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CONSULTANTS, INC.

VOLUME 1 OF 1

REMEDIAL ACTION REPORT
INDUSTRIAL DRAINAGEWAY
KENTUCKY AVENUE WELLFIELD SITE
HORSEHEADS, NEW YORK

PREPARED FOR:
VIACOM INC.
11 STANWIX STREET
PITTSBURGH, PA 15222

PREPARED BY:
CUMMINGS/RLTER CONSULTANTS, INC.
10 DUFF ROAD, SUITE 500
PITTSBURGH, PA 15235

PROJECT NO. 98245.20/04
NOVEMBER 16, 2004

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VIACOM

November 15, 2004

Ms. Isabel Rodrigues
Western New York Superfund Branch II
Emergency and Remedial Response Division
U.S. Environmental Protection Agency, Region II
290 Broadway, 20th Floor
New York, NY 10007-1866

**Re: Remedial Action Report, Industrial Drainageway
Kentucky Avenue Wellfield Superfund Site, Operable Unit No. 3
Horse heads. New York**

Dear Ms. Rodrigues:

Viacom Inc. (Viacom) hereby submits to the U.S. Environmental Protection Agency, Region II (EPA), three copies of the Remedial Action Report that documents the completion of the Remedial Design and Remedial Action for the Industrial Drainageway associated with Operable Unit No. 3 of the Kentucky Avenue Wellfield Superfund Site. This report also describes the supplemental soil remediation effort conducted by Viacom in response to EPA correspondence dated June 16 and September 16, 2004.

We trust this submittal satisfies your requirements at this time. If you have questions regarding this report or related project matters, please do not hesitate to contact me.

Respectfully submitted,

A handwritten signature in black ink, appearing to read 'Leo M. Brusch', with a large, stylized flourish extending from the end of the signature.

Leo M. Brusch
Supervising Contractor
Consultant/Project Engineer
Environmental Remediation

LMB:

Ms. Isabel Rodrigues

November 15, 2004

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cc: U.S. Environmental Protection Agency, Region II
Attn: Chief, New York Caribbean Superfund Branch
Office of Regional Counsel
Kentucky Avenue Wellfield Site Attorney

U. S. Department of Justice
Attn: Chief, Environmental Enforcement Section
Re: DOJ #90-11-2-1224-A

New York State Department of Environmental Conservation
Attn: Director, Division of Hazardous Waste Remediation
Kentucky Avenue Wellfield Site Project Manager

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CONSULTANTS, INC.

VOLUME I OF II

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INDUSTRIAL DRAINAGEWAY
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REMEDIAL ACTION REPORT INDUSTRIAL DRAINAGEWAY KENTUCKY AVENUE WELLFIELD SITE HORSEHEADS, NEW YORK

1.0 INTRODUCTION

Cummings/Riter Consultants, Inc. (Cummings/Riter), on behalf of Viacom Inc. (Viacom), successor by corporate merger to CBS Corporation, has prepared this Remedial Action Report for remedial construction activities at the Industrial Drainageway portion of the Kentucky Avenue Wellfield site in Horseheads, New York (Figure 1). This report summarizes the remedial construction activities undertaken by Viacom to comply with the requirements of a Consent Decree, Civil Action No. 97-CV-6555T, entered between CBS Corporation and the U.S. Environmental Protection Agency (USEPA), on March 2, 1998 (the Consent Decree). The remedial construction was undertaken as described in the USEPA-approved Supplemental Design Report (Cummings/Riter, April 19, 2001) and the Remedial Action Work Plan for Industrial Drainageway Remediation (RAWP), as amended (Cummings/Riter, August 15, 2001; April 24, 2002). This report also describes Viacom's supplementary work effort conducted in August and September 2004 to address certain floodplain soils associated with the Industrial Drainageway.

1.1 PROJECT FIELD TEAM

The project field team for remedial construction consisted of the supervising contractor, the quality assurance (QA) team, the remedial action contractor, and USEPA representatives. Mr. Leo M. Brausch acted as the supervising contractor on behalf of Viacom. Fagan Engineers, PC, of Elmira, New York (Fagan) and Cummings/Riter served as Viacom site representatives and the independent QA team during construction. CDM Federal Programs Corporation represented USEPA and provided full-time regulatory oversight. Viacom retained AAA Environmental, Inc. of Syracuse, New York (AAA) as the primary remedial action contractor to implement the remedial action.

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1.2 REPORT ORGANIZATION

Section 2.0 of this report describes the Industrial Drainageway remedial construction activities. Section 3.0 of this report describes the supplemental remediation of floodplain soils. Section 4.0 is a request for certification of Industrial Drainageway remedial construction.

The appendices include record drawings (Appendix A), post-excavation soil sample laboratory reports in electronic format (Appendix B), sampling memoranda (Appendix C), the data validation report (Appendix D), personal air monitoring data (Appendix E), backfill chemical and geotechnical testing results (Appendix F), Field Design Change Request Forms (Appendix G), and copies of waste manifests and bills of lading (Appendices H and I, respectively). Appendix J provides New York State Department of Environmental Conservation (NYSDEC) Geoprobe® sample data related to the supplemental investigation of floodplain soils, and Appendices K and L provide additional backup documentation related to the supplemental investigation and remediation of floodplain soils.

2.0 REMEDIAL CONSTRUCTION ACTIVITIES

This section of the Remedial Action Report describes the construction activities performed to implement the remedial design described in the RAWP and the Revised Addendum to the RAWP (Cummings/Riter, April 24, 2002).

Construction activities were initiated September 4, 2001, and were suspended September 25, 2001 due to inability to gain access to properties owned by Norfolk Southern Railway Company (Norfolk Southern) and Hardinge, Inc. (Hardinge). At the request of USEPA, an addendum to the RAWP (Cummings/Riter, March 11, 2002) was drafted to address temporary flow diversion and construction sequencing as related to erosion and sedimentation control to facilitate property access with Hardinge. A Revised Addendum to the RAWP was issued April 24, 2002 to address comments received from the USEPA via letter dated March 27, 2002. Construction activities resumed August 19, 2002, and demobilization was completed January 27, 2003. Final site restoration activities (e.g., fine grading, seeding, and mulching) were completed in the spring of 2003.

In accordance with the approved remedial design, the remedial action included the excavation and off-site disposal of sediment and bank soils exceeding 1.0 milligram per kilogram (mg/kg) of polychlorinated biphenyls (PCBs). In addition to excavation and off-site disposal, construction activities included bypass pumping, on-site stabilization/solidification, post-excavation confirmatory sampling, excavation backfilling, seeding and mulching, and demobilization. The following sections describe construction activities.

2.1 EXCAVATION DELINEATION

In its September 30, 1996 Record of Decision (ROD) for Operable Unit No. 3 of the Kentucky Avenue Wellfield Superfund site, which dealt with remediation of the Industrial Drainageway, USEPA established a remedial action objective (RAO) for PCBs in drainageway sediments of 1.0 mg/kg. As described in the ROD, USEPA established this RAO to address potential unacceptable human health risks associated with direct contact with PCBs in drainageway sediments (i.e., while wading in the stream) and to

reduce the potential exposure of aquatic organisms to PCBs in sediment. Concerns regarding aquatic organisms related both to the protection of potential ecological receptors and potentially unacceptable human health risk from consumption of fish containing elevated PCB concentrations.

The design for the Industrial Drainageway remedial action was based on the results of the supplemental pre-design investigation performed by Cummings/Riter in February 2001, and documented in the Supplemental Design Report. A total of 263 sediment and bank soil samples were collected from 83 locations in and adjacent to the Industrial Drainageway and analyzed for PCBs. The results of the systematic sampling and analysis performed during the supplemental pre-design investigation were used to horizontally and vertically delineate sediment and bank soil exceeding the RAO of 1.0 mg/kg PCBs. Initial excavation limits were presented in the RAWP, and were located by survey and marked with wooden stakes before excavation.

2.2 BYPASS PUMPING AND EXCAVATION

AAA mobilized September 4, 2001 and began setup of temporary utilities, construction of a decontamination pad, construction of a polyethylene-lined stabilization/solidification cell, and site clearing. Without access to Norfolk Southern property, AAA prepared for excavation activities downstream of Culvert 2 (Figure 1), where the stream passes beneath a Norfolk Southern spur track. An earthen dam was constructed at Station 16+25, and an 8-inch diesel pump was located at the dam to bypass flow around designated excavation areas at Stations 17+00 and 18+00. A combination of 8-inch diameter aluminum pipe and collapsible hose was used to convey the flow to the discharge point near Station 20+00 along the east side of the Industrial Drainageway. A 15-foot long, 12-inch diameter aluminum manifold with four, six-inch diameter outlets was attached to the discharge end of the pipe as an energy dissipator. The energy dissipator was placed within a bed of nominal four-inch diameter stone enveloped in non-woven geotextile.

Excavation activities commenced September 20, 2001 with the partial removal of designated bank soil between Industrial Drainageway Station 17+75 and Station 18+25

(Figure 2). Excavated soil was placed in the nearby stabilization/solidification cell, mixed with lime kiln dust, and analyzed for disposal parameters. The approximate 10-percent by weight lime kiln dust addition, which was based on bench-scale testing conducted by AAA during the preparation of its bid for the remedial construction work, was aimed at solidifying wet materials and eliminating free liquids to the extent required by the disposal facilities. The lime kiln dust was supplied by Special Minerals, Inc. of Adams, Massachusetts.

For the work conducted in September 2001, the 10-percent lime kiln dust addition effectively solidified the excavated soils, and analytical results for the excavated and solidified material were used to obtain approval for disposal as non-hazardous waste at Waste Management, Inc. (WMI) Subtitle D landfills in Erie, Pennsylvania (Lakeview Landfill) and in Fairport, New York (High Acres Landfill). Approximately 10 tons of bank soil were removed before construction activities were suspended on September 24, 2001, due primarily to insufficient capacity of the temporary pumping scheme. Upon suspension of construction activities, the excavation was lined with geotextile, and gravel was placed over the geotextile to help stabilize the channel bank.

Upon remobilization in August 2002, AAA began with setup of temporary facilities, additional site clearing, and general site cleanup. As a component of the full-scale bypass pumping setup, AAA installed butt-fusion welded, 16-inch diameter high-density polyethylene (HDPE) pipe from the Industrial Drainageway outfall, through Culvert 1 to the inlet of Culvert 2. A second length of HDPE pipe was installed from the outlet of Culvert 2 to a discharge location at the northwest portion of Koppers Pond on property owned by the Elmira Water Board (EWB). The HDPE pipe was placed along the west side of the Industrial Drainageway to Culvert 2, and then along the west side of the Industrial Drainageway from Culvert 2 to Koppers Pond (Figure 2). In accordance with the approved Revised Addendum to the RAWP, AAA installed a rock apron energy dissipator at the discharge end of the HDPE pipe to help prevent scour from the flow discharge. The full-scale bypass pumping design called for placement of the HDPE pipe through Culvert 2 because Norfolk Southern would not allow the pipe to be placed over the rail spur or through the ballast.

