—(USEPA 8240-GC/MS)
- ☐ 41. BNA—(USEPA 8270-GC/MS)
- ☐ 42. Pesticides/PCB's (USEPA 8080)
- ☐ 43. TCLP
- ☐ 44. TCLP (Metals Only)
- ☐ 45. Reactivity
- ☐ 46. Dioxin (USEPA 8280)
- ☐ 47. Appendix IX
- ☐ 48. Other _____
- ☐ 63. Percent Solids
- ☐ 68. Metals—17 Hazardous

MUNICIPAL SLUDGE

- ☐ 49. RSGB-01 ☐ 50. RSSR-01 ☐ 51. RSGR-01 ☐ 52. RSRB-01 ☐ 53. RSRI-01 (EP Toxicity-Metals only + RSRR-01)
- ☐ 54. RSRO-01 ☐ 55. RSSB-01 ☐ 56. RSRR-01 ☐ 57. RSRR-02 ☐ 58. Other _____

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M. MOORE	(716) 851-7220	9

CONTRACT LAB:	COUNTY:	SAMPLING DATE:	MILITARY TIME:
RECRA	ERIE ~~NIAGARA~~	7/15/97	

SAMPLE MATRIX:

☐ Air ☒ Soil/Sediment ☐ Groundwater ☐ Surface Water ☐ Wastewater ☐ Other (Specify) _____

CASE NUMBER	SDG NUMBER	SAMPLE NUMBER	CHECK FOR MS/MD	TYPE OF SAMPLE:
SH9907	07Ø5	LHP201	☐ This Sample	☒ Composite ☐ Grab ☐ Term ___ hrs

☐ Check if there will be more samples with this SDG sent in this calendar week

Report via Catagory B, unless checked ☐

SAMPLING POINT:	Check if field duplicate ☐	Outfall Number	Check if sampling is part of inspection ☐
	SPDES NUMBER/REGISTRY NUMBER		FLOW GPD MGD

74-15-1 (4/91)—9a

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CONTRACT LAB SAMPLE INFORMATION SHEET

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CAUTION (check if applicable)

☐ Lab Personnel are expected to use caution when handling DEC samples, however, please use special precautions when handling this sample since it is believed to contain significant concentrations of hazardous and/or toxic material(s).

Place QA Label Here

CHECK THE BOX PRECEDING THE REQUESTED ANALYSIS

PRIORITY POLLUTANTS (Water Part 136)—SPDES

- ☐ 2. 13 PP Metals
- ☐ 3. Volatiles—(USEPA 624 GC/MS)
- ☐ 6. Pesticides/PCB's (USEPA 608-GC)
- ☐ 4. Acids Base/Neutrals (USEPA 625-GC/MS)
- ☐ 5. Cyanide
- ☐ 9. BOD
- ☐ 7. Halogenated Volatiles (USEPA 601-GC)
- ☐ 8. Aromatic Volatiles (USEPA 602-GC)
- ☐ 12. TSS
- ☐ 10. pH
- ☐ 11. COD
- ☐ 15. Ammonia
- ☐ 13. Settleable Solids
- ☐ 14. TKN
- ☐ 18. Reactive Phosphorus
- ☐ 16. Nitrate/Nitrite
- ☐ 17. Total Phosphorus
- ☐ 21. Total Phenols
- ☐ 19. Oil/Grease
- ☐ 20. TOC
- ☐ 60. PCB's congener method
- ☐ 22. Other _____
- ☐ 59. PCB's at 0.065 ug/L
- ☐ 64. Total Solids
- ☐ 62. CBOD
- ☐ 65. Volatiles (USEPA 524.2 GC/MS)

CONTRACT LABORATORY PROTOCOLS

- ☐ 23. (ALL)—Water—Includes 24-28
- ☐ 29. (ALL)— Soil/Sediments—Includes 30-34
- ☐ 24. Base/Neutral/Acid (B/N/A)—Water—GC/MS (ASP #89-2)
- ☐ 30. B/N/A/—Soils/Sediment—GC/MS (ASP #89-2)
- ☐ 25. Volatile Organic Analysis VOA—Water—GC/MS(ASP #89-1)
- ☐ 31. VOA—Soils/Sediments—GC/MS (ASP #89-1)
- ☐ 26. Pesticides/PCB's—Water—GC(ASP #89-3)
- ☐ 32. Pesticides/PCB's—Soils/Sediment—GC (ASP #89-3)
- ☐ 27. Metals—23 in Water
- ☑ 33. Metals—23 inSoil/Sediment
- ☐ 28. Cyanide—Water
- ☐ 34. Cyanide—Soils/Sediment
- ☐ 66. Dioxin-Water (ASP #89-4)
- ☐ 67. Dioxin-Soil/Sediment (ASP #89-4)
- ☐ 35. Other _____

HAZARDOUS WASTES/RCRA ANALYSIS SW-846

- ☐ 36. EP Toxicity
- ☐ 37. EP Toxicity (Metals Only)
- ☐ 38. Ignitability
- ☐ 39. Corrosivity
- ☐ 40. VOA—(USEPA 8240-GC/MS)
- ☐ 41. BNA—(USEPA 8270-GC/MS)
- ☐ 42. Pesticides/PCB's (USEPA 8080)
- ☐ 43. TCLP
- ☐ 44. TCLP (Metals Only)
- ☐ 45. Reactivity
- ☐ 46. Dioxin (USEPA 8280)
- ☐ 47. Appendix IX
- ☐ 48. Other _____
- ☐ 63. Percent Solids
- ☐ 68. Metals—17 Hazardous

MUNICIPAL SLUDGE

- ☐ 49. RSGB-01 ☐ 50. RSSR-01 ☐ 51. RSGR-01 ☐ 52. RSRB-01 ☐ 53. RSRI-01 (EP Toxicity-Metals only + RSRR-01)
- ☐ 54. RSRO-01 ☐ 55. RSSB-01 ☐ 56. RSRR-01 ☐ 57. RSRR-02 ☐ 58. Other _____

COLLECTED BY:	TELEPHONE NUMBER:	REGION NO:
M. Moore	(716) 851-7220	9

CONTRACT LAB:	COUNTY:	SAMPLING DATE:	MILITARY TIME:
RECRA	ERIE	07/15/97	

SAMPLE MATRIX:

☐ Air ☒ Soil/Sediment ☐ Groundwater ☐ Surface Water ☐ Wastewater ☐ Other (Specify) _____

CASE NUMBER	SDG NUMBER	SAMPLE NUMBER	CHECK FOR MS/MD	TYPE OF SAMPLE:
SH9917	QTH08	LITRZ02	☐ This Sample	☒ Composite ☐ Grab ☐ Term ____ hrs

☐ Check if there will be more samples with this SDG sent in this calendar week

Report via Catagory B, unless checked ☐

SAMPLING POINT:	Check if field duplicate ☐	Outfall Number	Check if sampling is part of Inspection ☐
	SPDES NUMBER/REGISTRY NUMBER		FLOW GPD MGD

74-15-1 (4/91)—9a

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CONTRACT LAB SAMPLE INFORMATION SHEET

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CAUTION (check if applicable)

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Place QA Label Here

CHECK THE BOX PRECEDING THE REQUESTED ANALYSIS

PRIORITY POLLUTANTS (Water Part 136)—SPDES

- ☐ 2. 13 PP Metals
- ☐ 3. Volatiles—(USEPA 624 GC/MS)
- ☐ 6. Pesticides/PCB's (USEPA 608-GC)
- ☐ 4. Acids Base/Neutrals (USEPA 625-GC/MS)
- ☐ 5. Cyanide
- ☐ 9. BOD
- ☐ 7. Halogenated Volatiles (USEPA 601-GC)
- ☐ 8. Aromatic Volatiles (USEPA 602-GC)
- ☐ 12. TSS
- ☐ 10. pH
- ☐ 11. COD
- ☐ 15. Ammonia
- ☐ 13. Settleable Solids
- ☐ 14. TKN
- ☐ 18. Reactive Phosphorus
- ☐ 16. Nitrate/Nitrite
- ☐ 17. Total Phosphorus
- ☐ 21. Total Phenols
- ☐ 19. Oil/Grease
- ☐ 20. TOC
- ☐ 60. PCB's congener method
- ☐ 22. Other _____
- ☐ 59. PCB's at 0.065 ug/L
- ☐ 64. Total Solids
- ☐ 62. CBOD
- ☐ 65. Volatiles (USEPA 524.2 GC/MS)

CONTRACT LABORATORY PROTOCOLS

- ☐ 23. (ALL)—Water—Includes 24-28
- ☐ 29. (ALL)— Soil/Sediments—Includes 30-34
- ☐ 24. Base/Neutral/Acid (B/N/A)—Water—GC/MS (ASP #89-2)
- ☑ 30. B/N/A/—Soils/Sediment—GC/MS (ASP #89-2)
- ☐ 25. Volatile Organic Analysis VOA—Water—GC/MS(ASP #89-1)
- ☐ 31. VOA—Soils/Sediments—GC/MS (ASP #89-1)
- ☐ 26. Pesticides/PCB's—Water—GC(ASP #89-3)
- ☑ 32. Pesticides/PCB's—Soils/Sediment—GC (ASP #89-3)
- ☐ 27. Metals—23 in Water
- ☐ 33. Metals—23 inSoil/Sediment
- ☐ 28. Cyanide—Water
- ☐ 34. Cyanide—Soils/Sediment
- ☐ 66. Dioxin-Water (ASP #89-4)
- ☐ 67. Dioxin-Soil/Sediment (ASP #89-4)
- ☐ 35. Other _____

HAZARDOUS WASTES/RCRA ANALYSIS SW-846

- ☐ 36. EP Toxicity
- ☐ 37. EP Toxicity (Metals Only)
- ☐ 38. Ignitability
- ☐ 39. Corrosivity
- ☐ 40. VOA—(USEPA 8240-GC/MS)
- ☐ 41. BNA—(USEPA 8270-GC/MS)
- ☐ 42. Pesticides/PCB's (USEPA 8080)
- ☐ 43. TCLP
- ☐ 44. TCLP (Metals Only)
- ☐ 45. Reactivity
- ☐ 46. Dioxin (USEPA 8280)
- ☐ 47. Appendix IX
- ☐ 48. Other _____
- ☐ 63. Percent Solids
- ☐ 68. Metals—17 Hazardous

MUNICIPAL SLUDGE

- ☐ 49. RSGB-01 ☐ 50. RSSR-01 ☐ 51. RSGR-01 ☐ 52. RSRB-01 ☐ 53. RSRI-01 (EP Toxicity-Metals only + RSRR-01)
- ☐ 54. RSRO-01 ☐ 55. RSSB-01 ☐ 56. RSRR-01 ☐ 57. RSRR-02 ☐ 58. Other _____

COLLECTED BY:	TELEPHONE NUMBER:	REGION NO:
M. MOORE	(716) 851-7220	9

CONTRACT LAB:	COUNTY:	SAMPLING DATE:	MILITARY TIME:
RECRA	Erie	07/15/97	

SAMPLE MATRIX:

☐ Air ☒ Soil/Sediment ☐ Groundwater ☐ Surface Water ☐ Wastewater ☐ Other (Specify) _____

CASE NUMBER	SDG NUMBER	SAMPLE NUMBER	CHECK FOR MS/MD	TYPE OF SAMPLE:
S H 9 9 7	0 7 6 5	L H P 3 0 1	☐ This Sample	☒ Composite ☐ Grab ☐ Term ____ hrs

☐ Check if there will be more samples with this SDG sent in this calendar week

Report via Catagory B, unless checked ☐

SAMPLING POINT:	Check If field duplicate ☐	Outfall Number	Check if sampling is part of inspection ☐
	SPDES NUMBER/REGISTRY NUMBER		FLOW GPD MGD

74-15-1 (4/91)—9a

Send This Sheet with Sample to Contract Lab

000081

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION

CONTRACT LAB SAMPLE INFORMATION SHEET

Part 3

Print legibly

CAUTION (check if applicable)

☐ Lab Personnel are expected to use caution when handling DEC samples, however, please use special precautions when handling this sample since it is believed to contain significant concentrations of hazardous and/or toxic material(s).