Excavation activities resumed September 5, 2002 with the removal of sediment via vacuum truck from Culvert 2 to accommodate the 16-inch HDPE pipe for bypass pumping. The flow through the culvert was captured and temporarily conveyed to a discharge point downstream of Culvert 2 to eliminate normal flow through the culvert during cleaning operations. Flow was temporarily pumped by an 8-inch diesel pump from a sump excavated at Station 12+00 through an 8-inch diameter collapsible hose to the HDPE pipe immediately downstream of Culvert 2. A filter bag was attached to the outlet end of the HDPE pipe at the rock apron during the temporary flow diversion. The solids removed from the culvert with the vacuum truck were placed in a polyethylene-lined storage cell for solidification with lime kiln dust (i.e., remaining lime kiln dust from that delivered to the site in September 2001). Vacuumed liquids were processed through the construction water treatment system, consisting of two 500-gallon HDPE tanks and a series of filters down to one-micron opening size, and then discharged to the Industrial Drainageway.

AAA installed a row of silt fence across the channel downstream of Culvert 2 to capture solids potentially suspended by the installation of the temporary sump and the earthen dam used for full-scale bypass pumping. The silt fence was enveloped with 2-to 4-inch diameter stone for stability. The purpose of the check dam was to mitigate potential suspended solids in Industrial Drainageway flow before initiating full-scale bypass pumping. The principal source of suspended solids related to remediation activities was vehicular traffic crossing the Industrial Drainageway immediately downstream of Culvert 2 to access the contractor trailer area. Sediment samples collected from the traffic crossing area as part of supplemental pre-design activities met the performance standard. This source of suspended solids was eliminated upon initiation of full-scale bypass pumping.

After cleaning Culvert 2, the 8-inch diesel pump was relocated from the temporary sump at Station 12+00 to the Industrial Drainageway outfall at Station 0+00. A sump was excavated at approximately Station 00+15, and an earthen dam was constructed at approximately Station 00+25. The dam was covered with polyethylene sheeting secured with nominal 12-inch size riprap. Full-scale bypass pumping of the Industrial Drainageway flow began September 11, 2002 with the 8-inch diameter pump. A 12-inch

diameter pump was mobilized to the outfall area as a backup pump for high-flow events and manifolded with the 8-inch pump. A level controller was installed in the sump to activate the 12-inch pump when the water level exceeded a set point.

Excavation of sediments and bank soil near Station 0+00 commenced on September 14, 2002. By October 21, 2002, AAA had excavated an estimated 1,750 cubic yards (CY) of sediment and bank soil, an excavation rate of approximately 43 CY/day. By that time, it had become apparent that the extent of PCB-impacted materials subject to removal was significantly greater than had been predicted in the remedial design.

The excavation effort was then accelerated so that, by the end of November 2002, AAA had excavated an estimated 5,962 CY of material, representing an excavation rate of more than 105 CY/day after October 21, 2002. By the time the excavation was completed on December 10, 2002, AAA had removed an estimated 6,077 CY of sediment, bank soil, and other floodplain soil. This quantity was more than twice what was envisioned in the remedial design (based on the extensive predesign sampling) and almost six times what was described in the ROD.

Excavated sediment, bank soil, and other floodplain soils were placed in rolloff boxes or polyethylene-lined basins for solidification/stabilization mixing. Based on the results of its initial bench-scale treatability testing, AAA had planned to use a 5- to 10-percent Portland cement addition to chemically stabilize sediments and bank soils exhibiting a cadmium concentration greater than 1.0 milligram per liter (mg/l) in toxicity characteristic leaching procedure (TCLP) testing. AAA's bench scale testing showed that stabilizing with Portland cement would reduce TCLP cadmium concentrations to less than 1.0 mg/l and allow off-site disposal of the stabilized material in a Subtitle D landfill. Instead, AAA was able to chemically stabilize cadmium-impacted soils using a 5- to 10-percent addition of Portland cement kiln dust rather than Portland cement. The cement kiln dust was purchased from Pozament Corporation of Milford, Connecticut.

After exhausting its previously delivered supply of lime kiln dust, AAA used cement kiln dust almost exclusively to both solidify and stabilize excavated materials. By using cement kiln dust to treat all excavated materials, AAA did not need to segregate cadmium-impacted materials from other excavated materials. Over the course of the

project, AAA used approximately 870 tons of cement kiln dust and 90 tons of lime kiln dust to stabilize/solidify the estimated 11,849 tons of excavated sediment and soils, an average agent addition rate of 8.1 percent.¹ The materials stabilized in rolloff boxes were then transferred to polyethylene-lined storage cells and sampled for disposal parameters. Solidified/stabilized materials were staged in the storage cells until treatment sample verification results were obtained for disposal approval.

2.3 POST-EXCAVATION SOIL SAMPLING

Following excavation of sediment and bank soils to the design limits, post-excavation samples were collected from excavation sidewalls and bottoms for PCB analysis to demonstrate that remaining bank soil and sediment met the performance standard. Additional sediment and bank soil and, as described above, other floodplain soils were removed where representative post-excavation sample results failed to meet the 1.0 mg/kg PCB concentration applied by USEPA as the cleanup standard. A total of 208 post-excavation samples were collected and submitted for laboratory analysis.

AAA performed post-excavation sampling, and Friend Laboratory Inc. (FLI) of Waverly, New York, performed laboratory analysis. Samples were collected with USEPA oversight.

AAA initially attempted to use Dexsil L2000DX field screening kits to aid in the evaluation of excavation limits prior to collection of samples for laboratory analysis. The Dexsil results proved to correlate poorly to laboratory results, possibly due to matrix interference. AAA then switched to using Ensysis, Inc. (Ensysis) PCB field screening test kits and achieved better results. Post-excavation soil sample laboratory analytical results are provided on a dry-weight basis and are summarized in Table 1. Sample locations are shown on the record drawings included as Appendix A. Laboratory analytical reports for post-excavation samples are provided as Appendix B in electronic format.

¹ The total quantity of 11,849 tons includes material generated in cleanup (i.e., over-excavation) of areas used in waste stabilization and on-site stockpiling. The 6,077 CY survey volume of material removed from the drainageway equates to an estimated 10,500 tons. On this basis, the cement kiln dust addition rate calculates to 9.1 percent.

Sidewall samples were collected at a frequency of one sample per 200 square feet of exposed sidewall, with a minimum of one sample for each sidewall in each discrete excavation. Bottom samples were collected at a frequency of one sample per 900 square feet of excavation, with a minimum of one bottom sample for each discrete excavation. Sidewall and bottom samples were collected as composite samples consisting of three to five equal volume aliquots distributed evenly throughout the sidewall or bottom surface, respectively, from zero to six inches in the direction perpendicular to the sample surface. The number of aliquots varied according to the surface area for each composite sample.

Based on the expectation that removal was to be limited to sediment and bank soils, the RAWP (Cummings/Riter, August 15, 2001) called for the collection of sidewall samples for each two-foot depth increment. During remedial construction activities, however, sampling was focused on surface versus subsurface soils in the floodplain along the drainageway. Accordingly, sidewall soil samples were collected from two zones: zero to two feet (surface soil) and greater than two feet (subsurface soil) at the prescribed frequency. The field change was approved by USEPA and documented in a memorandum (Appendix C) issued by Cummings/Riter dated September 16, 2002. The memorandum was prepared at the request of USEPA to clarify post-excavation sampling requirements. Sidewall samples were generally collected at mid-height within the sample depth interval.

The sample labeling scheme was modified with USEPA approval from the Sampling and Analysis Plan (Appendix B of the RAWP, Cummings/Riter, August 16, 2001) to help track sample locations. Samples were labeled with a series of four letters followed by a sample number, as follows:

A-B-S-N-001

where,

first letter: Industrial Drainageway stationing: A = STA. 0+00 to 1+00, etc.
second letter: B = bank sample or C = channel sample,
third letter: surface (S, less than two feet deep) or subsurface (SS, greater than two feet deep) sample,
fourth letter: compass direction (north, south, east, or west) for sidewall samples, or B = bottom samples, and
number indicates the order of sample collection.

Analytical results for confirmatory samples were reported as Level IV data to facilitate validation by an independent validation service in accordance with USEPA National Functional Guidelines. Because the samples were composite samples and, therefore, not truly Level IV data, full data validation was not performed. Rather, a data usability and completeness review was performed on a representative portion of the data to determine analytical limitations of the data based on specific quality control criteria. Twelve percent of the laboratory sample delivery groups were verified as part of the validation. The data validation report is included as Appendix D.

In addition to post-excavation sampling, samples collected from contractor staging areas after construction were analyzed for PCBs to show that remediation activities did not result in migration of constituents of interest. Samples were collected from areas used for solidification/stabilization operations and staging areas. Post-construction background staging area results are summarized in Table 2. Sample locations on the Village of Horseheads property are shown on Figure 3.

In some sections of the Industrial Drainageway, especially portions upstream of Culvert 2, sediments containing PCBs at levels above the performance standard correlated to the presence of a gray, clay-like material. In areas where the gray material was encountered, the typical excavation scenario consisted of removing sediment and bank soils to initial design limits, sampling and analyzing for PCBs, and, if sample results exceeded the performance standard, removing the gray material before re-sampling. As confidence in the Ensys test kits grew, field testing with the Ensys kits was used to evaluate whether or not to expand an excavation before collecting post-excavation samples for laboratory analysis.

In general, if post-excavation channel and bank sample analytical results exceeded the performance standard, additional material away from the channel was removed, as specified by USEPA, and the excavation was re-sampled. This process was repeated until samples at the limits of the excavation exhibited less than 1.0 mg/kg PCBs. Post-excavation Sample N-B-S-E-004 (5.9 mg/kg PCBs) did not achieve the 1.0 mg/kg PCBs level along the east sidewall of the excavation between Stations 12+75 and 13+75. The

excavation at this portion of the Industrial Drainageway was expanded beyond design limits into floodplain soils along the east bank (Chemung County property) for three iterations in attempts to remove material with PCB concentrations exceeding 1.0 mg/kg. Viacom submitted Field Design Change Request 004 (Appendix G) to USEPA regarding the post-excavation sample results and the limits of excavation in this area.

The only portion of the Industrial Drainageway other than the east sidewall between Stations 12+75 and 13+75 where post-excavation samples did not achieve 1.0 mg/kg PCBs is between Stations 16+75 and 17+25. The inactive Village of Horseheads municipal waste landfill lies immediately adjacent to this portion of the channel. Results for samples collected in the direction longitudinal to flow meet the performance standard; however, levels of PCBs in the northeast sidewall of the excavation (Sample W-B-S-E-003 [1.8 mg/kg PCBs]) at this location exceeded the performance standard. The excavation was expanded twice in the northeast direction in attempts to remove bank soil with PCB concentrations exceeding the performance standard; however, these efforts were terminated when landfill waste (including glass and plastic garbage bags) was encountered. Remaining impacted materials are beyond the flow line of the channel. Viacom submitted Field Design Change Request 003 (Appendix G) to USEPA to address the post-excavation sample results and the limits of excavation in this area.

As part of the supplemental pre-design investigation, samples were collected from a low-lying area to the southwest of Industrial Drainageway Station 16+75 that occasionally floods during high-flow events, typically during the spring thaw (Sample Point 23). An investigation sample collected from a depth interval of one to two feet from Sample Point 23 contained 13 mg/kg PCBs. Following excavation to the design limits, analytical results for five of six sidewall post-excavation verification samples, and one of two bottom samples, indicated levels of PCBs in excess of the performance standard. The excavation was expanded laterally and vertically, and additional samples were collected. Concentrations of PCBs in samples from the remaining south and west sidewalls (Samples 23-B-S-S-100 [3.1 mg/kg PCBs] and 23-B-S-W-100 [2.2 mg/kg PCBs]) exceed 1.0 mg/kg PCBs. Viacom submitted Field Design Change Request 002 (Appendix G) to USEPA to address the post-excavation sample results and limits of excavation in this area.

2.4 DISPOSAL

Prior to contractor mobilization, disposal characterization samples were composited from supplemental pre-design sediment and bank soil samples with concentrations of PCBs exceeding the performance standard. The composited samples were analyzed using the TCLP testing for metals regulated by the Resource Conservation and Recovery Act (RCRA). The disposal characterization sample results identified cadmium as the only RCRA metal present at concentrations exceeding the threshold for classification as hazardous waste.

Sediment and bank soil identified from supplemental pre-design investigation samples as exceeding 35 mg/kg PCBs were classified for disposal purposes as Toxic Substances Control Act (TSCA) and NYSDEC hazardous waste. Soil and sediment containing less than 35 mg/kg PCBs were designated for disposal as non-hazardous waste following demonstration of effective solidification/stabilization of cadmium. Materials classified as TSCA waste were disposed of at CWM Chemical Services, LLC, in Model City, New York. Non-TSCA materials were disposed of at High Acres Landfill, in Fairport, New York. Approximately 372 tons of material were disposed of in Model City, and approximately 12,437 tons of excavated materials were disposed of at High Acres Landfill. The total quantity of material sent off site for disposal was nearly four times that calculated from the predesign investigation data and more than 10 times that described in the ROD. Appendices H and I provide copies of hazardous waste manifests and nonhazardous waste bills of lading, respectively.

In accordance with disposal facility requirements, samples of staged materials from each storage cell were collected for analysis of cadmium by TCLP and PCBs at a minimum frequency of one sample per 250 CY. Disposal characterization results for samples of staged materials were used to verify that materials were non-TSCA and to verify effective solidification/stabilization of cadmium. None of the disposal characterization samples indicated that excavated materials were TSCA-regulated, and PCB levels were typically less than 5 mg/kg. If sampling indicated a TCLP cadmium concentration

greater than 1.0 mg/1, further cement kiln dust addition and mixing were conducted on the corresponding stockpile. Re-sampling was performed after the supplemental treatment to confirm that the affected stockpiled could be disposed of in a Subtitle D landfill.

The process of solidification/stabilization and characterization sample analysis was repeated until effective de-classification could be demonstrated. Samples from stockpiles that failed Land Disposal Requirements were mixed with additional reagent and were analyzed for cadmium by TCLP. Table 3 summarizes disposal characterization sample results.

2.5 DECONTAMINATION

Before handling backfill materials, the excavator buckets used to remove and stabilize/solidify excavated materials were mechanically cleaned (shovel and brush) to remove clinging soil, and then pressure-washed/steam-cleaned over one of the excavated materials stockpiles.

Rolloff boxes were cleaned prior to demobilization by mechanical (shovel) removal of clinging soil and pressure washing/steam-cleaning. Decontamination water was collected from the rollofs via vacuum truck and transferred to one of the treatment cells for mixing with staged materials and solidification reagent prior to off-site disposal.

Following the disposal of staged materials, and excavation and disposal of soil below the staging areas, the decontamination pad material was loaded out with other staged soil. The final excavator decontamination consisted of brush-scrubbing the excavator bucket over the last load to High Acres Landfill, and dry-wiping the excavator bucket with cloth rags. Rags were disposed of with the last load of material destined for High Acres Landfill.

2.6 HEALTH AND SAFETY

In accordance with the RAWP, AAA prepared a Health, Safety and Contingency Plan (HSCP) prior to mobilization. The HSCP included provisions for a daily tailgate safety meeting, personnel air monitoring, and perimeter air monitoring.

In accordance with the HSCP, personal air pump samples were to be collected on the first day of intrusive activities, and on the first day of excavation of TSCA-designated sediments. Personal air pumps were not deployed on the first day of excavation in September 2001 due to rain. However, personal air monitoring samples were collected for PCB analysis on both the first day of intrusive activities and on the first day of excavation of TSCA-designated sediments upon resumption of activities in September 2002. Based on the results of personal air monitoring showing no detectable levels of PCBs, soil removal activities were performed using Level D personal protective equipment, unless dust monitoring results warranted upgrades in respiratory protection. Personal air monitoring sample results are provided as Appendix E. A work-zone action level of 0.05 milligrams per cubic meter (mg/m^3) was established in the HSCP for workers to don Level C protection. Dust levels exceeding action levels that were considered by the contractor's health and safety officer to be brief transients (e.g., caused by approaching or moving the dust monitor) were annotated in the logbook, and were not regarded as meaningful data.

During the removal of sediment and bank soil with concentrations of PCBs exceeding the performance standard, dust monitoring was performed at the work zone perimeter in accordance with the Community Air Monitoring Plan. Dust monitors were not deployed during precipitation events to avoid instrument damage, or when the ground surface was saturated from recent precipitation. The level of $0.05 \text{ mg}/\text{m}^3$ was also used as the work-zone perimeter action level for the contractor to implement dust suppression measures for community protection. On those occasions that the work zone perimeter action level was exceeded, AAA used a water truck to spray water for dust suppression.

2.7 BACKFILL AND RESTORATION

On October 18, 2002, AAA mobilized a Caterpillar D6C bulldozer for backfill placement. Prior to delivery of backfill soil to the site from Porter Concrete Service of Waverly, New York, and in accordance with the RAWP, AAA submitted the required advanced testing results to Cummings/Riter for review and approval. Parameters for advance testing consisted of the most recent Target Compound List/Target Analyte List for each type of backfill (general fill and gravel fill), and engineering classification in accordance with American Society for Testing of Materials (ASTM) D2487. Backfill

analytical results and sieve analyses are provided as Appendix F. General fill (denoted as "vegetative fill"), consisting of a well-graded sand with gravel, was placed to within six inches of final grade. Gravel fill (denoted as "bank run gravel") consisted of a well-graded gravel with approximately 30 percent sand-sized particles and approximately 10 percent silt/clay-sized particles. General fill was covered with six inches of gravel fill for channel stabilization. Approximately 4,250 tons (about 2,600 CY) of general fill and 7,130 tons (about 4,700 CY) of gravel fill were placed on site to restore the channel and staging areas. The final restoration elevations are shown on Sheet 3 of 3 of the record drawings (Appendix A).

2.8 SEEDING AND MULCHING

Seed was applied over the disturbed area at the bypass pumping discharge location using a mechanical spreader. The seed was comprised of a mixture of annual ryegrass, birdsfoot trefoil, white clover, and red fescue and was applied at a rate of 30 pounds per 10,000 square feet (s.f.). The seed mix for the disturbed area at the pump intake was restored with a mixture of perennial ryegrass, blue grass and red fescue applied at a rate of 60 pounds per 10,000 s.f. Straw mulch was applied to all seeded areas. "

2.9 PRE-FINAL AND FINAL INSPECTIONS

With the restoration of the drainageway channel completed, a pre-final inspection was held on December 6, 2002 with representatives of USEPA, Viacom, Fagan, and AAA. Removal of the dam, dismantling of the bypass pumping system, and off-site disposal of excavated sediment and bank soil were completed after that inspection. A subsequent inspection was conducted on September 22, 2003 and consisted of a walk-through of the project to determine the completeness of the remedial action and its consistency with design documents and the ROD. In accordance with the Statement of Work (SOW) under the Consent Decree, advance notification of this inspection was provided to NYSDEC. A final inspection of the project, including the supplemental soil remediation (Section 3.0), was made on September 23, 2004. Representatives of Viacom, USEPA, and NYSDEC conducted this final inspection.

2.10 SUMMARY OF COSTS

In accordance with the requirements of the SOW, a summary of approximate remedial design and remedial construction costs for Industrial Drainageway has been provided in Table 4. The costs presented in Table 4 include costs associated with the supplemental soil remediation (Section 3.0).

2.11 PROJECT CHANGES/UNUSUAL OBSERVATIONS

Viacom submitted four field design change requests to USEPA for approval to address post-excavation conditions for specific areas of the Industrial Drainageway and floodplain. These change requests were initiated following discussions and a conference call on October 16, 2002, among Ms. Isabel Rodrigues of USEPA, Mr. Michael Miner of CDM Federal Programs Corporation, Mr. Leo Brausch of Viacom, and Mr. Stan Criss of Fagan. The first three field design change requests were prepared by Mr. Criss and submitted to the above-listed parties on October 24, 2002. On January 10, 2003, summarized reports stating the changes that were made related to each request were submitted to these same parties. To maintain continuity, a fourth change request has been added to this report and included in Appendix G to clarify results for a post-excavation sample that had been taken from the east bank of the Industrial Drainageway between Station 12+75 and Station 13+75.

Field Design Change Request 001 addressed the excavation and subsequent restoration on the east side of a small peninsula near Station 15+25 aligned parallel to flow along the west bank of the Industrial Drainageway. The change was made to connect drainage from an unnamed culvert (Culvert 3) to the Industrial Drainageway, and describes stabilization of the excavation with geotextile and a one-foot layer of nominal one- to three-inch diameter stone. The excavations were made per the design from Stations 14+00 to 15+42 on the west bank, and included an excavation to Culvert 3. Post-excavation results indicate that remaining sediments in this area meet the performance standard.

Field Design Change Request 002 addressed the lateral extent of excavation of a small, low-lying area approximately 30 feet south of the Industrial Drainageway at Station 17+00, known from the predesign sample location as Area 23. This area was separated

from the drainageway channel by a stabilized bank, which was overgrown with poplar trees. The request was to limit the excavation to the dimensions as of October 24, 2002, to avoid impairment of the vegetative stabilization. Based on results for post-excavation samples from the bank sidewalls, the bank was excavated, and a replacement berm was built and armored with nominal one-to three-inch diameter stone. Post-excavation samples (labeled with 23/W identifiers) from the excavated bank area indicate that remaining soils along the bank met the performance standard.