Place QA Label Here

CHECK THE BOX PRECEDING THE REQUESTED ANALYSIS

PRIORITY POLLUTANTS (Water Part 136)—SPDES

- ☐ 2. 13 PP Metals
- ☐ 3. Volatiles—(USEPA 624 GC/MS)
- ☐ 6. Pesticides/PCB's (USEPA 608-GC)
- ☐ 4. Acids Base/Neutrals (USEPA 625-GC/MS)
- ☐ 5. Cyanide
- ☐ 9. BOD
- ☐ 7. Halogenated Volatiles (USEPA 601-GC)
- ☐ 8. Aromatic Volatiles (USEPA 602-GC)
- ☐ 12. TSS
- ☐ 10. pH
- ☐ 11. COD
- ☐ 15. Ammonia
- ☐ 13. Settleable Solids
- ☐ 14. TKN
- ☐ 18. Reactive Phosphorus
- ☐ 16. Nitrate/Nitrite
- ☐ 17. Total Phosphorus
- ☐ 21. Total Phenols
- ☐ 19. Oil/Grease
- ☐ 20. TOC
- ☐ 60. PCB's congener method
- ☐ 22. Other _____
- ☐ 59. PCB's at 0.065 ug/L
- ☐ 64. Total Solids
- ☐ 62. CBOD
- ☐ 65. Volatiles (USEPA 524.2 GC/MS)

CONTRACT LABORATORY PROTOCOLS

- ☐ 23. (ALL)—Water—Includes 24-28
- ☐ 29. (ALL)— Soil/Sediments—Includes 30-34
- ☐ 24. Base/Neutral/Acid (B/N/A)—Water—GC/MS (ASP #89-2)
- ☐ 30. B/N/A/—Soils/Sediment—GC/MS (ASP #89-2)
- ☐ 25. Volatile Organic Analysis VOA—Water—GC/MS(ASP #89-1)
- ☐ 31. VOA—Soils/Sediments—GC/MS (ASP #89-1)
- ☐ 26. Pesticides/PCB's—Water—GC(ASP #89-3)
- ☐ 32. Pesticides/PCB's—Soils/Sediment—GC (ASP #89-3)
- ☐ 27. Metals—23 in Water
- ☑ 33. Metals—23 inSoil/Sediment
- ☐ 28. Cyanide—Water
- ☐ 34. Cyanide—Soils/Sediment
- ☐ 66. Dioxin-Water (ASP #89-4)
- ☐ 67. Dioxin-Soil/Sediment (ASP #89-4)
- ☐ 35. Other _____

HAZARDOUS WASTES/RCRA ANALYSIS SW-846

- ☐ 36. EP Toxicity
- ☐ 37. EP Toxicity (Metals Only)
- ☐ 38. Ignitability
- ☐ 39. Corrosivity
- ☐ 40. VOA—(USEPA 8240-GC/MS)
- ☐ 41. BNA—(USEPA 8270-GC/MS)
- ☐ 42. Pesticides/PCB's (USEPA 8080)
- ☐ 43. TCLP
- ☐ 44. TCLP (Metals Only)
- ☐ 45. Reactivity
- ☐ 46. Dioxin (USEPA 8280)
- ☐ 47. Appendix IX
- ☐ 48. Other _____
- ☐ 63. Percent Solids
- ☐ 68. Metals—17 Hazardous

MUNICIPAL SLUDGE

- ☐ 49. RSGB-01 ☐ 50. RSSR-01 ☐ 51. RSGR-01 ☐ 52. RSRB-01 ☐ 53. RSRI-01 (EP Toxicity-Metals only + RSRR-01)
- ☐ 54. RSRO-01 ☐ 55. RSSB-01 ☐ 56. RSRR-01 ☐ 57. RSRR-02 ☐ 58. Other _____

COLLECTED BY:	TELEPHONE NUMBER:	REGION NO:
M. Moore	716 851-7220	9

CONTRACT LAB:	COUNTY:	SAMPLING DATE:	MILITARY TIME:
RECRA	Erie	7/15/97	

SAMPLE MATRIX:
☐ Air ☒ Soil/Sediment ☐ Groundwater ☐ Surface Water ☐ Wastewater ☐ Other (Specify) _____

CASE NUMBER	SDG NUMBER	SAMPLE NUMBER	CHECK FOR MS/MD	TYPE OF SAMPLE:
5H97	0715	LHP302	☐ This Sample	☒ Composite ☐ Grab ☐ Term ____ hrs

☐ Check if there will be more samples with this SDG sent in this calendar week

Report via Catagory B, unless checked ☐

SAMPLING POINT:

Check if field duplicate ☐ | Outfall Number | Check if sampling is part of Inspection ☐

SPDES NUMBER/REGISTRY NUMBER | FLOW GPD MGD

74-15-1 (4/91)—9a

Send This Sheet with Sample to Contract Lab

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION

CONTRACT LAB SAMPLE INFORMATION SHEET

Print legibly

000082

Part 3

CAUTION (check if applicable)

☐ Lab Personnel are expected to use caution when handling DEC samples, however, please use special precautions when handling this sample since it is believed to contain significant concentrations of hazardous and/or toxic material(s).

Place QA Label Here

CHECK THE BOX PRECEDING THE REQUESTED ANALYSIS

PRIORITY POLLUTANTS (Water Part 136)—SPDES

- ☐ 2. 13 PP Metals
- ☐ 3. Volatiles—(USEPA 624 GC/MS)
- ☐ 6. Pesticides/PCB's (USEPA 608-GC)
- ☐ 4. Acids Base/Neutrals (USEPA 625-GC/MS)
- ☐ 5. Cyanide
- ☐ 9. BOD
- ☐ 7. Halogenated Volatiles (USEPA 601-GC)
- ☐ 8. Aromatic Volatiles (USEPA 602-GC)
- ☐ 12. TSS
- ☐ 10. pH
- ☐ 11. COD
- ☐ 15. Ammonia
- ☐ 13. Settleable Solids
- ☐ 14. TKN
- ☐ 18. Reactive Phosphorus
- ☐ 16. Nitrate/Nitrite
- ☐ 17. Total Phosphorus
- ☐ 21. Total Phenols
- ☐ 19. Oil/Grease
- ☐ 20. TOC
- ☐ 60. PCB's congener method
- ☐ 22. Other _____
- ☐ 59. PCB's at 0.065 ug/L
- ☐ 64. Total Solids
- ☐ 62. CBOD
- ☐ 65. Volatiles (USEPA 524.2 GC/MS)

CONTRACT LABORATORY PROTOCOLS

- ☐ 23. (ALL)—Water—Includes 24-28
- ☐ 29. (ALL)— Soil/Sediments—Includes 30-34
- ☐ 24. Base/Neutral/Acid (B/N/A)—Water—GC/MS (ASP #89-2)
- ☑ 30. B/N/A—Soils/Sediment—GC/MS (ASP #89-2)
- ☐ 25. Volatile Organic Analysis VOA—Water—GC/MS(ASP #89-1)
- ☐ 31. VOA—Soils/Sediments—GC/MS (ASP #89-1)
- ☐ 26. Pesticides/PCB's—Water—GC(ASP #89-3)
- ☑ 32. Pesticides/PCB's—Soils/Sediment—GC (ASP #89-3)
- ☐ 27. Metals—23 In Water
- ☐ 33. Metals—23 inSoil/Sediment
- ☐ 28. Cyanide—Water
- ☐ 34. Cyanide—Soils/Sediment
- ☐ 66. Dioxin-Water (ASP #89-4)
- ☐ 67. Dioxin-Soil/Sediment (ASP #89-4)
- ☐ 35. Other _____

HAZARDOUS WASTES/RCRA ANALYSIS SW-846

- ☐ 36. EP Toxicity
- ☐ 37. EP Toxicity (Metals Only)
- ☐ 38. Ignitability
- ☐ 39. Corrosivity
- ☐ 40. VOA—(USEPA 8240-GC/MS)
- ☐ 41. BNA—(USEPA 8270-GC/MS)
- ☐ 42. Pesticides/PCB's (USEPA 8080)
- ☐ 43. TCLP
- ☐ 44. TCLP (Metals Only)
- ☐ 45. Reactivity
- ☐ 46. Dioxin (USEPA 8280)
- ☐ 47. Appendix IX
- ☐ 48. Other _____
- ☐ 63. Percent Solids
- ☐ 68. Metals—17 Hazardous

MUNICIPAL SLUDGE

- ☐ 49. RSGB-01 ☐ 50. RSSR-01 ☐ 51. RSGR-01 ☐ 52. RSRB-01 ☐ 53. RSRI-01 (EP Toxicity-Metals only + RSRR-01)
- ☐ 54. RSRO-01 ☐ 55. RSSB-01 ☐ 56. RSRR-01 ☐ 57. RSRR-02 ☐ 58. Other _____

COLLECTED BY:	TELEPHONE NUMBER:	REGION NO:
M. Moore	(716) 851-7220	9

CONTRACT LAB:	COUNTY:	SAMPLING DATE:	MILITARY TIME:
RECRA	Erie	07/15/91	

SAMPLE MATRIX:

☐ Air ☒ Soil/Sediment ☐ Groundwater ☐ Surface Water ☐ Wastewater ☐ Other (Specify) _____

CASE NUMBER	SDG NUMBER	SAMPLE NUMBER	CHECK FOR MS/MD	TYPE OF SAMPLE:
S H 9 9 1	0 7 0 5	L H P 4 0 1	☐ This Sample	☒ Composite ☐ Grab ☐ Term ____ hrs

☐ Check if there will be more samples with this SDG sent in this calendar week

Report via Catagory B, unless checked ☐

SAMPLING POINT:	Check if field duplicate ☐	Outfall Number	Check if sampling is part of Inspection ☐
	SPDES NUMBER/REGISTRY NUMBER		FLOW GPD MGD

74-15-1 (4/91)—9a

Send This Sheet with Sample to Contract Lab

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION

CONTRACT LAB SAMPLE INFORMATION SHEET

Print legibly

000083

Part 3

CAUTION (check if applicable)

☐ Lab Personnel are expected to use caution when handling DEC samples, however, please use special precautions when handling this sample since it is believed to contain significant concentrations of hazardous and/or toxic material(s).

Place QA Label Here

CHECK THE BOX PRECEDING THE REQUESTED ANALYSIS

PRIORITY POLLUTANTS (Water Part 136)—SPDES

☐ 2. 13 PP Metals
☐ 3. Volatiles—(USEPA 624 GC/MS)
☐ 6. Pesticides/PCB's (USEPA 608-GC)
☐ 4. Acids Base/Neutrals (USEPA 625-GC/MS)
☐ 5. Cyanide
☐ 9. BOD
☐ 7. Halogenated Volatiles (USEPA 601-GC)
☐ 8. Aromatic Volatiles (USEPA 602-GC)
☐ 12. TSS
☐ 10. pH
☐ 11. COD
☐ 15. Ammonia
☐ 13. Settleable Solids
☐ 14. TKN
☐ 18. Reactive Phosphorus
☐ 16. Nitrate/Nitrite
☐ 17. Total Phosphorus
☐ 21. Total Phenols
☐ 19. Oil/Grease
☐ 20. TOC
☐ 60. PCB's congener method
☐ 22. Other _____
☐ 59. PCB's at 0.065 ug/L
☐ 64. Total Solids
☐ 62. CBOD
☐ 65. Volatiles (USEPA 524.2 GC/MS)

CONTRACT LABORATORY PROTOCOLS

☐ 23. (ALL)—Water—Includes 24-28
☐ 29. (ALL)— Soil/Sediments—Includes 30-34
☐ 24. Base/Neutral/Acid (B/N/A)—Water—GC/MS (ASP #89-2)
☐ 30. B/N/A/—Soils/Sediment—GC/MS (ASP #89-2)
☐ 25. Volatile Organic Analysis VOA—Water—GC/MS(ASP #89-1)
☐ 31. VOA—Soils/Sediments—GC/MS (ASP #89-1)
☐ 26. Pesticides/PCB's—Water—GC(ASP #89-3)
☐ 32. Pesticides/PCB's—Soils/Sediment—GC (ASP #89-3)
☒ 27. Metals—23 in Water
☒ 33. Metals—23 inSoil/Sediment
☐ 28. Cyanide—Water
☐ 34. Cyanide—Soils/Sediment
☐ 66. Dioxin-Water (ASP #89-4)
☐ 67. Dioxin-Soil/Sediment (ASP #89-4)
☐ 35. Other _____

HAZARDOUS WASTES/RCRA ANALYSIS SW-846

☐ 36. EP Toxicity
☐ 37. EP Toxicity (Metals Only)
☐ 38. Ignitability
☐ 39. Corrosivity
☐ 40. VOA—(USEPA 8240-GC/MS)
☐ 41. BNA—(USEPA 8270-GC/MS)
☐ 42. Pesticides/PCB's (USEPA 8080)
☐ 43. TCLP
☐ 44. TCLP (Metals Only)
☐ 45. Reactivity
☐ 46. Dioxin (USEPA 8280)
☐ 47. Appendix IX
☐ 48. Other _____
☐ 63. Percent Solids
☐ 68. Metals—17 Hazardous

MUNICIPAL SLUDGE

☐ 49. RSGB-01 ☐ 50. RSSR-01 ☐ 51. RSGR-01 ☐ 52. RSRB-01 ☐ 53. RSRI-01 (EP Toxicity-Metals only + RSRR-01)
☐ 54. RSRO-01 ☐ 55. RSSB-01 ☐ 56. RSRR-01 ☐ 57. RSRR-02 ☐ 58. Other _____

COLLECTED BY:	TELEPHONE NUMBER:	REGION NO:
M. Moore	716 851-7220	9

CONTRACT LAB:	COUNTY:	SAMPLING DATE:	MILITARY TIME:
RecRA	Erie	7/15/97	

SAMPLE MATRIX:
☐ Air ☒ Soil/Sediment ☐ Groundwater ☐ Surface Water ☐ Wastewater ☐ Other (Specify) _____

CASE NUMBER	SDG NUMBER	SAMPLE NUMBER	CHECK FOR MS/MD	TYPE OF SAMPLE:
5H597	0715	LHP402	☐ This Sample	☒ Composite ☐ Grab ☐ Term ____ hrs

☐ Check if there will be more samples with this SDG sent in this calendar week

Report via Catagory B, unless checked ☐

SAMPLING POINT:	Check if field duplicate ☐	Outfall Number	Check if sampling is part of Inspection ☐
	SPDES NUMBER/REGISTRY NUMBER	FLOW	GPD MGD

74-15-1 (4/91)—9a

Send This Sheet with Sample to Contract Lab

000084

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION

CONTRACT LAB SAMPLE INFORMATION SHEET

Print legibly

Part 3

CAUTION (check if applicable)

☐ Lab Personnel are expected to use caution when handling DEC samples, however, please use special precautions when handling this sample since it is believed to contain significant concentrations of hazardous and/or toxic material(s).