Several expansions of the Area 23 excavation were made in the southerly and western directions, but PCB concentrations in two post-excavation samples (23-B-S-S-100 and 23-B-S-W-100) continued to show exceedance of the performance standard (3.1 mg/kg and 2.2 mg/kg, respectively). In submitting Field Design Change Request 002, Viacom believed that the area was not part of the drainageway channel (the excavation had already been expanded more than 70 feet from the drainageway) and that further excavation would provide only minimal improvement to what is already significantly below the subsurface cleanup level of 10 mg/kg per NYSDEC *Technical Administrative Guidance Memorandum on Determination of Soil Cleanup Objectives and Cleanup*

⁷ Levels (TAGM) 4046. The Area 23 excavation was lined with geotextile and backfilled with bank run gravel. Viacom subsequently agreed to remove additional floodplain soils in Area N, as described in Section 3.2.

Field Design Change Request 003 was to limit the excavation between Stations 16+75 and 17+25 to the dimensions as of October 24, 2002. The request was made to limit extension of the east sidewall excavation further into the garbage of the closed Village of Horseheads landfill, and to leave the bank in place between the drainageway channel and the Area 23 excavation. As stated above, it was decided to remove the common bank between the drainageway and Area 23 due to post-excavation sample results. The east bank excavation was excavated to design limits, and expanded twice in two-foot increments. Garbage, plastic bags, and various wastes were encountered in the first two-foot extension of the excavation, and a combination of garbage intermingled with cover soil was encountered in the second two-foot excavation extension. The composite

² Although, the sidewall confirmation samples are designated as surface samples, they are comprised of aliquots taken from the top two feet of the excavation. Under NYSDEC TAGM 4046, the surface refers to the top six inches or less of soils.

sample of east bank soils following the second extension showed a 1.7 mg/kg PCB concentration. Because the excavation of the east sidewall was well within the limits of the Village of Horseheads landfill, and the PCB concentration was below the TAGM levels for clean subsurface soils, no additional excavation of the east sidewall was done. The east sidewall was covered with a geotextile, bank run gravel, and armored with nominal one- to three-inch diameter stone for erosion protection. Viacom subsequently provided additional rock channel protection in this area, as described in Section 3.3.

Viacom submitted Field Design Change Request 004 to document the limits of excavation of the east bank of the Industrial Drainageway from Station 12+75 to Station 13+75 in the Chemung County Department of Public Works yard (AreaN). The east sidewall in Area N was extended 25 feet east of design limits from approximately Station 13+20 to Station 13+60. Additional expansion would be into large cinder, metal debris, and soil stockpiles. The PCB concentration in the post-excavation sidewall sample (N-B-S-E-004) was 5.9 mg/kg; Sample N-B-S-E-004 was of subsurface soils and was below the cleanup level as per NYSDEC TAGM 4046. Viacom subsequently agreed to remove additional floodplain soils in Area N, as described in Section 3.2.

In summary, through the course of the Industrial Drainageway remediation, sediments, bank soils, and floodplain soils exhibiting PCB concentrations greater than 1.0 mg/kg were removed, with the following exceptions:

- The north and west sidewalls of the excavation near pre-design investigation Sample Point 23 (2.2 mg/kg and 3.1 mg/kg PCBs, respectively), as described in Field Design Change Request No. 2 (Appendix G);
- The northeast sidewall cutting into the old Village of Horseheads landfill between Stations 16+75 and 17+25 (1.8 mg/kg PCBs), as described in Field Design Change Request No. 3 (Appendix G); and
- East of the drainageway in the Chemung County yard between Stations 12+75 and 13+75 (5.9 mg/kg PCBs), as described in Field Design Change Request No. 4 (Appendix G).

Subsequent work to address these areas is discussed in Section 3.0.

The location of the bypass pumping discharge was changed from the location shown in the Revised Addendum to the RAWP. The pump discharge was relocated to the northwest portion of Koppers Pond on EWB property from approximately Station 19+00. The reason for the relocation was to discharge downstream of sediments designated for excavation on Hardinge property. Natural revegetation of this area is expected to readily occur by native plant species.

AAA had proposed using Dexsil field screening kits for evaluation of PCB concentrations prior to collection of post-excavation samples for laboratory analysis. An evaluation of the correlation between laboratory analytical results and Dexsil field screening results for the same samples indicated that the Dexsil results were unreliable. Consequently, AAA substituted Ensysis test kits, which are less susceptible to interference from non-PCB chlorinated compounds, for the Dexsil test kits.

3.0 SUPPLEMENTAL SOIL REMEDIATION

With completion of the activities described in Section 2.0, Viacom believed that the Industrial Drainageway remedial construction had been completed in conformance with the design concept as presented in RAWP, the Remedial Design Report, the ROD, and the Consent Decree. Via letter dated June 16, 2004, however, USEPA requested that Viacom conduct additional remedial activities to address floodplain soils in three locations:

- The sidewalls of the excavation near pre-design investigation Sample Point 23 (Area 23);
- East of the drainageway in the Chemung County yard between Stations 12+75 and 13+75 (Area N); and
- The northeast sidewall cutting into the old Village of Horseheads landfill between Stations 16+75 and 17+25.

As described in its response of August 3, 2004, Viacom agreed to conduct supplemental sampling of floodplain soils and implemented this sampling in August 2004. Based on the results of that sampling, USEPA requested, via letter dated September 16, 2004, that Viacom remove certain floodplain soils in Area 23 and Area N, and provide additional documentation regarding the rock channel protection where the drainageway encountered the Village of Horseheads landfill. Viacom agreed to conduct the scope of work defined by USEPA's letter of September 16, 2004 and has completed this work. These activities are briefly summarized in the following paragraphs.

3.1 SOIL SAMPLING

On August 11, 2004, Fagan conducted, on behalf of Viacom, Geoprobe® sampling of floodplain soils located in Area N and Area 23. This sampling focused on delineating the extent of floodplain soils exhibiting PCB concentrations above 1.0 mg/kg in these two areas.

In this effort, 19 Geoprobe borings were advanced in Area N, and 12 borings were advanced at locations in Area 23. Based on the results of this sampling, Fagan conducted further Geoprobe® sampling in Area N on August 19, 2004, at which time an additional 10 borings were advanced. Figure 4 shows the sampling locations from the work conducted on August 11 and 19, 2004 in Area N and Area 23.

Geoprobe® sampling was conducted using 2-inch diameter Macrocore samplers fitted with acetate sleeves. At each location, the probe was pushed to a depth below the target zone, and the cores were withdrawn and inspected. In Area N, the Geoprobe® borings were advanced to depths of 6 to 8 feet below ground surface (bgs); in Area 23, the Geoprobe® borings were advanced to a depth of 4 feet bgs. Tables 5 and 6 include the lithology encountered the Geoprobe® borings from Area 23 and Area N, respectively.

At each boring, samples of materials suspected of containing PCBs were collected for analysis. Such materials were selected based on their color and texture, and included a black and brown clay and a gray clay at Area N and a gray clay and black silt at Area 23. These impacted materials were generally found in thin layers between depths of 3 to 4.5 feet bgs in Area N and between 1.5 and 3.5 feet bgs in Area 23.

Sampled materials were screened for PCBs using RapidAssay® immunoassay testing kits. The NYSDEC on-site representative also collected samples for laboratory analysis of PCBs. Because the suspected materials were often present only in a very thin layer, many of the NYSDEC samples were not "split samples," but samples of related materials encountered in the borings. Tables 5 and 6 include the results of the RapidAssay® screening for samples collected from Area 23 and Area N, respectively. Appendix J includes the NYSDEC laboratory data uncorrected for dry weight.

3.2 SOIL REMOVAL

Based on the results of the delineation sampling, and in accordance with USEPA's letter of September 16, 2004, Viacom agreed to remove floodplain soils found to contain PCB concentrations greater than 1 mg/kg in Area 23 and floodplain soils found to contain PCB concentrations greater than 10 mg/kg in Area N.

3.2.1 Excavation

This excavation effort was initiated on September 16, 2004 and completed on September 27, 2004. Fagan conducted this work on behalf of Viacom, using Gary Dyer Excavating as a subcontractor.

Fagan first laid out the excavation areas in the field based on the results of the delineation samples. Three distinct excavations were marked in Area N and two were defined in Area 23. These excavation limits are shown on Figure 4.

The excavations first involved removing and stockpiling clean overburden soils from atop the target removal zone. In Area N, the overburden thickness was approximately 2.5 feet, and the overburden was approximately 1.0 foot in Area 23. Segregation of the overburden from underlying impacted materials was practical because the target impacted soils are visibly distinguishable from overburden. The limits of overburden removal were closely monitored in the field to avoid mixing of these materials from underlying impacted soils.

The underlying impacted soils were then excavated and placed in prepared containment areas. These containment areas were lined with polyethylene sheeting and encircled by an earthen berm. Separate containments were constructed for Area N and Area 23.

In Area N, impacted soils were removed to a final depth of 5.0 feet bgs where a visibly distinguishable brown sand and gravel was encountered. In Area 23, the west side excavation was taken to a depth of 3.0 feet bgs; the south side excavation was taken to a depth of 4.0 feet bgs. In both excavations, the residual bottom was a visibly distinguishable brown clay.

After removing soils to the delineated limits, Fagan collected soil samples at the bottom of each excavation area. One soil sample was collected for each 900 square feet of excavation area. In Area N, the confirmatory bottom samples were taken at discrete locations. The confirmatory samples in Area 23 were composites of the encountered

bottom soils. These samples were field screened for PCBs using RapidAssay test kits, and splits were sent to FLI for laboratory analysis in accordance with the approved Quality Assurance Project Plan.

Excavations were then backfilled with clean imported soil. This imported soil was a bank-run gravel from Porter Sand and Gravel, a New York State permitted gravel quarry. The disturbed areas were then mulched and seeded with common grasses and foils.

Table 7 provides the results of confirmatory soil sampling for the September 2004 excavation activities. Laboratory data for these samples are provided in Appendix K. All final confirmation samples showed attainment of the specified cleanup level of 10 mg/kg, consistent with NYSDEC TAGM 4046.

3.2.2 Disposal

Within the containment areas, impacted soils were mixed with hydrated lime at a nominal lime addition rate of 10 percent by weight. Enviroblend®, a proprietary buffered phosphate compound, was also added to the soils removed from Area 23 at an approximate 5-percent rate to chemically stabilize heavy metals present in this material. Samples of the mixed materials were collected and sent to FLI for analysis of PCBs and TCLP SVOCs and metals. These data were needed for waste characterization and acceptance by WML. Disposal was at the High Acres Landfill. In this effort, 422.45 tons of stabilized soil were sent off site for disposal. Appendix L provides shipping records.

3.3 ROCK CHANNEL PROTECTION

Figure 4 shows the as-built rock-protected slope on the bank of the Industrial Drainageway between Stations 16+75 and 17+25. This bank has been protected with riprap to minimize the potential from streambank erosion into the adjacent Village of Horseheads landfill. The bank slope at this location is approximately 4 horizontal to 1 vertical. At this slope, the rock channel protection is stable and not subject to excessive scour.

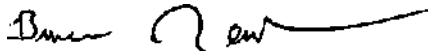
In the supplemental work conducted in September 2004, Viacom added approximately 40 tons of 3- to 6-inch riprap.

4.0 CERTIFICATION OF WORK

Cummings/Riter certifies that this document has been prepared in conformance with the requirements of the Consent Decree, Civil Action No. 97-CV-6555T, between CBS Corporation and USEPA for implementation of the RAWP for Industrial Drainageway Remediation, as amended (Cummings/Riter, August 15, 2001; April 24, 2002).

For the purpose of this Remedial Action Report, "certify" means to state or declare a professional opinion of conditions whose true properties cannot be known at the time such certification was made, despite appropriate professional evaluation. We have accurately reported information provided by others identified in Section 1.1. Certification of work in no way relieves any other party from meeting requirements imposed by contract or other means, including commonly accepted industry practices. Certification does not guarantee construction, nor should our work or this Remedial Action Report be construed as relieving AAA, its subcontractors, and other project participants of their responsibility to have performed the work in accordance with the contract drawings and technical specifications.

Respectfully submitted,
Cummings/Riter Consultants, Inc.



Bruce Geno
Project Manager

I hereby certify that to the best of my knowledge, the Remedial Action for Industrial Drainageway sediments was implemented and all construction activities were completed, unless so noted, in accordance with the USEPA-approved RAWP for Industrial Drainageway Remediation, the USEPA-approved Supplemental Design Report, the ROD, and Consent Decree unjjff^Bfc& and signature as a Professional Engineer in the State of New York.

J\J&^O\K



William C. Smith, P.E.
Senior Project Manager
New York State P.E. No. 075625

4/16/04
Date



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cm



TABLES

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TABLE 1
SUMMARY OF ANALYTICAL RESULTS
POST-EXCAVATION SOIL SAMPLES
INDUSTRIAL DRAINAGEWAY
KENTUCKY AVENUE WELLFIELD SITE
HORSEHEADS, NEW YORK

Interval	Sample ID	Date Sampled	Total PCB (mg/kg) ^{1a}	Pass/Fail ^{1b}	Tracked with Sample ID	Date Sampled	Total PCB (mg/kg)	Pass/Fail	Tracked with Sample ID	Date Sampled	Total PCB (mg/kg)	Pass/Fail
0+00	PRE-DAM-S/SS-W-001	12/11/2002	0.140	P								
	ROCKY MIX (BOTTOM)	9/14/2002	<0.440	P								
0+30	A-B-S-W-001	9/16/2002	0.480	P								
	A-B-SS-W-001	9/16/2002	0.580	P								
	A-B-S-E-B-001	9/26/2002 ^a	0.180	P								
	A-B-S-E-001	9/16/2002	2.200	F	A-B-S-E-R-002	9/26/2002	0.730	P				
	A-B-SS-E-001	9/16/2002	13.000	F	A-B-SS-E-R-002	9/26/2002	5.300	F	A-B-SS-E-R-003	10/5/2002	0.78/<0.32 ^e	P
	A-C-SS-B-001	10/11/2002	0.730	P								
0+80	A-B-SS-B-001	9/16/2002	0.098	P								
0+80	B-B-S-W-001	9/24/2002	0.270	P								
	B-B-SS-W-001A	9/24/2002	0.220	P								
	B-B-SS-W-001B	9/24/2002	0.260	P								
	B-B-S-E-001	9/24/2002	1.100	F	B-B-S-E-B-002	10/5/2002	0.580	P				
					B-B-S-E-R-002	10/5/2002	0.260	P	<-also tracked B-B-S-E-001			
	B-B-SS-E-001	9/24/2002	0.490	P								
1+80	B-C-S-B-001	9/24/2002	1.000	P								
2+50	C-B-S-W-001	9/30/2002	0.280	P								
	C-B-SS-W-001	9/30/2002	4.100	F	C-B-SS-W-002	11/2/2002	0.120	P				
	C-C-S-B-001	9/30/2002	6.800	F	C-C-S-B-002	11/2/2002	0.260	P	<-also tracked C-B-SS-B-001			
	C-B-SS-B-001	9/30/2002	1.600	F	see C-C-S-B-002							
	C-C-SS-B-001	9/30/2002	0.220	P								
	C-B-S-E-001	9/30/2002	0.310	P								
3+75	C-B-SS-E-001	9/30/2002	3.100	F	C-B-SS-E-002	11/2/2002	0.620	P				
3+75	D-B-S-W-001	10/2/2002	0.250	P								
	D-B-SS-W-001	10/2/2002	2.000	F	D-B-SS-W-006	11/7/2002	<0.210	P				
(bottom)	D-C-S-001	10/2/2002	3.100	F	D-C-S-B-002	11/2/2002	<0.220	P				
(bottom)	D-C-SS-001	10/2/2002	0.240	P								
	D-B-S-E-001	10/2/2002	0.540	P								
4+75	D-B-SS-E-001	10/2/2002	0.460	P								
4+75	E-C-S-W1-001	10/9/2002	0.590	P								
	E-C-SS-W1-001	10/9/2002	0.700	P								
	E-C-S-W2-001	10/9/2002	0.450	P								
	E-C-SS-W4-001	10/9/2002	1.600	F	E-B-S-W-002	11/5/2002	<0.150	P				
					E-B-SS-WB-001	11/5/2002	<0.110	P				
					E-B-SS-W-002	11/5/2002	0.160	P				

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HORSEHEADS, NEW YORK

Interval	Sample ID	Date Sampled	Total PCB (mg/kg)">	Pass/ Fail ^(b)	Tracked with Sample ID	Date Sampled	Total PCB (mg/kg)	Pass/ Fail	Tracked with Sample ID	Date Sampled	Total PCB (mg/kg)	Pass/ Fail
	E-C-SS-W2-001	10/9/2002	5.200	F	E-B-S-W-002	11/5/2002	<0.150	P				
					E-B-SS-WB-001	11/5/2002	<0.110	P				
					E-B-SS-W-002	11/5/2002	0.160	P				
	E-C-S-W3-001	10/9/2002	0.360	P								
	E-C-SS-W3-001	10/9/2002	0.410	P								
	E-C-S-W4-001	10/9/2002	0.390	P								
	E-C-S-E-001	10/9/2002	1.200	F	E-C-S-E-002	11/5/2002	0.330	P				
	E-C-SS-E-001	10/9/2002	1.500	F	E-C-SS-E-002	11/5/2002	0.450	P				
5+11	E-C-SS-B-001	10/9/2002	0.300	P								
5+11	F-C-S-W1-001	10/9/2002	0.470	P								
	F-C-SS-W1-001	10/9/2002	1.600	F	F-B-SS-W-001	11/5/2002	0.210	P				
					F-B-SS-WB-001	11/5/2002	<0.110	P				
	F-C-S-W2-001	10/9/2002	0.300	P								
	F-C-SS-W2-001	10/9/2002	1.400	F	F-B-SS-W-001	11/5/2002	0.210	P				
					F-B-SS-WB-001	11/5/2002	<0.110	P				
	F-C-S-W3-001	10/9/2002	0.460	P								
	F-C-SS-W3-001	10/9/2002	0.450	P								
	F-C-S-W4-001	10/9/2002	0.280	P								
	F-C-SS-W4-001	10/9/2002	1.600	F	F-B-SS-W-001	11/5/2002	0.210	P				
					F-B-SS-WB-001	11/5/2002	<0.110	P				
	F-C-S-W5-001	10/9/2002	0.430	P								
	F-C-SS-W5-001	10/9/2002	1.4/1.4	F	F-B-SS-W-001	11/5/2002	0.210	P				
					F-B-SS-WB-001	11/5/2002	<0.110	P				
	F-C-S-E-001	10/9/2002	1.300	F	F-C-S-E-003	11/7/2002	<0.110	P				
					F-B-SS-W-002	11/7/2002	0.370	P				
					F-C-S-B-001	11/7/2002	<0.110	P				
	F-C-SS-E-001	10/9/2002	0.280	P								
5+75	F-C-SS-B-001	10/9/2002	0.710	P								
5+75	G-C-S-W-001	10/10/2002	0.310	P								
	G-B-S-W1-001	10/10/2002	3.100	F	G-B-S-W1-004	10/29/2002	0.130	P				
	G-B-S-W-001	10/10/2002	1.700	F	G-B-S-W-003	10/29/2002	<0.110	P				
	G-C-S-E-001	10/10/2002	0.710	P								
	G-B-S-E1-001	10/10/2002	1.200	F	G-B-S-E1-004	10/29/2002	0.160	P				
	G-B-SS-E1-001	10/10/2002	6.300	F	G-B-SS-E 1-003	10/29/2002	0.170	P				
	G-B-S-E2-001	10/10/2002	0.810	P								
	G-B-SS-E2-001	10/10/2002	3.600	F	G-B-SS-E2-003	10/29/2002	<0.110	P				
	G-B-S-N-001	10/10/2002	0.610	P								

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POST-EXCAVATION SOIL SAMPLES
INDUSTRIAL DRAIN AGE WAY
KENTUCKY AVENUE WELLFIELD SITE
HORSEHEADS, NEW YORK