Place QA Label Here

CHECK THE BOX PRECEDING THE REQUESTED ANALYSIS

PRIORITY POLLUTANTS (Water Part 136)—SPDES

- ☐ 2. 13 PP Metals
- ☐ 3. Volatiles—(USEPA 624 GC/MS)
- ☐ 6. Pesticides/PCB's (USEPA 608-GC)
- ☐ 4. Acids Base/Neutrals (USEPA 625-GC/MS)
- ☐ 5. Cyanide
- ☐ 9. BOD
- ☐ 7. Halogenated Volatiles (USEPA 601-GC)
- ☐ 8. Aromatic Volatiles (USEPA 602-GC)
- ☐ 12. TSS
- ☐ 10. pH
- ☐ 11. COD
- ☐ 15. Ammonia
- ☐ 13. Settleable Solids
- ☐ 14. TKN
- ☐ 18. Reactive Phosphorus
- ☐ 16. Nitrate/Nitrite
- ☐ 17. Total Phosphorus
- ☐ 21. Total Phenols
- ☐ 19. Oil/Grease
- ☐ 20. TOC
- ☐ 60. PCB's congener method
- ☐ 22. Other _____
- ☐ 59. PCB's at 0.065 ug/L
- ☐ 64. Total Solids
- ☐ 62. CBOD
- ☐ 65. Volatiles (USEPA 524.2 GC/MS)

CONTRACT LABORATORY PROTOCOLS

- ☐ 23. (ALL)—Water—Includes 24-28
- ☐ 29. (ALL)— Soil/Sediments—Includes 30-34
- ☐ 24. Base/Neutral/Acid (B/N/A)—Water—GC/MS (ASP #89-2)
- ☑ 30. B/N/A/—Soils/Sediment—GC/MS (ASP #89-2)
- ☐ 25. Volatile Organic Analysis VOA—Water—GC/MS(ASP #89-1)
- ☐ 31. VOA—Soils/Sediments—GC/MS (ASP #89-1)
- ☐ 26. Pesticides/PCB's—Water—GC(ASP #89-3)
- ☑ 32. Pesticides/PCB's—Soils/Sediment—GC (ASP #89-3)
- ☐ 27. Metals—23 In Water
- ☐ 33. Metals—23 inSoil/Sediment
- ☐ 28. Cyanide—Water
- ☐ 34. Cyanide—Soils/Sediment
- ☐ 66. Dioxin-Water (ASP #89-4)
- ☐ 67. Dioxin-Soil/Sediment (ASP #89-4)
- ☐ 35. Other _____

HAZARDOUS WASTES/RCRA ANALYSIS SW-846

- ☐ 36. EP Toxicity
- ☐ 37. EP Toxicity (Metals Only)
- ☐ 38. Ignitability
- ☐ 39. Corrosivity
- ☐ 40. VOA—(USEPA 8240-GC/MS)
- ☐ 41. BNA—(USEPA 8270-GC/MS)
- ☐ 42. Pesticides/PCB's (USEPA 8080)
- ☐ 43. TCLP
- ☐ 44. TCLP (Metals Only)
- ☐ 45. Reactivity
- ☐ 46. Dioxin (USEPA 8280)
- ☐ 47. Appendix IX
- ☐ 48. Other _____
- ☐ 63. Percent Solids
- ☐ 68. Metals—17 Hazardous

MUNICIPAL SLUDGE

- ☐ 49. RSGB-01 ☐ 50. RSSR-01 ☐ 51. RSGR-01 ☐ 52. RSRB-01 ☐ 53. RSRI-01 (EP Toxicity-Metals only + RSRR-01)
- ☐ 54. RSRO-01 ☐ 55. RSSB-01 ☐ 56. RSRR-01 ☐ 57. RSRR-02 ☐ 58. Other _____

COLLECTED BY:	TELEPHONE NUMBER:	REGION NO:
M. Moore	(716) 851-7220	9

CONTRACT LAB:	COUNTY:	SAMPLING DATE:	MILITARY TIME:
RECRA	~~[illegible]~~ Erie	07/05/97	

SAMPLE MATRIX:

☐ Air ☒ Soil/Sediment ☐ Groundwater ☐ Surface Water ☐ Wastewater ☐ Other (Specify) _____

CASE NUMBER	SDG NUMBER	SAMPLE NUMBER	CHECK FOR MS/MD	TYPE OF SAMPLE:
SH9917	0705	LHP501	☐ This Sample	☒ Composite ☐ Grab ☐ Term ____ hrs

☐ Check if there will be more samples with this SDG sent in this calendar week

Report via Catagory B, unless checked ☐

SAMPLING POINT:	Check if field duplicate ☐	Outfall Number	Check if sampling is part of Inspection ☐
	SPDES NUMBER/REGISTRY NUMBER		FLOW GPD MGD

74-15-1 (4/91)—9a

Send This Sheet with Sample to Contract Lab

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION

CONTRACT LAB SAMPLE INFORMATION SHEET

Print legibly

000085

Part 3

CAUTION (check if applicable)

☐ Lab Personnel are expected to use caution when handling DEC samples, however, please use special precautions when handling this sample since it is believed to contain significant concentrations of hazardous and/or toxic material(s).

Place QA Label Here

CHECK THE BOX PRECEDING THE REQUESTED ANALYSIS

PRIORITY POLLUTANTS (Water Part 136)—SPDES

- ☐ 2. 13 PP Metals
- ☐ 3. Volatiles—(USEPA 624 GC/MS)
- ☐ 6. Pesticides/PCB's (USEPA 608-GC)
- ☐ 4. Acids Base/Neutrals (USEPA 625-GC/MS)
- ☐ 5. Cyanide
- ☐ 9. BOD
- ☐ 7. Halogenated Volatiles (USEPA 601-GC)
- ☐ 8. Aromatic Volatiles (USEPA 602-GC)
- ☐ 12. TSS
- ☐ 10. pH
- ☐ 11. COD
- ☐ 15. Ammonia
- ☐ 13. Settleable Solids
- ☐ 14. TKN
- ☐ 18. Reactive Phosphorus
- ☐ 16. Nitrate/Nitrite
- ☐ 17. Total Phosphorus
- ☐ 21. Total Phenols
- ☐ 19. Oil/Grease
- ☐ 20. TOC
- ☐ 60. PCB's congener method
- ☐ 22. Other _____
- ☐ 59. PCB's at 0.065 ug/L
- ☐ 64. Total Solids
- ☐ 62. CBOD
- ☐ 65. Volatiles (USEPA 524.2 GC/MS)

CONTRACT LABORATORY PROTOCOLS

- ☐ 23. (ALL)—Water—Includes 24-28
- ☐ 29. (ALL)— Soil/Sediments—Includes 30-34
- ☐ 24. Base/Neutral/Acid (B/N/A)—Water—GC/MS (ASP #89-2)
- ☐ 30. B/N/A/—Soils/Sediment—GC/MS (ASP #89-2)
- ☐ 25. Volatile Organic Analysis VOA—Water—GC/MS(ASP #89-1)
- ☐ 31. VOA—Soils/Sediments—GC/MS (ASP #89-1)
- ☐ 26. Pesticides/PCB's—Water—GC(ASP #89-3)
- ☐ 32. Pesticides/PCB's—Soils/Sediment—GC (ASP #89-3)
- ☐ 27. Metals—23 In Water
- ☑ 33. Metals—23 inSoil/Sediment
- ☐ 28. Cyanide—Water
- ☐ 34. Cyanide—Soils/Sediment
- ☐ 66. Dioxin-Water (ASP #89-4)
- ☐ 67. Dioxin-Soil/Sediment (ASP #89-4)
- ☐ 35. Other _____

HAZARDOUS WASTES/RCRA ANALYSIS SW-846

- ☐ 36. EP Toxicity
- ☐ 37. EP Toxicity (Metals Only)
- ☐ 38. Ignitability
- ☐ 39. Corrosivity
- ☐ 40. VOA—(USEPA 8240-GC/MS)
- ☐ 41. BNA—(USEPA 8270-GC/MS)
- ☐ 42. Pesticides/PCB's (USEPA 8080)
- ☐ 43. TCLP
- ☐ 44. TCLP (Metals Only)
- ☐ 45. Reactivity
- ☐ 46. Dioxin (USEPA 8280)
- ☐ 47. Appendix IX
- ☐ 48. Other _____
- ☐ 63. Percent Solids
- ☐ 68. Metals—17 Hazardous

MUNICIPAL SLUDGE

- ☐ 49. RSGB-01 ☐ 50. RSSR-01 ☐ 51. RSGR-01 ☐ 52. RSRB-01 ☐ 53. RSRI-01 (EP Toxicity-Metals only + RSRR-01)
- ☐ 54. RSRO-01 ☐ 55. RSSB-01 ☐ 56. RSRR-01 ☐ 57. RSRR-02 ☐ 58. Other _____

COLLECTED BY:	TELEPHONE NUMBER:	REGION NO:
M. Moore	(716) 851-7220	9

CONTRACT LAB:	COUNTY:	SAMPLING DATE:	MILITARY TIME:
RECRA	10 ERIE	7/15/97	

SAMPLE MATRIX:

☐ Air ☑ Soil/Sediment ☐ Groundwater ☐ Surface Water ☐ Wastewater ☐ Other (Specify) _____

CASE NUMBER	SDG NUMBER	SAMPLE NUMBER	CHECK FOR MS/MD	TYPE OF SAMPLE:
5H9977	07157	LHP502	☐ This Sample	☒ Composite ☐ Grab ☐ Term ___ hrs

☐ Check if there will be more samples with this SDG sent in this calendar week

Report via Catagory B, unless checked ☐

SAMPLING POINT:	Check if field duplicate ☐	Outfall Number	Check if sampling is part of Inspection ☐
	SPDES NUMBER/REGISTRY NUMBER		FLOW GPD MGD

APPENDIX 3

(Topsoil Sampling Results)

APPENDIX D

(Topsoil Sampling Results)

Columbia Analytical Services inc.

A FULL SERVICE ENVIRONMENTAL LABORATORY

June 30, 1997

Mr. Ken Keller
Arric Corporation
5033 Transit Road
Depew, NY 14043

PROJECT:LEHIGH
Submission #:9706000100

Dear Mr. Keller

Enclosed are the analytical results of the analyses requested. All data has been reviewed prior to report submission. Should you have any questions please contact me at (716) 288-5380.

Thank you for letting us provide this service.

Sincerely,

COLUMBIA ANALYTICAL SERVICES

Mark Wilson
Client Service Manager

Enc.

This package has been reviewed by Columbia Analytical Services' QA Department/Laboratory Director prior to report submittal.