Interval	Sample ID	Date Sampled	Total PCB (mg/kg)'''	Pass/Fail'''	Tracked with Sample ID	Date Sampled	Total PCB (mg/kg)	Pass/Fail	Tracked with Sample ID	Date Sampled	Total PCB (mg/kg)	Pass/Fail
	G-B-SS-N-001	10/10/2002	6.900	F	G-C-S-W-002	11/8/2002	<0.200	P				
					G-C-S-E-002	11/8/2002	<0.140	P				
	G-C-S-B-001	10/11/2002	1.000	P	G-C-S-B-002	11/8/2002	<0.110	P				
	G-C-SS-B-001	10/10/2002	1.400	F	G-C-SS-B-003	10/29/2002	0.110	P				
7+25	G-C-SS-B2-001	10/10/2002	0.840	P								
7+25	H-B-S-W-001	10/14/2002	0.310	P								
	H-B-SS-W-001	10/14/2002	0.420	P								
	H-C-SS-B1-001	10/14/2002	0.360	P								
	H-B-S-E-001	10/14/2002	0.360	P								
	(H-I)-B-SB-001	11/7/2002	0.390	P								
	H-B-SS-E-001	10/14/2002	2.200/0.54	F	H-B-SS-E-002	10/28/2002	0.680	P				
					H-B-SS-E-003	10/29/2002	<0.23	P				
8+25	H-C-SS-B2-001	10/14/2002	0.250	P								
8+25	I-C-SS-B2-001	10/21/2002	0.380	P								
	I-B-S-E-001	10/21/2002	1.300	F	I-B-S-E-004	11/1/2002	<0.13/<0.13	P				
	I-B-S-W-001	10/21/2002	0.630	P								
	I-C-SS-B1-001	10/21/2002	0.16/0.26	P								
	(H-D-B-SB-001	11/7/2002	0.390	P								
	I-B-SS-W-001	10/21/2002	3.300	F	I-B-SS-W-002	10/30/2002	<0.120	P				
9+25	I-B-SS-E-001	10/21/2002	2.000	F	I-B-SS-E-002	10/30/2002	<0.120	P				
9+25	J-B-S-W-001	10/30/2002	0.170	P								
	J-C-SS-B1-001	10/30/2002	<0.099	P								
	J-C-SS-B2-001	10/30/2002	<0.110	P								
	J-B-S-E-002	11/1/2002	<0.130	P								
	J-B-SS-E-001	11/1/2002	<0.110	P								
10+25	J-B-SS-W-002	11/1/2002	0.380	P								
10+25	K-C-SS-B1-001	11/13/2002	<0.100	P								
	K-C-SS-B2-001	11/13/2002	<0.100	P								
	K-C-SS-B3-001	11/13/2002	0.330	P								
	K-B-S-E-002	11/16/2002	0.270	P								
	K-B-SS-W-003	11/11/2002	1.100	F	K-B-SS-W-005	11/20/2002	<0.100	P				
	K-B-SS-E-003	11/20/2002	<0.100	P								
11+25	K-B-S-W-004	11/13/2002	<0.130	P								
11+25	L-C-SS-B1-001	11/16/2002	0.470	P								
	L-C-SS-B2-001	11/16/2002	<0.092	P								
	L-C-SS-B3-001	11/16/2002	<0.130	P								
	L-B-S-W-002	11/20/2002	<0.130	P								
	L-B-SS-E-002	11/20/2002	<0.120	P								

TABLE 1
SUMMARY OF ANALYTICAL RESULTS
POST-EXCAVATION SOIL SAMPLES
INDUSTRIAL DRAINAGEWAY
KENTUCKY AVENUE WELLFIELD SITE
HORSEHEADS, NEW YORK

Interval	Sample ID	Date Sampled	Total PCB (mg/kg) ^{'''}	Pass/Fail ^{bl}	Tracked with Sample ID	Date Sampled	Total PCB (mg/kg)	Pass/Fail	Tracked with Sample ID	Date Sampled	Total PCB (mg/kg)	Pass/Fail
	L-B-SS-W-004	11/21/2002	<0.110	P								
12+25	L-B-S-E-004	11/21/2002	0.110	P								
12+25	M-C-SS-B1-001	11/16/2002	<0.110/<0.110	P								
	M-C-SS-B2-001	11/16/2002	0.100	P								
	M-C-SS-E-001	11/16/2002	<0.120	P								
	M-B-S-E-001	11/16/2002	0.190	P								
	M-B-SS-W-001	11/16/2002	0.390	P								
12+75	M-B-S-W-001	11/16/2002	<0.250	P								
12+75	N-B-S-W-001	11/20/2002	<0.120	P								
	N-B-SS-W-001	11/20/2002	<0.120	P								
	N-C-SS-B1-001	11/20/2002	0.110	P								
	N-C-SS-B2-001	11/20/2002	0.480	P								
	N-B-S-E-004	12/2/2002	5.900	F								
	N-B-SS-E-004	12/2/2002	0.580	P								
13+75	N-C-SS-B3-001	11/20/2002	<0.110	P								
13+75	O-C-SS-B3-002	11/29/2002	<0.110	P								
	O-B-SS-W-001	11/27/2002	0.130	P								
	O-B-SS-E-003	11/30/2002	0.120	P								
	O-C-SS-B2-002	11/29/2002	<0.100	P								
	O-B-S-W-001	11/29/2002	0.190	P								
	O-B-S-E-002	11/29/2002	0.140	P								
14+75	O-C-SS-B1-002	11/29/2002	0.110	P								
14+75	P-B-SS-W-001	11/21/2002	<0.120	P								
	P-B-S-E-001	11/21/2002	<0.130	P								
	P-C-SS-B-001	11/21/2002	<0.140	P								
	P-B-S1-W-001	11/21/2002	<0.140	P								
	P-Bsub-SrN-001	11/21/2002	<0.130	P								
	P-Bsub-S-S-001	11/21/2002	<0.120	P								
	P-B-SS-E-001	11/21/2002	<0.130	P								
15+42	P-B-S2-W-001	11/21/2002	0.130	P								
AREA 23	23-B-S-E-001	10/14/2002	2.600	F	23-B-S-E-100	1/20/2003	0.860	P	23-B-S-E-100	1/20/2003	0.860	P
AREA 23	23-B-S-W-001	10/14/2002	2.300	F	23-B-S-W-100	1/20/2003	2.200	F	23-B-S-W-100	1/20/2003	2.200	F
AREA 23	23-C-S-E-B-001	10/14/2002	1.600	F	23-C-S-E-B-002	10/18/2002	0.160	P				
AREA 23	23-C-S-E-B-002	10/18/2002	0.160	P								
AREA 23	23-B-S-SE-003	10/23/2002	0.750	P								
AREA 23	23-B-S-SW-003	10/24/2002	7.100	F	23-B-S-S-100	1/20/2003	3.100	F				
AREA 23	23-B-S-NE-003	10/24/2002	14.000	F	23/W-B-S-S-001	12/4/2002	0.550	P				
AREA 23	23-B-S-NW-003	10/24/2002	1.600	F	23/W-B-S-N-001	12/4/2002	0.150	P				

TABLE 1
SUMMARY OF ANALYTICAL RESULTS
POST-EXCAVATION SOIL SAMPLES
INDUSTRIAL DRAINAGEWAY
KENTUCKY AVENUE WELLFIELD SITE
HORSEHEADS, NEW YORK

Interval	Sample ID	Date Sampled	Total PCB <mg/kg> ^(a)	Pass/Fail ^{****}	Tracked with Sample ID	Date Sampled	Total PCB (mg/kg)	Pass/Fail	Tracked with Sample ID	Date Sampled	Total PCB (mg/kg)	Pass/Fail
AREA 23	23-C-S-W-B-001	10/14/2002	0.190	P								
BERM	23/W-C-SS-B-001	12/4/2002	0.120	P								
BERM	23/W-B-S-S-001	12/4/2002	0.550	P								
BERM	23/W-B-S-N-001	12/4/2002	0.150	P								
16+75	W-C-S-B-001	10/15/2002	0.120	P								
	W-B-S-E-001	10/15/2002	1.700	F	W-B-S-E-003	10/23/2002	1.800	F				
	W-B-S-W-001	10/15/2002	2.000	F	W-B-S-W-002	10/23/2002	2.100	F	Bank Removed - tracked with 23/W-B-S-S-001, 23/W-B-S-N-001, AND 23/W-C-SS-B-001			
	W-C-S-S-001	10/15/2002	0.920	P								
17+25	W-C-S-N-001	10/15/2002	<0.120	P								
17+75	X-B-S-E-001	10/15/2002	0.460	P								
	X-B-S-B-001	10/15/2002	0.170	P								
	X-B-S-W-001	10/15/2002	0.910	P								
	X-B-S-N-001	10/15/2002	0.950	P								
18+25	X-B-S-S-001	10/15/2002	0.550	P								
21+75	Y-B-SS-B-001	10/18/2002	<0.120	P								
	Y-B-SS-N-001	10/18/2002	0.190	P								
	Y-B-SS-S-001	10/21/2002	<0.180	P								
	Y-B-S-E-001	10/18/2002	0.470	P								
	Y-B-SS-E-001	10/18/2002	0.230	P								
	Y-B-S-W-001	10/18/2002	0.310	P								
22+30	Y-B-SS-W-001	10/18/2002	0.120	P								
22+60	2-B-S-E-002	12/4/2002	<0.210	P								
	2-B-S-W-002	12/4/2002	<0.160	P								
	Z-C-SS-B-001	12/3/2002	<0.130	P								
	Z-B-S-S-001	12/3/2002	<0.160	P								
	2-B-S-N-001	12/3/2002	<0.160	P								

Notes:

- a. mg/kg = milligrams per kilogram.
- b. P/F - Pass/Fail. Threshold for Resource Conservation and Recovery Act classification as hazardous waste is 1.0 mg/l for cadmium using Toxicity Characteristic Leachate Procedure (TCLP).
- c. " / " = results of sample analysis / results of duplicate sample analysis.

TABLE 2
SUMMARY OF ANALYTICAL RESULTS
PRE- AND POST-CONSTRUCTION BACKGROUND SOIL SAMPLES
INDUSTRIAL DRAINAGEWAY
KENTUCKY AVENUE WELLFIELD SITE
HORSEHEADS, NEW YORK

Location	Sample I.D.	Sample Date	PCBs (mg/kg)	Comments
Village of Horseheads	PRE-HV1	9/17/2001	<0.036	Pre-construction grab sample from Village of Horseheads property near contractor staging area
Village of Horseheads	PRE-HV2	9/17/2001	<0.036	Pre-construction grab sample from Village of Horseheads property near contractor staging area
Village of Horseheads	PRE-HV3	9/17/2001	<0.036	Pre-construction grab sample from Village of Horseheads property near contractor staging area
Village of Horseheads	POST HV-1	3/19/2003	<0.12	Post-construction grab sample from Village of Horseheads property from same location as PRE-HV1
Village of Horseheads	POST HV-2	3/19/2003	<0.13	Post-construction grab sample from Village of Horseheads property from same location as PRE-HV2
Village of Horseheads	POST HV-3	3/19/2003	<0.15	Post-construction grab sample from Village of Horseheads property from same location as PRE-HV3
Chemung Co. Yard	DPW - DECON PAD AREA PRE	9/4/2002	<0.21/<0.21	Pre-construction composite sample collected from decontamination pad area (later used for staging cell 13)
Chemung Co. Yard	DPW - STAGING AREA PRE-SPL	9/4/2002	<0.20/<0.19	Pre-construction composite sample collected from staging cell 1 area
Chemung Co. Yard	CELLS 10, 14	1/21/2003	<0.24	Composite sample collected from restored locations of staging cells 10 and 14
Chemung Co. Yard	CELLS 12, 1	1/21/2003	<0.24	Composite sample collected from restored locations of staging cells 1 and 12
Chemung Co. Yard	CELLS 11 (4,5), 8, 9	1/21/2003	<0.24	Composite sample collected from restored locations of staging cells 4 and 5 (removed and subsequently rebuilt as staging cell 11), 8, and 9
Chemung Co. Yard	CELL 13	1/21/2003	<0.24	Composite sample collected from restored location of staging cell 13 (decontamination pad area)

TABLE 3
SUMMARY OF ANALYTICAL RESULTS
DISPOSAL CHARACTERIZATION SAMPLES
INDUSTRIAL DRAINAGEWAY
KENTUCKY AVENUE WELLFIELD SITE
HORSEHEADS, NEW YORK

Cell/Rolloff	Sample I.D.	Sample Date	PCB (mg/kg)*1	TCLP Cd <mg/Lf>	P/F**	Sample I.D.	Sample Date	TCLP Cd (mg/L)	P/F	Sample I.D.	Sample Date	TCLP Cd (mg/L)	P/F	Sample I.D.	Sample Date	TCLP Cd (mg/L)	P/F
Rolloff	RO001	9/21/2002	1.50	0.367	P												
Rolloff	RO002	9/21/2002	0.93	0.324	P												
Rolloff	RO003	9/21/2002	0.72	0.546	P												
Rolloff	ROOM	9/21/2002	1.10	0.489	P												
Rolloff	ROODS	9/21/2002	1.10	0.907	P												
Rolloff	RO006	9/21/2002	0.89	0.431	P												
1	RO038.39/41-44	10/14/2002	2.60	0.996	P												
1	CELL #1 TSCA MATL	11/19/2002		1.060	F	TSCA, CELL «1	11/25/2002	0.114	P								
2	RO007 SN N/A POST-CKD	9/23/2002		0.293	P												
2	RO00B 200-430 POST-CKD	9/24/2002	-	0.306	P												
2	RO009 SN 200-609 POST-CKD	9/24/2002		0.825	P												
2	RO010 SN 200-436 POST-CKD	9/23/2002		0.229	P												
3	RO0025	10/1/2002	0.53	0.283	P												
3	RO040 SEVERAL ROLLOFFS	10/9/2002	0.78	1.04	F	RO040A. RESAMPLE CELL 3	10/15/2002	2.320	F	RO040B, CELL#3 RESAMPLE	10/21/2002	0.859	P				
4	RO045-49/58-60 CELUM	10/14/2002	1.40	0.540	P												
5	69/71/76-78/80 COMPOSITE	10/18/2002	0.43	2.300	F	CELL #5	10/23/2002	0.701	P								
6	RO050-060 CELL 06	10/14/2002	3.70	4.930	F	CELL #6 10 ROLLOFFS	10/23/2002	5.25	F	2-6-TRAILER	12/17/2002	1.6	F	3-6-CHEMUNG	12/30/2002	<0.05	P
6										2-6-CENTER	12/17/2002	0.192	P	3-6-CENTER	12/30/2002	<0.05	P
6										2-6-CHEMUNG	12/17/2002	1.38	F	3-6-TRAILER	12/30/2002	0.065	P
7	CELL #7 INITIAL RUN	10/24/2002	<0.250	4.070	F	2-7-TRAILER	12/17/2002	0.32	P								
7						2-7-CENTER	12/17/2002	1.07	F	3-7-CENTER	12/30/2002	0.072	P				
7						2-7-CHEMUNG	12/17/2002	0.305	P								

TABLE 3
SUMMARY OF ANALYTICAL RESULTS
DISPOSAL CHARACTERIZATION SAMPLES
INDUSTRIAL DRAINAGEWAY
KENTUCKY AVENUE WELLFIELD SITE
HORSEHEADS, NEW YORK

Cell/Rolloff	Sample I.D.	Sample Date	PCB (mo/kg) ¹	TCLP Cd (mg/L) ^(b)	P/F ¹	Sample I.D.	Sample Date	TCLP Cd (mg/L)	P/F	Sample I.D.	Sample Date	TCLP Cd (mg/L)	P/F	Sample I.D.	Sample Date	TCLP Cd (mg/L)	P/F
8 (1ST CONSTRUCTION)	CELL SB BOTTOM OF PILE CELL #88	10/28/2002	<0.310	4.180	F	8 EAST	11/1/2002	2.38	F	8P	11/11/2002	<0.50	P				
8 (1ST CONSTRUCTION)	TRENCH MIXED CELL #8C WEST	10/28/2002	<0.29	3.760	F	8 CENTRAL	11/1/2002	2.53	F	8C	11/11/2002	<050	P				
8 (1ST CONSTRUCTION)	PORTION CELL #8D EAST	10/28/2002	0.44	3.340	F	8 MOUNTAIN	11/1/2002	2.13	F	8E	11/11/2002	0.352	P				
8 (1ST CONSTRUCTION)	PORTION	10/28/2002	0.81	2.990	F	6 PACIFIC	11/1/2002	1.75	F		CELL ff 8 SPLIT IN 3 SECTIONS MEETS TESTING FREQ						
8 (2ND CONSTRUCTION)	2#8E	11/26/2002	<0.250	2.330	F	3-8-E	12/5/2002	<0.05	P								
8 (2ND CONSTRUCTION)	2#8C	11/26/2002	<0.250	1.840	F	3-8-C	12/5/2002	<0.05	P								
8 (2ND CONSTRUCTION)	2#8M	11/26/2002	<0.300	2.610	F		SAMPLE OF ITTED - ME				TESTING FREQUENCY						
8 (2ND CONSTRUCTION)	2#8P	11/26/2002		2.580	F	3-8-P	12/5/2002	<0.05	P								
9 (1ST CONSTRUCTION)	CELL #9NE	10/29/2002	0.23	2.360	F	CELL#9E	11/5/2002	1.43	F	9E	11/11/2002	2.11	F	CELL REFILLED AND REMIXED			
9 (1ST CONSTRUCTION)	CELL #9SW	10/29/2002	0.57	2.760	F	CELL#9C	11/5/2002	1.79	F	9C	11/11/2002	1.44	F				
9 (1ST CONSTRUCTION)	CELL #9NW	10/29/2002	0.72	2.030	F	CELLS9M	11/5/2002	0.755	P								
9 (1ST CONSTRUCTION)	CELL #9SE	10/29/2002	1.20	1.760	F	CELL#9P	11/5/2002	0.435	P								
9 (2ND CONSTRUCTION)	2-#9-R	12/9/2002	0.80	1.320	F	2-#9-R2	12/17/2002	<0.05	P								
9 (2ND CONSTRUCTION)	2-#9-C	12/9/2002	0.83	1.230	F	2-#9-C2	12/17/2002	<0.05	P								
9 (2ND CONSTRUCTION)	2-#9-L	12/9/2002	0.98	1.430	F	2-#9-L2	12/17/2002	<0.05	P								
10 (1ST CONSTRUCTION)	10S	11/11/2002	2.80	0.938	P												
10 (1ST CONSTRUCTION)	10SN	11/11/2002	1.70	2.250	F	10SN1	11/14/2002	0.709	P								
10 (1ST CONSTRUCTION)	10NN	11/11/2002	0.93	0.054	P												
10 (1ST CONSTRUCTION)	10N	11/11/2002	1.10	<0.05	P												
10 (2ND CONSTRUCTION)	2-10-L	12/5/2002	0.68	<0.05	P												
10 (2ND CONSTRUCTION)	2-10-C	12/5/2002	0.56	<0.05	P												
10 (2ND CONSTRUCTION)	2-10-R	12/5/2002	1.90	0.863	P												
11 (1ST CONSTRUCTION)	CELU11E	11/6/2002	<0.25	1.530	F	11E1	11/14/2002	<0.05	P								
11 (1ST CONSTRUCTION)	CELU11C	11/6/2002	0.21	4.580	F	11C1	11/14/2002	<0.05	P								
11 (1ST CONSTRUCTION)	CELL#11M	11/6/2002	0.26	3.460	F	11M1	11/14/2002	<0.05	P								
11 (1ST CONSTRUCTION)	CELU11P	11/6/2002	<0.27	<0.05	P												
11 (2ND CONSTRUCTION)	2-#11-P	12/9/2002	<0.24	1.040	F	2-#11-P2	12/17/2002	0.074	P								
11 (2ND CONSTRUCTION)	2-#11-M	12/9/2002	<0.28	1.370	F	2-#11-M2	12/17/2002	0.339	P								
11 (2ND CONSTRUCTION)	2-#11-C	12/9/2002	<0.26	1.820	F	2-#11-C2	12/17/2002	0.101	P								
11 (2ND CONSTRUCTION)	2-W11-E	12/9/2002	<0.27	1.170	F	2-#11-E2	12/17/2002	0.067	P								
12	12E	11/11/2002	0.99	1.520	F	12E1	11/25/2002	1.73	F	12E2	12/2/2002	0.081	P				
12	12C	11/11/2002	1.20	1.580	F	12C1	11/25/2002	1.34	F	12C2	12/2/2002	0.141	P				
12	12M	11/11/2002	1.10	<0.05	P	12Z1	11/25/2002	0.93	P	12Z2	12/2/2002	<0.05	P				
12	12P	11/11/2002	1.00	0.628	P												
13	1-13-NORTH	12/30/2002	0.78	0.291	P												
13	1-13-CENTER	12/30/2002	<0.27	0.912	P												
13	1-13-SOUTH	12/30/2002	0.90	<0.05	P												

r^UMMINGS
VpyiTEB.

TABLE 3
SUMMARY OF ANALYTICAL RESULTS
DISPOSAL CHARACTERIZATION SAMPLES
INDUSTRIAL DRAIN AGEWAY
KENTUCKY AVENUE WELLFIELD SITE
HORSEHEADS, NEW YORK

CeJI/Rolloff	Sample I.D.	Sample Date	PCB (mg/kg) ¹	TCLPCd (mg/lr) ¹	P/F ²	Sample I.D.	Sample Date	TCLP Cd (mg/l)	P/F	Sample I.D.	Sample Date	TCLPCd <mg/L)	P/F	Sample I.D.	Sample Date	TCLP Cd <mg/L)	P/F
14 (1ST CONSTRUCTION	14E	11/14/2002	0.36	<0.05	P												
14 (1ST CONSTRUCTION	14C	11/14/2002	0.63	0.135	P												
14 (1ST CONSTRUCTION	14P	11/14/2002	0.58	0.238	P												
14 (2ND CONSTRUCTION	2-14-L	12/5/2002	1.10	0.480	P												
14 (2ND CONSTRUCTION	2-14-C	12/5/2002	1.10	0.096	P												
14 (2ND CONSTRUCTION	2-14-R	12/5/2002	0.77	<0.05	P												
15	15 ROAD	12/10/2002	0.75	1.620	F	2-15-CREEK	12/18/2002	<0.05	P								
15	15 CENTER	12/10/2002	0.77	1.230	F	2-15-ROAD	12/18/2002	<0.05	P								
15	15 CREEK	12/10/2002	1.10	1.710	F	2-15-CENTER	12/18/2002	0.073	P								
16	16 CREEK	12/17/2002	0.39	<0.05	P	2-16-CREEK	12/30/2002	<0.05	P								
16	16 CENTER	12/17/2002	1.20	1.630	F	2-16-CENTER	12/30/2002	<0.05	P								
16	16 ROAD	12/17/2002	0.38	1.180	F	2-16-ROAD	12/30/2002	<0.05	P								

Notes:

a. mg/kg = milligrams per kilogram.

b. mg/L = milligrams per liter.

c. P/F = pass/fail. Threshold for Resource Conservation and Recovery Act classification as hazardous waste is 1.0 mg/l for cadmium using Toxicity Characteristic Leachate Procedure (TCLP).