1 Mustard St.• Suite 250 • Rochester, NY 14609 • Tele:(716)288-5380 • Fax:(716)288-8475
65 Ramapo Valley Rd. • Suite 16 • Mahwah, NJ 07430 • Tele:(201)512-3292 • Fax:(201)512-3362
12699 Roll Rd. • Akron, NY 14001 • Tele:(716)542-1264 • Fax:(716)542-3353

CASE NARRATIVE

COMPANY: ARRIC Corp
Topsoil Sample SDG: BCS
SUBMISSION #: 9706000100

An ARRIC soil sample was collected on 06/04/97 and received at CAS on 06/04/97 in good condition. See the CAS Batching form to cross reference between Client ID and CAS sample numbers.

VOLATILE ORGANICS

One soil was analyzed for Target Compound List (TCL) of volatile organics by method 91-1 from the NYSASP 1991.

Sample BCS was analyzed for site specific QC. All matrix spike recoveries and %RPD were within QC Limits. All blank spike recoveries were within QC limits.

All tuning criteria for BFB were met.

The initial and continuing calibration criteria were met for all analytes.

All surrogate standard recoveries were within acceptance limits.

Internal Standard areas were outside limits in BCS and its MS and MSD. These areas have been flagged "*" on the Form 8A.

All samples were analyzed within the holding time as specified in the method.

No other analytical or QC problems were encountered.

SEMIVOLATILE ORGANICS

One soil was analyzed for the Target Compound List (TCL) of semivolatile organics by method 91-2 from the NYSASP 1991.

Sample BCS was analyzed for site specific QC. 1,4-Dichlorobenzene was outside limits for recovery in the MS and MSD as was 1,2,4-Trichlorobenzene in the MSD only. Several compounds were outside limits for RPD. All blank spike recoveries were within QC limits.

All tuning criteria for DFTPP were met.

The initial and continuing calibration criteria were met for all analytes.

All surrogate standard recoveries were within acceptance limits except for S4 in sample BCSMSD.

All internal standard areas were within QC Limits.

All samples were analyzed within the holding time as specified in the method.

No other analytical or QC problems were encountered.

PESTICIDES/PCBs

One soil sample was analyzed for the Target Compound List of Pesticides and PCBs by Method 91-3 from the NYSASP 1991.

Sample BCS was analyzed for site specific QC. All matrix spike recoveries and %RPD were within QC Limits.

The initial and continuing calibration criteria were met for all analytes.

All surrogate standard recoveries were within QC limits.

All samples were extracted and analyzed within the specified holding times.

No other analytical or QC problems were encountered.

METALS

One soil sample was analyzed for the Target Analyte List of Metals and Cyanide by the Inorganic Methods from the NYSASP 1991.

All Initial and Continuing calibrations were compliant.

Sample BCS was analyzed for site specific QC. All spike recoveries and %D were within QC Limits except for the recovery of Antimony. All associated samples have been flagged "N". The Duplicates were outside limits for Calcium and associated data is flagged "*". The Antimony and Calcium data would be flagged "J". All Selenium and Arsenic data would be acceptable as the sample concentration is greater than four times the spike concentration.

The Zinc result was flagged "E" indicating the serial dilution was outside QC Limits.

No other analytical or QC problems were encountered.

DIOXIN

Dioxin analysis was subcontracted to ALTA Labs. Data is reported in this package.

CAS ASP/CLP BATCHING FORM

BATCH COMPLETE: ____y_____ SDG #:BCS CLIENT:ARRIC Corp
DISKETTE REQUESTED: Y___ N_x___ SUBMISSION #:06-100 PROJECT:Lehigh
CLIENT REP:Mark Wilson DATE: 06/04/97 PROTOCOL:ASP
DATE DUE:07/04/97 DATE REVISED:

CAS JOB #	CLIENT/EPA ID	MATRIX	REQUESTED PARAMETERS	DATE SAMPLED	DATE RECEIVED	pH (SOLIDS)	% SOLIDS
151566	QC BCS	soil	91-1/91-2/91-3/Inor/Dio	6/4/97	6/4/97	8.0	70 %

ORGANIC QUALIFIERS

U - Indicates compound was analyzed for but not detected. The sample quantitation limit must be corrected for dilution and for percent moisture.

J - Indicates an estimated value. The flag is used either when estimating a concentration for tentatively identified compounds where a 1:1 response is assumed, or when the mass spectral data indicate the presence of a compound that meets the identification criteria but the result is less than the sample quantitation limit but greater than zero.

N - Indicates presumptive evidence of a compound. This flag is only used for tentatively identified compounds, where the identification is based on a mass spectral library search.

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. The lower of the two values is reported on Form I and flagged with a "P".

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

B - This flag is used when the analyte is found in the associated blank as well as in the sample.

E - This flag identifies compounds whose concentrations exceed the calibration range of the GC/MS instrument for that specific analysis.

D - This flag identifies all compounds identified in an analysis at a secondary dilution factor. If a sample or extract is re-analyzed at a higher dilution factor, as in the "E" flag above, the "DL" suffix is appended to the sample number on the Form I for the diluted sample, and ALL concentration values reported on that Form I are flagged with the "D" flag.

A - This flag indicates that a TIC is a suspected aldol-condensation product.

X - As specified in Case Narrative.

10/95

INORGANIC QUALIFIERS

C (Concentration) qualifier - Enter "B" if the reported value was obtained from a reading that was less than the Contract Required Detection Limit (CRDL) but was greater than or equal to the Instrument Detection Limit (IDL). If the analyte was analyzed for, but not detected, a "U" must be entered.

Q qualifier - Specified entries and their meanings are as follows:

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.

M (Method) qualifier - Enter:

- "P" for ICP
- "A" for Flame AA
- "F" for Furnace AA
- "PM" for ICP when Microwave Digestion is used
- "AM" for Flame AA when Microwave Digestion is used
- "FM" for Furnace M when Microwave Digestion is used
- "CV" for Manual Cold Vapor AA
- "AV" for Automated Cold Vapor AA
- "CA" for Midi-Distillation Spectrophotometric
- "AS" for Semi-Automated Spectrophotometric
- "C" for Manual Spectrophotometric
- "T" for Titrimetric
- " " where no data has been entered
- "NR" if the analyte is not required to be analyzed

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION
SAMPLE IDENTIFICATION AND
ANALYTICAL REQUIREMENT SUMMARY

Customer Sample Code	Laboratory Sample Code	Analytical Requirements* NYSDEC 1991 CLP PROTOCOL					
		*VOA GC/MS	*BNA GC/MS	*VOA GC	*PEST PCB	*METALS	*OTHER
BCS	151566	X	X		X	X	

*Check Appropriate Boxes
CLP, Non-CLP
HSL, Priority Pollutant
NCF1

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION
SAMPLE PREPARATION AND ANALYSIS SUMMARY
VOA
ANALYSES

LABORATORY SAMPLE ID	MATRIX	DATE COLLECTED	DATE REC'D AT LAB	LOW LEVEL MED LEVEL	DATE ANALYZED
151566	SOIL	06/04/97	06/04/97	LOW	06/06/97

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION

SAMPLE PREPARATION AND ANALYSIS SUMMARY

ORGANIC ANALYSES

SAMPLE ID	MATRIX	ANALYTICAL PROTOCOL	EXTRACTION METHOD	AUXILARY CLEAN UP	DIL/CONC FACTOR
151566	SOIL	91-1			1.0

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION
SAMPLE PREPARATION AND ANALYSIS SUMMARY
B/N-A
ANALYSES

LABORATORY SAMPLE ID	MATRIX	DATE COLLECTED	DATE REC'D AT LAB	DATE EXTRACTED	DATE ANALYZED
151566	SOIL	06/04/97	06/04/97	06/10/97	06/11/97

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION

SAMPLE PREPARATION AND ANALYSIS SUMMARY

ORGANIC ANALYSES

SAMPLE ID	MATRIX	ANALYTICAL PROTOCOL	EXTRACTICN METHOD	AUXILARY CLEAN UP	DIL/CONC FACTOR
151566	SOIL	91-2			1.0

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION
SAMPLE PREPARATION AND ANALYSIS SUMMARY
PESTICIDE/PCB
ANALYSES

LABORATORY SAMPLE ID	MATRIX	DATE COLLECTED	DATE REC'D AT LAB	DATE EXTRACTED	DATE ANALYZED
151566	SOIL	06/04/97	06/04/97	06/10/97	06/12/97

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION

SAMPLE PREPARATION AND ANALYSIS SUMMARY

ORGANIC ANALYSES

SAMPLE ID	MATRIX	ANALYTICAL PROTOCOL	EXTRACTION METHOD	AUXILARY CLEAN UP	DIL/CONC FACTOR
151566	SOIL	91-3			1.0

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION
SAMPLE PREPARATION AND ANALYSIS SUMMARY
INORGANIC ANALYSES

SAMPLE ID	MATRIX	METALS REQUESTED	DATE RECEIVED	DATE ANALYZED
151566	SOIL	AL,SB,AS,BA,BE,CD,CA,CR,CO, CU,FE,PB,MG,MN,NI,SE,AG,NA, TL,V,ZN	6/4/97	6/6/97

00013

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION
SAMPLE PREPARATION AND ANALYSIS SUMMARY
INORGANIC ANALYSES

SAMPLE ID	MATRIX	METALS REQUESTED	DATE RECEIVED	DATE ANALYZED
151566	SOIL	K	6/4/97	6/9/97

9/89

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION
SAMPLE PREPARATION AND ANALYSIS SUMMARY
INORGANIC ANALYSES

SAMPLE ID	MATRIX	METALS REQUESTED	DATE RECEIVED	DATE ANALYZED
151566	SOIL	HG	6/4/97	6/6/97

9/89

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION
SAMPLE PREPARATION AND ANALYSIS SUMMARY
INORGANIC ANALYSES

SAMPLE ID	MATRIX	METALS REQUESTED	DATE RECEIVED	DATE ANALYZED
151566	SOIL	TCN	6/4/97	6/6/97

9/89

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BCS

Lab Name: CAS-ROC Contract: ARRIC

Lab Code: 10145 Case No.: LEHIGH SAS No.: SDG No.: BCS

Matrix: (soil/water) SOIL Lab Sample ID: 151566 1.0

Sample wt/vol: 5.0 (g/ml) G Lab File ID: X2367.D

Level: (low/med) LOW Date Received: 06/04/97

% Moisture: not dec. 29.2 Date Analyzed: 06/06/97

GC Column: RESTEK ID: 0.53 (mm) Dilution Factor: 1.0

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

CONCENTRATION UNITS:

CAS NO.	COMPOUND	(ug/L or ug/Kg) UG/KG	Q
74-87-3	Chloromethane	14	U
75-01-4	Vinyl chloride	14	U
75-00-3	Chloroethane	14	U
74-83-9	Bromomethane	14	U
67-64-1	Acetone	14	U
75-35-4	1,1-Dichloroethene	14	U
75-09-2	Methylene chloride	14	U
75-15-0	Carbon disulfide	14	U
75-34-3	1,1-Dichloroethane	14	U
78-93-3	2-Butanone	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
71-55-6	1,1,1-Trichloroethane	14	U
56-23-5	Carbon tetrachloride	14	U
71-43-2	Benzene	14	U
79-01-6	Trichloroethene	14	U
78-87-5	1,2-Dichloropropane	14	U
75-27-4	Bromodichloromethane	14	U
10061-01-5	cis-1,3-Dichloropropene	14	U
10061-02-6	trans-1,3-Dichloropropene	14	U
79-00-5	1,1,2-Trichloroethane	14	U
124-48-1	Dibromochloromethane	14	U
75-25-2	Bromoform	14	U
108-10-1	4-Methyl-2-pentanone	14	U
108-88-3	Toluene	14	U
591-78-6	2-Hexanone	14	U
127-18-4	Tetrachloroethene	14	U
108-90-7	Chlorobenzene	14	U
100-41-4	Ethylbenzene	14	U
1330-20-7	Xylenes (total)	3	J
100-42-5	Styrene	14	U
108-88-3	1,1,2,2-Tetrachloroethane	14	U

NYSDEC Sample No.: BCS

1E - VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

Lab Name: COLUMBIA ANALYTICAL SERVICES
Lab Code: 10145 Case No.: --
Matrix: (soil/water) SOIL
Sample wt/vol: 5.0 (g/mL) G
Level (low/med): LOW
% Moisture: 29.2
Column (pack/cap): CAP

Number TIC's found: 4

Contract: ARRIC
SAS No.: -- SDG No.:BCS
Lab Sample ID: 151566
Lab File ID: X2367
Date Received: 06/04/97
Date Analyzed: 06/06/97
Dilution Factor: 1.0
Concentration Units:
(ug/L or ug/Kg) UG/KG

	CAS NUMBER	COMPOUND NAME	RT	EST.CONC.	Q
1.	124-38-9	Carbon dioxide	4.87	62	JB
2.	110-54-3	Hexane	11.67	8.6	J
3.		Unknown	28.24	16	J
4.		Unknown	28.38	11	J
5.					
6.					
7.					
8.					
9.					
10.					
11.					
12.					
13.					
14.					
15.					
16.					
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23.					
24.					
25.					
26.					
27.					
28.					
29.					
30.					

1A

EPA SAMPLE NO.

VOLATILE ORGANICS ANALYSIS DATA SHEET

VBLK01

Lab Name: CAS-ROC Contract: ARRIC

Lab Code: 10145 Case No.: LEHIGH SAS No.: SDG No.: BCS

Matrix: (soil/water) SOIL Lab Sample ID: VBLK01

Sample wt/vol: 5.0 (g/ml) G Lab File ID: X2365.D

Level: (low/med) LOW Date Received:

% Moisture: not dec. 0 Date Analyzed: 06/06/97

GC Column: RESTEK ID: 0.53 (mm) Dilution Factor: 1.0

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

CONCENTRATION UNITS:

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

NYSDEC Sample No.: VBLK01

1E - VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

Lab Name: COLUMBIA ANALYTICAL SERVICES
Lab Code: 10145 Case No.: --
Matrix: (soil/water) SOIL
Sample wt/vol: 5.0 (g/mL) G
Level (low/med): LOW
% Moisture: 0
Column (pack/cap): CAP

Number TIC's found: 1

Contract: ARRIC
SAS No.: -- SDG No.:BCS
Lab Sample ID: 151566
Lab File ID: X2365
Date Received: --
Date Analyzed: 06/06/97
Dilution Factor: 1.0
Concentration Units:
(ug/L or ug/Kg) UG/KG

	CAS NUMBER	COMPOUND NAME	RT	EST.CONC.	Q
1.	124-38-9	Carbon dioxide	4.83	12	J
2.					
3.					
4.					
5.					
6.					
7.					
8.					
9.					
10.					
11.					
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29.					
30.					

1A

EPA SAMPLE NO.

VOLATILE ORGANICS ANALYSIS DATA SHEET

VBLK01MS

Lab Name: CAS-ROC Contract: ARRIC

Lab Code: 10145 Case No.: LEHIGH SAS No.: SDG No.: BCS

Matrix: (soil/water) SOIL Lab Sample ID: VBLK01MS

Sample wt/vol: 5.0 (g/ml) G Lab File ID: X2366.D

Level: (low/med) LOW Date Received:

% Moisture: not dec. 0 Date Analyzed: 06/06/97

GC Column: RESTEK ID: 0.53 (mm) Dilution Factor: 1.0

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

CONCENTRATION UNITS:

CAS NO.	COMPOUND	(ug/L or ug/Kg) UG/KG	Q
74-87-3	Chloromethane	10	U
75-01-4	Vinyl chloride	10	U
75-00-3	Chloroethane	10	U
74-83-9	Bromomethane	10	U
67-64-1	Acetone	10	U
75-35-4	1,1-Dichloroethene	53	
75-09-2	Methylene chloride	10	U
75-15-0	Carbon disulfide	10	U
75-34-3	1,1-Dichloroethane	10	U
78-93-3	2-Butanone	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
71-55-6	1,1,1-Trichloroethane	10	U
56-23-5	Carbon tetrachloride	10	U
71-43-2	Benzene	48	
79-01-6	Trichloroethene	45	
78-87-5	1,2-Dichloropropane	10	U
75-27-4	Bromodichloromethane	10	U
10061-01-5	cis-1,3-Dichloropropene	10	U
10061-02-6	trans-1,3-Dichloropropene	10	U
79-00-5	1,1,2-Trichloroethane	10	U
124-48-1	Dibromochloromethane	10	U
75-25-2	Bromoform	10	U
108-10-1	4-Methyl-2-pentanone	10	U
108-88-3	Toluene	45	
591-78-6	2-Hexanone	10	U
127-18-4	Tetrachloroethene	10	U
108-90-7	Chlorobenzene	48	
100-41-4	Ethylbenzene	10	U
1330-20-7	Xylenes (total)	10	U
100-42-5	Styrene	10	U
108-88-3	1,1,2,2-Tetrachloroethane	10	U

R

1A

EPA SAMPLE NO.

VOLATILE ORGANICS ANALYSIS DATA SHEET

BCSMS

Lab Name: CAS-ROC Contract: ARRIC

Lab Code: 10145 Case No.: LEHIGH SAS No.: SDG No.: BCS

Matrix: (soil/water) SOIL Lab Sample ID: 151566 1.0MS

Sample wt/vol: 5.0 (g/ml) G Lab File ID: X2368.D

Level: (low/med) LOW Date Received: 06/04/97

% Moisture: not dec. 29.2 Date Analyzed: 06/06/97

GC Column: RESTEK ID: 0.53 (mm) Dilution Factor: 1.0

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

CONCENTRATION UNITS:

CAS NO.	COMPOUND	(ug/L or ug/Kg) UG/KG	Q
74-87-3	Chloromethane	14	U
75-01-4	Vinyl chloride	14	U
75-00-3	Chloroethane	14	U
74-83-9	Bromomethane	14	U
67-64-1	Acetone	14	U
75-35-4	1,1-Dichloroethene	69	
75-09-2	Methylene chloride	14	U
75-15-0	Carbon disulfide	14	U
75-34-3	1,1-Dichloroethane	14	U
78-93-3	2-Butanone	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
71-55-6	1,1,1-Trichloroethane	14	U
56-23-5	Carbon tetrachloride	14	U
71-43-2	Benzene	78	
79-01-6	Trichloroethene	58	
78-87-5	1,2-Dichloropropane	14	U
75-27-4	Bromodichloromethane	14	U
10061-01-5	cis-1,3-Dichloropropene	14	U
10061-02-6	trans-1,3-Dichloropropene	14	U
79-00-5	1,1,2-Trichloroethane	14	U
124-48-1	Dibromochloromethane	14	U
75-25-2	Bromoform	14	U
108-10-1	4-Methyl-2-pentanone	14	U
108-88-3	Toluene	72	
591-78-6	2-Hexanone	14	U
127-18-4	Tetrachloroethene	14	U
108-90-7	Chlorobenzene	69	
100-41-4	Ethylbenzene	14	U
1330-20-7	Xylenes (total)	14	U
100-42-5	Styrene	14	U
108-88-3	1,1,2,2-Tetrachloroethane	14	U

(R)

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BCSMSD

Lab Name: CAS-ROC Contract: ARRIC

Lab Code: 10145 Case No.: LEHIGH SAS No.: _____ SDG No.: BCS

Matrix: (soil/water) SOIL Lab Sample ID: 151566 1.0MS

Sample wt/vol: 5.0 (g/ml) G Lab File ID: X2369.D

Level: (low/med) LOW Date Received: 06/04/97

% Moisture: not dec. 29.2 Date Analyzed: 06/06/97

GC Column: RESTEK ID: 0.53 (mm) Dilution Factor: 1.0

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

CONCENTRATION UNITS:

CAS NO.	COMPOUND	(ug/L or ug/Kg) UG/KG	Q
74-87-3	Chloromethane	14	U
75-01-4	Vinyl chloride	14	U
75-00-3	Chloroethane	14	U
74-83-9	Bromomethane	14	U
67-64-1	Acetone	14	U
75-35-4	1,1-Dichloroethene	70	
75-09-2	Methylene chloride	14	U
75-15-0	Carbon disulfide	14	U
75-34-3	1,1-Dichloroethane	14	U
78-93-3	2-Butanone	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
71-55-6	1,1,1-Trichloroethane	14	U
56-23-5	Carbon tetrachloride	14	U
71-43-2	Benzene	77	
79-01-6	Trichloroethene	59	
78-87-5	1,2-Dichloropropane	14	U
75-27-4	Bromodichloromethane	14	U
10061-01-5	cis-1,3-Dichloropropene	14	U
10061-02-6	trans-1,3-Dichloropropene	14	U
79-00-5	1,1,2-Trichloroethane	14	U
124-48-1	Dibromochloromethane	14	U
75-25-2	Bromoform	14	U
108-10-1	4-Methyl-2-pentanone	14	U
108-88-3	Toluene	75	
591-78-6	2-Hexanone	14	U
127-18-4	Tetrachloroethene	14	U
108-90-7	Chlorobenzene	66	
100-41-4	Ethylbenzene	14	U
1330-20-7	Xylenes (total)	14	U
100-42-5	Styrene	14	U
108-88-3	1,1,2,2-Tetrachloroethane	14	U

R

2B

SOIL VOLATILE SYSTEM MONITORING COMPOUND RECOVERY

Lab Name: CAS-ROC Contract: ARRIC

Lab Code: 10145 Case No.: LEHIGH SAS No.: _____ SDG No.: BCS

Level: (low/med) LOW

	EPA SAMPLE NO.	SMC1 #	SMC2 #	SMC3 #	TOT OUT
01	VBLK01	103	90	111	0
02	VBLK01MS	92	92	112	0
03	BCS	100	107	94	0
04	BCSMS	106	106	99	0
05	BCSMSD	109	119	89	0

			QC LIMITS
SMC1	=	1,2-Dichloroethane-d4	(70-121)
SMC2	=	Toluene-d8	(59-138)
SMC3	=	Bromofluorobenzene	(59-113)

Column to be used to flag recovery values

* Values outside of contract required QC limits

D System Monitoring Compound diluted out

3B

SOIL VOLATILE MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

Lab Name: CAS-ROC Contract: ARRIC

Lab Code: 10145 Case No.: LEHIGH SAS No.: SDG No.: BCS

Matrix Spike - EPA Sample No.: VBLK01 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	53	106	59 - 172
Benzene	50	0.0	48	96	62 - 137
Trichloroethene	50	0.0	45	90	66 - 142
Toluene	50	0.0	45	90	59 - 139
Chlorobenzene	50	0.0	48	96	60 - 133

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

* Values outside of QC limits

RPD: 5 out of 5 outside limits

Spike Recovery: 5 out of 10 outside limits

COMMENTS: _____

3B

SOIL VOLATILE MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

Lab Name: CAS-ROC Contract: ARRIC

Lab Code: 10145 Case No.: LEHIGH SAS No.: _____ SDG No.: BCS

Matrix Spike - EPA Sample No.: BCS 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	71	0.0	69	97	59 - 172
Benzene	71	0.0	78	110	62 - 137
Trichloroethene	71	0.0	58	82	66 - 142
Toluene	71	0.0	72	101	59 - 139
Chlorobenzene	71	0.0	69	97	60 - 133

COMPOUND	SPIKE ADDED (ug/Kg)	MSD CONCENTRATION (ug/Kg)	MSD % REC #	% RPD #	QC LIMITS RPD	QC LIMITS REC.
1,1-Dichloroethene	71	70	99	2	22	59 - 172
Benzene	71	77	108	2	24	62 - 137
Trichloroethene	71	59	83	1	21	66 - 142
Toluene	71	75	106	5	21	59 - 139
Chlorobenzene	71	66	93	4	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: _____

4A

VOLATILE METHOD BLANK SUMMARY

EPA SAMPLE NO.

VBLK01

Lab Name: CAS-ROC Contract: ARRIC

Lab Code: 10145 Case No.: LEHIGH SAS No.: SDG No.: BCS

Lab File ID: X2365.D Lab Sample ID: VBLK01

Date Analyzed: 06/06/97 Time Analyzed: 20:30

GC Column: RESTEK ID: 0.53 (mm) Heated Purge: (Y/N) Y

Instrument ID: GCMS#3

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES, MS AND MSD:

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	TIME ANALYZED
01	VBLK01MS	VBLK01MS	X2366.D	21:07
02	BCS	151566 1.0	X2367.D	21:44
03	BCSMS	151566 1.0MS	X2368.D	22:22
04	BCSMSD	151566 1.0MSD	X2369.D	22:59

COMMENTS

5A

VOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK

BROMOFLUOROBENZENE (BFB)

Lab Name: CAS-ROC Contract: ARRIC

Lab Code: 10145 Case No.: LEHIGH SAS No.: _____ SDG No.: BCS

Lab File ID: X2362.D BFB Injection Date: 06/06/97

Instrument ID: GCMS#3 BFB Injection Time: 18:11

GC Column: RESTEK R ID: 0.53 (mm) Heated Purge: (Y/N) Y

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
50	15.0 - 40.0% of mass 95	15.4
75	30.0 - 60.0% of mass 95	57.0
95	Base peak, 100% relative abundance	100.0
96	5.0 - 9.0% of mass 95	8.6
173	Less than 2.0% of mass 174	0.6 (0.7)1
174	50.0 - 120.0% of mass 95	87.2
175	5.0 - 9.0% of mass 174	6.6 (7.6)1
176	95.0 - 101.0% of mass 174	83.1 (95.3)1
177	5.0 - 9.0% of mass 176	6.0 (7.2)2

1-Value is % mass 174 2-Value is % mass 176

THIS CHECK APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS, AND STANDARDS:

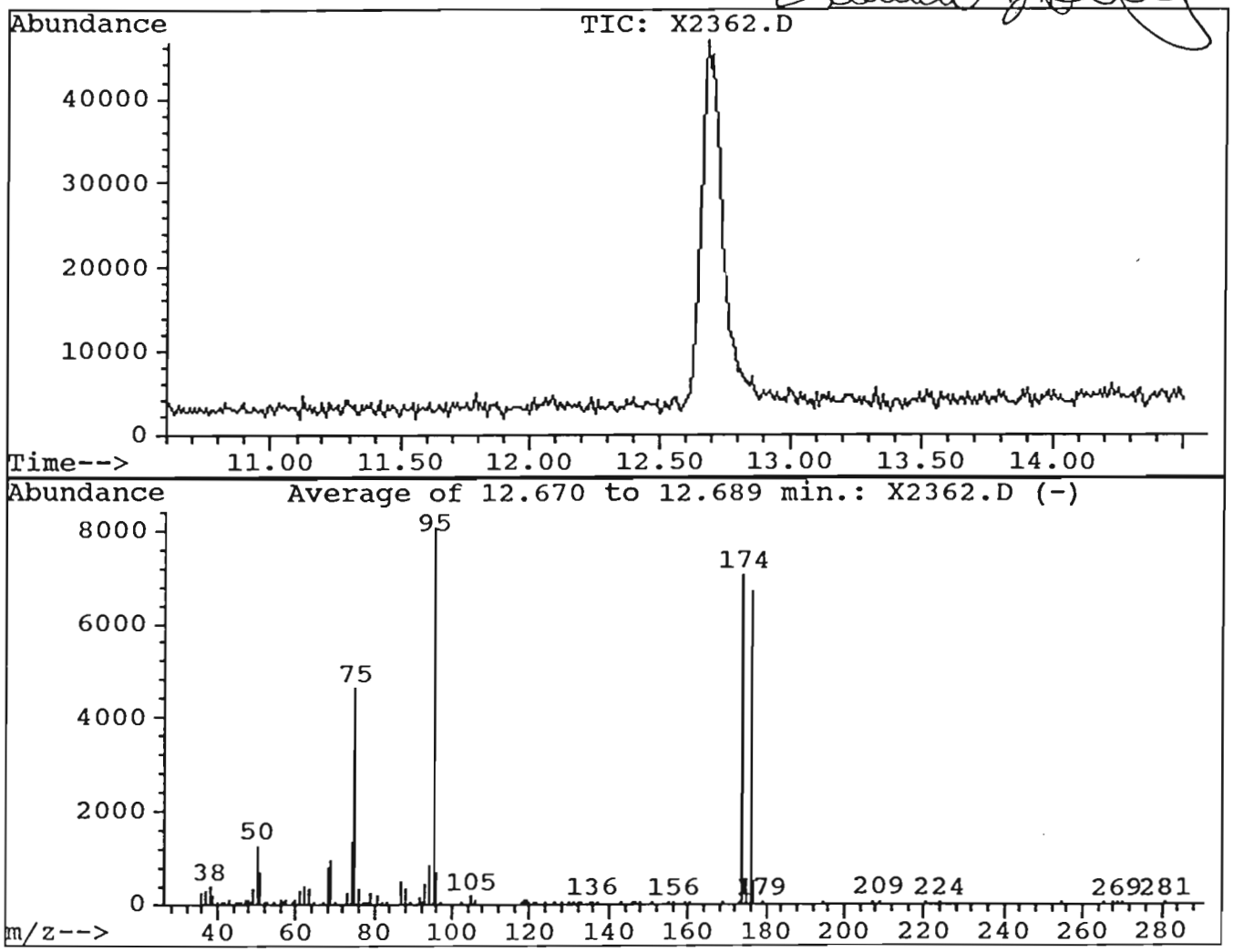
	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
01	VSTD050	VSTD050	X2363.D	06/06/97	18:49
02	VBLK01	VBLK01	X2365.D	06/06/97	20:30
03	VBLK01MS	VBLK01MS	X2366.D	06/06/97	21:07
04	BCS	151566 1.0	X2367.D	06/06/97	21:44
05	BCSMS	151566 1.0MS	X2368.D	06/06/97	22:22
06	BCSMSD	151566 1.0MSD	X2369.D	06/06/97	22:59

BFB

Data File : C:\HPCHEM\1\DATA\X2362.D
Acq On : 6 Jun 97 6:11 pm
Sample : TUNE CHECK
Misc :

Vial: 8
Operator: RODH
Inst : 5970 - In
Multiplr: 1.00

Method : C:\HPCHEM\1\METHODS\TUNE512.M
Title :



Peak Apex is scan: 433

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	15	40	15.4	1245	PASS
75	95	30	60	57.0	4597	PASS
95	95	100	100	100.0	8061	PASS
96	95	5	9	8.6	692	PASS
173	174	0	2	0.7	49	PASS
174	95	50	100	87.2	7030	PASS
175	174	5	9	7.6	534	PASS
176	174	95	101	95.3	6698	PASS
177	176	5	9	7.2	481	PASS

8A

VOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: CAS-ROC Contract: ARRIC

Lab Code: 10145 Case No.: LEHIGH SAS No.: SDG No.: BCS

Lab File ID (Standard): X2363.D Date Analyzed: 06/06/97

Instrument ID: GCMS#3 Time Analyzed: 18:49

GC Column: RESTEK R ID: 0.53 (mm) Heated Purge: (Y/N) Y

		IS1 AREA #	RT #	IS2 AREA #	RT #	IS3 AREA #	RT #
	12 HOUR STD	1230313	14.40	5904215	16.42	4325055	23.49
	LOWER LIMIT	615157	13.90	2952108	15.92	2162528	22.99
	UPPER LIMIT	2460626	14.90	11808430	16.92	8650110	23.99
	EPA SAMPLE NO.						
01	VBLK01	1113260	14.48	4881263	16.47	3973495	23.53
02	VBLK01MS	1053872	14.43	4869139	16.40	3865217	23.53
03	BCS	609319*	14.43	2624213*	16.40	1679436*	23.51
04	BCSMS	685353	14.44	3099317	16.42	1911239*	23.46
05	BCSMSD	637214	14.43	2765402*	16.38	1593684*	23.46

IS1 = Bromochloromethane

IS2 = 1,4-Difluorobenzene

IS3 = Chlorobenzene-d5

AREA UPPER LIMIT = +100% of internal standard area

AREA LOWER LIMIT = - 50% of internal standard area

RT UPPER LIMIT = +0.50 minutes of internal standard RT

RT LOWER LIMIT = -0.50 minutes of internal standard RT

Column to be used to flag values outside QC limit with an asterisk.

* Values outside of contract required QC limits

5A

VOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK

BROMOFLUOROBENZENE (BFB)

Lab Name: CAS-ROC Contract: ARRIC

Lab Code: 10145 Case No.: LEHIGH SAS No.: _____ SDG No.: BCS

Lab File ID: X2353.D BFB Injection Date: 06/06/97

Instrument ID: GCMS#3 BFB Injection Time: 09:57

GC Column: RESTEK R ID: 0.53 (mm) Heated Purge: (Y/N) Y

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
50	15.0 - 40.0% of mass 95	17.7
75	30.0 - 60.0% of mass 95	44.4
95	Base peak, 100% relative abundance	100.0
96	5.0 - 9.0% of mass 95	8.6
173	Less than 2.0% of mass 174	0.5 (0.5)1
174	50.0 - 120.0% of mass 95	88.7
175	5.0 - 9.0% of mass 174	6.0 (6.7)1
176	95.0 - 101.0% of mass 174	89.6 (101.0)1
177	5.0 - 9.0% of mass 176	7.6 (8.5)2

1-Value is % mass 174 2-Value is % mass 176

THIS CHECK APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS, AND STANDARDS:

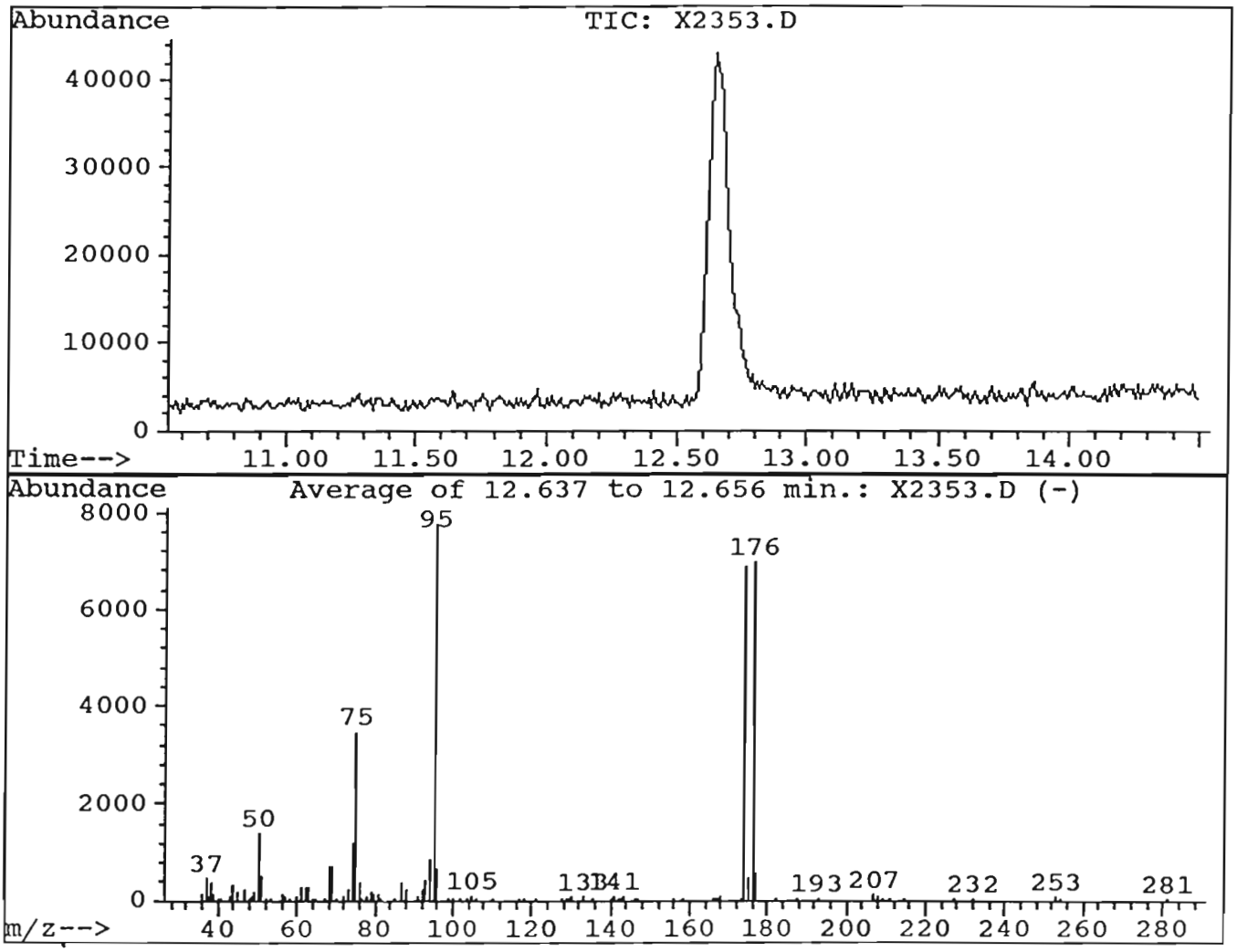
	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
01	VSTD010	10 PPB	X2355.D	06/06/97	13:11
02	VSTD020	20 PPB	X2356.D	06/06/97	14:27
03	VSTD050	50 PPB	X2357.D	06/06/97	15:07
04	VSTD100	100 PPB	X2358.D	06/06/97	15:52
05	VSTD200	200 PPB	X2359.D	06/06/97	16:32

BFB

Data File : C:\HPCHEM\1\DATA\X2353.D
Acq On : 6 Jun 97 9:57 am
Sample : TUNE CHECK
Misc :

Vial: 8
Operator: TOMT
Inst : 5970 - In
Multiplr: 1.00

Method : C:\HPCHEM\1\METHODS\TUNE512.M
Title :



Peak Apex is scan: 427

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	15	40	17.7	1376	PASS
75	95	30	60	44.4	3448	PASS
95	95	100	100	100.0	7764	PASS
96	95	5	9	8.6	664	PASS
173	174	0	2	0.5	36	PASS
174	95	50	100	88.7	6890	PASS
175	174	5	9	6.7	463	PASS
176	174	95	101	101.0	6956	PASS
177	176	5	9	8.5	589	PASS

ENVIROFORMS/INORGANIC CLP

SAMPLE NO.

1

INORGANIC ANALYSIS DATA SHEET

BCS1__

Lab Name: COLUMBIA ANALYTICAL Contract: ARRIC

Lab Code: 10145 Case No.: SAS No.: SDG No.: BCS1

Matrix (soil/water): SOIL Lab Sample ID: 151566 1.0

Level (low/med): LOW Date Received: 06/04/97

% Solids: 70.8

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	15700			P
7440-36-0	Antimony	27.2	U	N	P
7440-38-2	Arsenic	61.5	U	N	P
7440-39-3	Barium	85.4			P
7440-41-7	Beryllium	0.78	B		P
7440-43-9	Cadmium	0.92	U		P
7440-70-2	Calcium	9220		*	P
7440-47-3	Chromium	24.7			P
7440-48-4	Cobalt	11.9	B		P
7440-50-8	Copper	16.7			P
7439-89-6	Iron	29300			P
7439-92-1	Lead	25.4			P
7439-95-4	Magnesium	3770			P
7439-96-5	Manganese	608			P
7439-97-6	Mercury	0.17	U		CV
7440-02-0	Nickel	28.6			P
7440-09-7	Potassium	1870			P
7782-49-2	Selenium	50.9	U	N	P
7440-22-4	Silver	1.5	U		P
7440-23-5	Sodium	100	U		P
7440-28-0	Thallium	77.5	U		P
7440-62-2	Vanadium	28.8			P
7440-66-6	Zinc	113		E	P
	Cyanide	0.28	U		AS

Color Before: BROWN Clarity Before: Texture: MEDIUM

Color After: BROWN Clarity After: CLOUDY Artifacts:

Comments:

ENVIROFORMS/INORGANIC CLP

6
DUPLICATES

SAMPLE NO.
BCS1__D

Lab Name: COLUMBIA ANALYTICAL Contract: ARRIC

Lab Code: 10145 Case No.: SAS No.: SDG No.: BCS1

Matrix (soil/water): SOIL Level (low/med): LOW

% Solids for Sample: 70.8 % Solids for Duplicate: 70.8

Concentration Units (ug/L or mg/kg dry weight): MG/KG

Analyte	Control Limit	Sample (S)	C	Duplicate (D)	C	RPD	Q	M
Aluminum		15692.4280		14380.3310		8.7		P
Antimony	16.8	27.1858	U	26.4016	U			P
Arsenic	2.8	61.5316	U	59.7566	U			P
Barium	55.9	85.4100		86.7498		1.6		P
Beryllium		0.7753	B	0.6810	B	13.0		P
Cadmium		0.9230	U	0.8963	U			P
Calcium		9220.4257		7134.6072		25.5	*	P
Chromium		24.7407		22.7295		8.5		P
Cobalt		11.9201	B	12.3772	B	3.8		P
Copper	7.0	16.7190		17.2808		3.3		P
Iron		29313.6710		27980.0900		4.7		P
Lead		25.3843		26.2728		3.4		P
Magnesium	1398.4	3772.9037		3599.0792		4.7		P
Manganese		607.9728		738.5993		19.4		P
Mercury	0.2	0.1662	U	0.1662	U			CV
Nickel	11.2	28.6497		30.2920		5.6		P
Potassium	1398.4	1874.4756		1572.3236		17.5		P
Selenium	1.4	50.9034	U	49.4350	U			P
Silver		1.4544	U	1.4124	U			P
Sodium		100.4083	U	97.5120	U			P
Thallium		77.4738	U	75.2390	U			P
Vanadium	14.0	28.7719		26.2413		9.2		P
Zinc		113.3289		110.5802		2.5		P
Cyanide		0.2850	U	0.2884	U			AS

ENVIROFORMS/INORGANIC CLP

5A

SPIKE SAMPLE RECOVERY

SAMPLE NO.

BCS1__S

Lab Name: COLUMBIA ANALYTICAL Contract: ARRIC

Lab Code: 10145 Case No.: SAS No.: SDG No.: BCS1

Matrix (soil/water): SOIL Level (low/med): LOW

% Solids for Sample: 70.8

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	39.9997		27.1858	U	141.24	28.3	N	P
Arsenic	75-125	62.1469	U	61.5316	U	11.30	0.0	N	P
Barium	75-125	679.3842		85.4100		564.97	105.1		P
Beryllium	75-125	14.2249		0.7753	B	14.12	95.3		P
Cadmium	75-125	14.3415		0.9230	U	14.12	101.6		P
Calcium									NR
Chromium	75-125	81.2935		24.7407		56.50	100.1		P
Cobalt	75-125	158.0003		11.9201	B	141.24	103.4		P
Copper	75-125	85.6051		16.7190		70.62	97.5		P
Iron		31860.9040		29313.6710		282.49	901.7		P
Lead	75-125	168.9966		25.3843		141.24	101.7		P
Magnesium									NR
Manganese		1030.4201		607.9728		141.24	299.1		P
Mercury	75-125	0.7460		0.1662	U	0.64	116.6		CV
Nickel	75-125	170.8113		28.6497		141.24	100.7		P
Potassium									NR
Selenium	75-125	51.4124	U	50.9034	U	2.82	0.0	N	P
Silver	75-125	14.0288		1.4544	U	14.12	99.4		P
Sodium									NR
Thallium	75-125	556.4209		77.4738	U	564.97	98.5		P
Vanadium	75-125	169.3085		28.7719		141.24	99.5		P
Zinc	75-125	262.8356		113.3289		141.24	105.9		P
Cyanide	75-125	13.1056		0.2850	U	14.01	93.5		AS

Comments:

ENVIROFORMS/INORGANIC CLP

5B

POST DIGEST SPIKE SAMPLE RECOVERY

SAMPLE NO.

BCS1__A

Lab Name: COLUMBIA ANALYTICAL Contract: ARRIC

Lab Code: 10145 Case No.: SAS No.: SDG No.: BCS1

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	Spike Added (SA)	%R	Q	M
Aluminum		58748.06		56106.71		2000.0	132.1		P
Antimony		489.93		97.20	U	500.0	98.0		P
Arsenic		220.00	U	220.00	U	40.0	0.0		P
Barium		2382.77		305.38		2000.0	103.9		P
Beryllium		50.05		2.77	B	50.0	94.6		P
Cadmium		48.88		3.30	U	50.0	97.8		P
Calcium		34189.73		32966.71		2000.0	61.2		P
Chromium		285.85		88.46		200.0	98.7		P
Cobalt		536.79		42.62	B	500.0	98.8		P
Copper		303.70		59.78		250.0	97.6		P
Iron		103325.90		104808.10		1000.0	-148.2		P
Lead		573.33		90.76		500.0	96.5		P
Magnesium		15098.68		13489.64		2000.0	80.5		P
Manganese		2597.87		2173.75		500.0	84.8		P
Mercury									NR
Nickel		594.72		102.43		500.0	98.5		P
Potassium		31236.67		6702.00		2000.0	1226.7		P
Selenium		182.00	U	182.00	U	10.0	0.0		P
Silver		49.34		5.20	U	50.0	98.7		P
Sodium		10860.83		359.00	U	2000.0	543.0		P
Thallium		1974.12		277.00	U	2000.0	98.7		P
Vanadium		602.52		102.87		500.0	99.9		P
Zinc		879.10		405.20		500.0	94.8		P
Cyanide									NR

Comments:

ENVIROFORMS/INORGANIC CLP

3
BLANKS

Lab Name: COLUMBIA ANALYTICAL Contract: ARRIC

Lab Code: 10145 Case No.: SAS No.: SDG No.: BCS1

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	Preparation Blank	C	M
Aluminum	41.0	U	41.0	U	41.0	U			8.200	U	P
Antimony	97.2	U	97.2	U	97.2	U			19.440	U	P
Arsenic	220.0	U	220.0	U	220.0	U			44.000	U	P
Barium	8.0	U	8.0	U	8.0	U			1.600	U	P
Beryllium	0.8	U	0.8	U	0.8	U			0.160	U	P
Cadmium	3.3	U	3.3	U	3.3	U			0.660	U	P
Calcium	137.0	U	137.0	U	137.0	U			27.400	U	P
Chromium	3.6	U	3.6	U	3.6	U			0.720	U	P
Cobalt	8.9	U	8.9	U	8.9	U			1.780	U	P
Copper	3.0	U	3.0	U	3.0	U			0.600	U	P
Iron	23.6	U	23.6	U	23.6	U			4.720	U	P
Lead	44.0	U	44.0	U	44.0	U			8.800	U	P
Magnesium	132.0	U	132.0	U	132.0	U			26.400	U	P
Manganese	3.8	U	3.8	U	3.8	U			0.760	U	P
Mercury	0.2	U	0.2	U	0.2	U			0.100	U	CV
Nickel	8.7	U	8.7	U	8.7	U			1.740	U	P
Potassium	1280.0	U	1280.0	U	1280.0	U			256.000	U	P
Selenium	182.0	U	182.0	U	182.0	U			36.400	U	P
Silver	5.2	U	5.2	U	5.2	U			1.040	U	P
Sodium	359.0	U	359.0	U	359.0	U			71.800	U	P
Thallium	277.0	U	277.0	U	277.0	U			55.400	U	P
Vanadium	14.3	U	14.3	U	14.3	U			2.860	U	P
Zinc	6.6	U	6.6	U	6.6	U			1.320	U	P
Cyanide	4.1	U	4.1	U	4.1	U	4.1	U			AS

3
BLANKS

Lab Name: COLUMBIA ANALYTICAL Contract: ARRIC

Lab Code: 10145 Case No.: SAS No.: SDG No.: BCS1

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											
Antimony											
Arsenic											
Barium											
Beryllium											
Cadmium											
Calcium											
Chromium											
Cobalt											
Copper											
Iron											
Lead											
Magnesium											
Manganese											
Mercury											
Nickel											
Potassium											
Selenium											
Silver											
Sodium											
Thallium											
Vanadium											
Zinc											
Cyanide			4.1	U							AS

DATA QUALIFIERS & ABBREVIATIONS

A	The amount detected is below the Method Calibration Limit.
B	This compound was also detected in the blank.
C	The amount detected is less than five times the Method Quantitation Limit.
D	The amount reported is the maximum possible concentration.
E	The detection limit was raised above the Method Quantitation Limit due to chemical interferences.
F	This result has been confirmed on a DB-225 column.
G	This result has been confirmed on a SP-2331 column.
H	The signal-to-noise ratio is greater than 10:1.
I	Chemical Interference

Conc.	Concentration
D.L.	Detection Limit
NA	Not applicable
S/N	Signal-to-noise
*	See Cover Letter
ND	Not Detected
MPC	Maximum Possible Concentration

ALTA

PCDD & PCDF

EPA METHOD 8290

Method Blank
Lab ID: 3697-MB
Matrix: Soil

Date Received: NA
Date Extracted: 6/12/97
Sample Amount: 10.00 g

QC Lot: LC0612S
Units: pg/g
TEQ: 0.013

Compound	Conc.	D.L.	Ratio	S/N Ratio	Qualifier
2,3,7,8-TCDD	ND	0.21			
Total TCDD	ND	0.21			
1,2,3,7,8-PeCDD	ND	0.14			
Total PeCDD	ND	0.14			
1,2,3,4,7,8-HxCDD	ND	0.19			
1,2,3,6,7,8-HxCDD	ND	0.22			
1,2,3,7,8,9-HxCDD	ND	0.20			
Total HxCDD	ND	0.22			
1,2,3,4,6,7,8-HpCDD	0.73		1.02	>10:1	A
Total HpCDD	1.2		1.07	>10:1	A
OCDD	4.5		0.91	>10:1	A
2,3,7,8-TCDF	ND	0.18			
Total TCDF	ND	0.18			
1,2,3,7,8-PeCDF	ND	0.16			
2,3,4,7,8-PeCDF	ND	0.18			
Total PeCDF	ND	0.18			
1,2,3,4,7,8-HxCDF	ND	0.18			
1,2,3,6,7,8-HxCDF	ND	0.19			
2,3,4,6,7,8-HxCDF	ND	0.19			
1,2,3,7,8,9-HxCDF	ND	0.17			
Total HxCDF	ND	0.19			
1,2,3,4,6,7,8-HpCDF	ND	0.41			
1,2,3,4,7,8,9-HpCDF	ND	0.22			
Total HpCDF	ND	0.41			
OCDF	1.1		0.84	>10:1	A

Analyst:

Reviewer:

ALTA

PCDD & PCDF

EPA METHOD 8290

Method Blank
Lab ID: 3697-MB

Isotopic Recovery Results

Internal Standard:	% R	Ratio	Qualifier
^{13}C-2,3,7,8-TCDD	96	0.79	
^{13}C-1,2,3,7,8-PeCDD	85	1.61	
^{13}C-1,2,3,4,7,8-HxCDD	78	1.31	
^{13}C-1,2,3,6,7,8-HxCDD	91	1.24	
^{13}C-1,2,3,4,6,7,8-HpCDD	89	1.06	
^{13}C-OCDD	94	0.91	
^{13}C-2,3,7,8-TCDF	95	0.80	
^{13}C-1,2,3,7,8-PeCDF	87	1.59	
^{13}C-2,3,4,7,8-PeCDF	85	1.61	
^{13}C-1,2,3,4,7,8-HxCDF	74	0.52	
^{13}C-1,2,3,6,7,8-HxCDF	72	0.52	
^{13}C-2,3,4,6,7,8-HxCDF	73	0.53	
^{13}C-1,2,3,7,8,9-HxCDF	114	0.52	
^{13}C-1,2,3,4,6,7,8-HpCDF	86	0.44	
^{13}C-1,2,3,4,7,8,9-HpCDF	110	0.43	

Clean-up Recovery Standard:

^{37}Cl-2,3,7,8-TCDD	107	NA

Dates Analyzed:

DB-5: 6/16/97 **DB-225:** NA **SP-2331:** NA

Analyst: _____

Reviewer: _____

ALTA

PCDD & PCDF

EPA METHOD 8290

LCS1/LCS2 RESULTS
Lab ID: 3697-LCS1/LCS2
Matrix: Soil

Date Received: NA
Date Extracted: 6/12/97
Sample Amount: 10.00 g

ICAL ID: I1613A
QC Lot: LC0612S
Units: NA

Compound	LCS1 %R	LCS2 %R	RPD %
2,3,7,8-TCDD	102	101	0.99
1,2,3,7,8-PeCDD	118	117	0.85
1,2,3,4,7,8-HxCDD	110	103	6.6
1,2,3,6,7,8-HxCDD	103	105	1.9
1,2,3,7,8,9-HxCDD	103	117	13
1,2,3,4,6,7,8-HpCDD	108	107	0.93
OCDD	105	99	5.9
2,3,7,8-TCDF	102	97	5.0
1,2,3,7,8-PeCDF	110	108	1.8
2,3,4,7,8-PeCDF	108	107	0.93
1,2,3,4,7,8-HxCDF	109	108	0.92
1,2,3,6,7,8-HxCDF	108	108	6.0
2,3,4,6,7,8-HxCDF	109	107	1.8
1,2,3,7,8,9-HxCDF	105	105	0
1,2,3,4,6,7,8-HpCDF	107	106	0.99
1,2,3,4,7,8,9-HpCDF	110	108	1.8
OCDF	125	122	2.4

Analyst: _____

Reviewer: _____

ALTA

PCDD & PCDF
EPA METHOD 8290

LCS1/LCS2 RESULTS
Lab ID: 3697-LCS1/LCS2

Isotopic Recovery Results

Internal Standard:	LCS1 %R	LCS2 %R
^{13}C-2,3,7,8-TCDD	86	97
^{13}C-1,2,3,7,8-PeCDD	72	82
^{13}C-1,2,3,4,7,8-HxCDD	85	87
^{13}C-1,2,3,6,7,8-HxCDD	95	96
^{13}C-1,2,3,4,6,7,8-HpCDD	92	95
^{13}C-OCDD	88	97
^{13}C-2,3,7,8-TCDF	78	94
^{13}C-1,2,3,7,8-PeCDF	73	82
^{13}C-2,3,4,7,8-PeCDF	73	81
^{13}C-1,2,3,4,7,8-HxCDF	77	84
^{13}C-1,2,3,6,7,8-HxCDF	76	79
^{13}C-2,3,4,6,7,8-HxCDF	78	80
^{13}C-1,2,3,7,8,9-HxCDF	112	113
^{13}C-1,2,3,4,6,7,8-HpCDF	89	92
^{13}C-1,2,3,4,7,8,9-HpCDF	114	116
Clean-up Recovery Standard:		
^{37}Cl-2,3,7,8-TCDD	94	106

Dates Analyzed:

DB-5: 6/16/97 **DB-225:** NA **SP-2331:** NA

Analyst: _____ **Reviewer:** _____

ALTA

PCDD & PCDF

EPA METHOD 8290

Sample ID:	Top Soil BCS	**Date Received:**	6/5/97	**QC Lot:**	LC0612s
Lab ID:	3697-0001-SA	**Date Extracted:**	6/12/97	**Units:**	pg/g
Matrix:	Soil	**Sample Amount:**	11.45 g	**TEQ:**	0.30
% Solids:	73				

Compound	Conc.	D.L.	Ratio	S/N Ratio	Qualifier
2,3,7,8-TCDD	ND	0.80			
Total TCDD	1.1		0.78	>10:1	
1,2,3,7,8-PeCDD	ND	1.3			
Total PeCDD	ND	1.3			
1,2,3,4,7,8-HxCDD	ND	1.1			
1,2,3,6,7,8-HxCDD	ND	1.3			
1,2,3,7,8,9-HxCDD	ND	1.2			
Total HxCDD	5.4		1.14	>10:1	
1,2,3,4,6,7,8-HpCDD	13		1.06	>10:1	B
Total HpCDD	28		1.05	>10:1	B
OCDD	91		0.84	>10:1	B
2,3,7,8-TCDF	ND	0.81			
Total TCDF	4.3		0.77	>10:1	
1,2,3,7,8-PeCDF	ND	1.3			
2,3,4,7,8-PeCDF	ND	1.2			
Total PeCDF	ND	1.3			
1,2,3,4,7,8-HxCDF	ND	1.9			
1,2,3,6,7,8-HxCDF	ND	2.0			
2,3,4,6,7,8-HxCDF	ND	1.1			
1,2,3,7,8,9-HxCDF	ND	0.52			
Total HxCDF	5.6		1.22	>10:1	
1,2,3,4,6,7,8-HpCDF	6.8		1.04	>10:1	
1,2,3,4,7,8,9-HpCDF	ND	1.3			
Total HpCDF	6.8		1.04	>10:1	
OCDF	13		0.86	>10:1	B

Analyst: _____

Reviewer: _____

ALTA

PCDD & PCDF

EPA METHOD 8290

Sample ID: Top Soil BCS
Lab ID: 3697-0001-SA

Isotopic Recovery Results

Internal Standard:	% R	Ratio	Qualifier
^{13}C-2,3,7,8-TCDD	89	0.77	
^{13}C-1,2,3,7,8-PeCDD	83	1.59	
^{13}C-1,2,3,4,7,8-HxCDD	100	1.34	
^{13}C-1,2,3,6,7,8-HxCDD	84	1.19	
^{13}C-1,2,3,4,6,7,8-HpCDD	98	1.07	
^{13}C-OCDD	82	0.87	
^{13}C-2,3,7,8-TCDF	90	0.76	
^{13}C-1,2,3,7,8-PeCDF	85	1.60	
^{13}C-2,3,4,7,8-PeCDF	84	1.62	
^{13}C-1,2,3,4,7,8-HxCDF	100	0.52	
^{13}C-1,2,3,6,7,8-HxCDF	90	0.51	
^{13}C-2,3,4,6,7,8-HxCDF	92	0.51	
^{13}C-1,2,3,7,8,9-HxCDF	104	0.52	
^{13}C-1,2,3,4,6,7,8-HpCDF	93	0.43	
^{13}C-1,2,3,4,7,8,9-HpCDF	108	0.42	

Clean-up Recovery Standard:

^{37}Cl-2,3,7,8-TCDD	94	NA

Dates Analyzed:

DB-5: 6/16/97 **DB-225:** NA **SP-2331:** NA

Analyst: _____ Reviewer: _____

ALTA

PCDD & PCDF

EPA METHOD 8290

MS/MSD RESULTS
Lab ID: 3697-MS/MSD
Matrix: Soil
% Solids 73

Date Received: 6/5/97
Date Extracted: 6/12/97
Sample Amount: 10.05&10.10g

ICAL ID: I1613A
QC Lot: LC0612S
Units: NA

Compound	MS %R	MSD %R	RPD %
2,3,7,8-TCDD	95	93	2.1
1,2,3,7,8-PeCDD	102	102	0
1,2,3,4,7,8-HxCDD	103	101	2.0
1,2,3,6,7,8-HxCDD	108	108	0
1,2,3,7,8,9-HxCDD	100	103	2.9
1,2,3,4,6,7,8-HpCDD	97	97	0
OCDD	79	83	4.9
2,3,7,8-TCDF	95	97	2.1
1,2,3,7,8-PeCDF	101	101	0
2,3,4,7,8-PeCDF	103	103	0
1,2,3,4,7,8-HxCDF	103	101	2.0
1,2,3,6,7,8-HxCDF	102	100	2.0
2,3,4,6,7,8-HxCDF	102	101	0.98
1,2,3,7,8,9-HxCDF	103	105	1.9
1,2,3,4,6,7,8-HpCDF	95	94	1.1
1,2,3,4,7,8,9-HpCDF	102	101	0.98
OCDF	106	102	3.8

Analyst:

Reviewer:

ALTA

PCDD & PCDF
EPA METHOD 8290

MS/MSD RESULTS
Lab ID: 3697-MS/MSD

Isotopic Recovery Results

Internal Standard:	MS %R	MSD %R
^{13}C-2,3,7,8-TCDD	90	100
^{13}C-1,2,3,7,8-PeCDD	86	96
^{13}C-1,2,3,4,7,8-HxCDD	110	112
^{13}C-1,2,3,6,7,8-HxCDD	86	89
^{13}C-1,2,3,4,6,7,8-HpCDD	120	121
^{13}C-OCDD	118	118
^{13}C-2,3,7,8-TCDF	90	101
^{13}C-1,2,3,7,8-PeCDF	87	98
^{13}C-2,3,4,7,8-PeCDF	84	95
^{13}C-1,2,3,4,7,8-HxCDF	104	110
^{13}C-1,2,3,6,7,8-HxCDF	94	91
^{13}C-2,3,4,6,7,8-HxCDF	99	94
^{13}C-1,2,3,7,8,9-HxCDF	112	116
^{13}C-1,2,3,4,6,7,8-HpCDF	106	107
^{13}C-1,2,3,4,7,8,9-HpCDF	134	135
Clean-up Recovery Standard:		
^{37}Cl-2,3,7,8-TCDD	92	109

Dates Analyzed:

DB-5: 6/16/97 **DB-225:** NA **SP-2331:** NA

Analyst: _____ **Reviewer:** _____

APPENDIX E

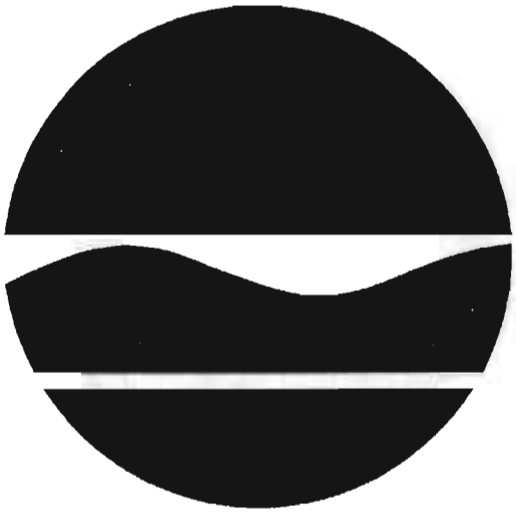
(Operation and Maintenance Manual)

NEW YORK STATE DEPARTMENT OF
ENVIRONMENTAL CONSERVATION

POST-CLOSURE MONITORING AND MAINTENANCE PLAN

LEHIGH INDUSTRIAL PARK SITE
LACKAWANNA (C), ERIE COUNTY

SITE NO. 9-15-145



MAY 1998

New York State Department of Environmental Conservation
GEORGE E. PATAKI, *Governor* **JOHN P. CAHILL**, *Commissioner*