Z/NUMMINGS
VF)ITEB

TABLE 4
SUMMARY OF APPROXIMATE COSTS
INDUSTRIAL DRAINAGEWAY
KENTUCKY AVENUE WELLFIELD SITE
HORSEHEADS, NEW YORK

Cost Component	Amount (\$)
RD/RA Project Management	\$ 30,000
Remedial Design and Construction Management	
Investigations and Engineering	80,000
Laboratory Analyses	25,000
Data Validation	5,000
Construction Management and Quality Assurance	160,000
Remedial Design Total	270,000
Remedial Action	
Site Work	946,000
Nonhazardous Waste Disposal	724,000
TSCA/Hazardous Waste Disposal	41,000
Supplemental Site Restoration	9,000
Supplemental Soil Investigation and Remediation	100,000
Remedial Action Total	1,820,000
RD/RA Total	\$ 2,120,000

TABLE 5
AREA 23
SUMMARY OF GEOPROBE SAMPLING AND ANALYSES
SUPPLEMENTAL SOIL REMEDIATION
INDUSTRIAL DRAINAGEWAY
KENTUCKY AVENUE WELLFIELD SITE
HORSEHEADS, NEW YORK

Sample Number	Location From SW Corner of Area 23 Excavation (HIS) x (E/W) in ft.	Sampling Interval in ft. bgs	Rapid Assay PCB in ppm	Interval Depth in ft. bgs	Lithology
S-1	0 x 0	1.8-2.6	ND	1-1.8 1.8-2.6 2.6-4.0 4.0-8.0	Br - Sit w Stone Bl - Sd Sit Br - Cl w Sit Br - Sd Gr
S-2	30 S x 0	2.6 - 2.9	0.9	0-2.6 2.6 - 2.9 2.9-4.0	Br - Sit w Stone Bl - Sd Sit Br - Cl Sit
S-3	30 S x 20 E	1.3-2.1	ND	0-1.3 1.3-2.1 2.1-4.0	Br - Cl w Sit Bl - Sit Br - Cl w Sit
S-4	30 S x 40 E	1.3-1.8	ND	0-1.3 1.3-1.8 1.8-4.0	Br - Sd Sit Gr Bl - Sit Br - Cl
S-5	30 S x 58 E	1.4-1.9	ND	0-1.4 1.4 - 1.9 1.9-4.0	Br - Sd Sit Gr Bl - Sit Gr/Br - Cl
S-6	35 N x 0	1.3-1.9	1.71	0-1.3 1.3-1.9 1.9-4.0	Br - Cl Bl - Sit Br - Cl Sd Gr
S-7	67 N x 0	0.9-1.9	1.26	0-0.5 0.5 - 0.9 0.9-1.9 1.9-3.5	Br - Gr Sit Gr - Cl Bl - Sit Br - Sd Cl
S-8	67 N x 15 W	1.2-2.6 2.6 - 3.2	0.53 ND	0-1.2 1.2-2.6 2.6 - 3.2 3.2 - 8.0	Br Gr Gr - Cl Sit Bl - Sit Br - Sl Sd Gr
S-9	35 N x 15 W	1.6-2.1	ND	0-1.3 1.3-1.6 1.6-2.1 2.1 - 4.0	Br - Gr Sit Gr - Cl Bl - Sit Gr - Cl Gr
S-10	0 x 15 W	1.8-2.7	Lost	0-1.8 1.8-2.7 2.7-4.0	Br Gr Sd Bl - Sit Br - Sit Sd Cl
S-11	30 S x 15 W	1.6-2.1	ND	0-1.6 1.6-2.1 2.1 - 4.0	Br - Sd Gr Bl/Br - Sl Sd Br - Sl Cl w Gr
S-12	60 S x 20 E	0.7 - 0.9	ND	0-0.7 0.7 - 0.9 0.9-4.0	Br - Sd Sit Bl/Br - Sd Sit Br - Cl Sd w Gr

TABLE 5
AREA 23
SUMMARY OF GEOPROBE SAMPLING AND ANALYSES
SUPPLEMENTAL SOIL REMEDIATION
INDUSTRIAL DRAINAGEWAY
KENTUCKY AVENUE WELLFIELD SITE
HORSEHEADS, NEW YORK

Sample Number	Location From SW Corner of Area 23 Excavation (N/S) x (E/W) in ft.	Sampling Interval in ft. bgs	Rapid Assay PCB in ppm	Interval Depth in ft. bgs	Lithology
S-13	15 S x 15 E	1.2-1.7 1.7-2.5	ND ND	0-0.7 0.7-1.2 1.2-1.7 1.7-2.5 2.5-2.8	Br - Sd Gr Bt/Br - Cl w Sit Gr Lt Gr - Cl Bl - Sit Br - Cl
S-14	25 N x 5 W	1.1-1.8 1.8-2.8	0.27 ND	0-1.1 1.1-1.8 1.8-2.8 2.8-3.5	Br - Sd Gr w Sit Lt Gr - Cl Bl - Sit Br - Cl Sit w Gr
S-15	50 N x 5 W	1.1 -1.6	0.51	0-0.8 0.8-1.4 1.4-2.1 2.1 -3.4	Br - Sd Gr Sit Bl/Br-ClwGrSd Bl - Sit Br - Sd Gr w Cl
S-16	75 N x 5 W	1.0-1.9	3.24	0-0.8 0.8-1.5 1.5-1.7 1.7-2.3 2.3-3.3	Br - Sd Gr w Sit Br - Cl w Sit Lt Gr - Cl Bl - Sit Br - Sit Sd & Gr w Cl
S-17	15 S x 30 E	1.2-1.8 1.8-2.1	0.62 2.35	0-1.2 1.2-1.8 1.8-2.1 2.1 -2.4 2.4 -3.7	Br - Sit Sd & Gr Br/Bl - Sit Bl - Sit & Lt Gr - Cl Bl - Sit & Lt Gr - Cl Br - Cl
S-18	15 S x 60 E	1.0-1.5 1.5-2.0	ND 6.26	0-1.0 1.0-1.5 1.5-1.8 1.8-2.6 2.6-3.6	Br - Gr Lt Gr - Cl Bl/Br - Sit Bl - Sit Br - Cl

TABLE 6
AREA N
SUMMARY OF GEOPROBE SAMPLING AND ANALYSES
SUPPLEMENTAL SOIL REMEDIATION
INDUSTRIAL DRAINAGEWAY
KENTUCKY AVENUE WELLFIELD SITE
HORSEHEADS, NEW YORK

Sample Number	Station Location of Drainageway	Distance Back from Excavation Limit in ft.	Sampling Interval in ft. bgs	Rapid Assay PCB in ppm	Interval Depth in ft. bgs	Lithology
S-1	13+75	20	2.0 - 3.0 3.0 to 4.3	ND 7.2	0-2.2 2.2-3.0 3.0-4.3 4.3-6.1	Bl - Cndrs & Gr Br Sd w Gr Br - SdGrwStt Gr - Cl w Bl Sit Gr Br - Sit Sd & Gr
S-2	13+75	30	3.5 - 4.2	2.29	0-1.2 1.2-2.5 2.5 - 3.5 3.5-4.2 4.2 - 5.9	Br - Sd & Gr Bl - Cndrs Br - SdGrwSlt Br - Cl w Gr Br - SltSd & Gr
S-3	13+75	10	3.0-3.5	11.95	0-2.1 2.1-3.3 3.3 - 4.4 4.4 - 6.0	Gr - Gr w Sd Bl - Sd Cinders Gr - Cl Br - SltSd & Gr
S-4	13+50	20	2.5-3.5	3.42	0-2.0 2.0-2.5 2.5-3.5 3.5 - 6.0	Gr - Gr & Sd Br - Cl w Cndrs Bl / Br - Cndrs w Cl Br - SltSd & Gr
S-5	13+50	10	2.7 - 3.0 4.0-4.5	ND ND	0-2.7 2.7-3.0 3.0-4.0 4.0-4.5 4.5-6.1	Bl / Gr - Sd & Gr Lt Gr - Cl Br - ClwSdGr/BlCndrs Br - ClwSd & Gr Br - SltSdwGr
S-6	13+25	10	0-3.0 Poor Recovery	ND	0-3.0 3.0-6.0	Bl / Br - Gr Sd Br - Sit Sd / Gr
S-7	13+25	10	2.9-3.7	ND	0-1.5 1.5-2.2 2.2-2.8 2.8-4.0 4.0 - 6.0	Cndrs Br - Sd & Gr Br - Sd Gr Sit Gr - Cl; Blk - Sit Sd Gr Br - Sit Sd Gr
S-8	13+00	20	3.6 - 4.2	0.79	0-1.5 1.5-2.7 2.7-4.5 4.5 - 5.0 5.0 - 6.0	Cndrs Br/Bl - SltSdGr Gr - Slt Cl Gr Br - Cl Br - SltGr
S-9	12+75	20	3.0-3.5	1.47	0-1.9 1.9-3.0 3.0-3.5 3.5 - 8.0	Cndrs Gr Bl/Br - Cl Br - SdwGr
S-10	14+00	10	3.1 - 4.5	4.52	0-3.1 3.1 - 4.0 4.0-4.5 4.5-6.0	Br - Sd Gr Gr - Cl Bl Stain Bl - Sd Gr Br to Gr - Cl
S-11	14+00	20	3.1 - 4.7	3.54	0-2.7 2.7 - 3.5 3.5-4.2 4.2-4.7 4.7-6.0	Cndrs Bl - Sd Gr Gr - Cl Bl - Sd Gr Br - Gr w Sd

/AUMMINGS
VjDITER

TABLE 6
AREAN
SUMMARY OF GEOPROBE SAMPLING AND ANALYSES
SUPPLEMENTAL SOIL REMEDIATION
INDUSTRIAL DRAINAGEWAY
KENTUCKY AVENUE WELLFIELD SITE
HORSEHEADS, NEW YORK

Sample Number	Station Location of Drainageway	Distance Back From Excavation Limit in ft.	Sampling Interval in ft. bgs	Rapid Assay PCB in ppm	Interval Depth in ft. bgs	Lithology
S-12	14+00	30	3.1 -4.4	4.89	0-3.1 3.1 -3.3 3.3-3.5 3.5-4.4 4.4 - 6.0	Cndrs Bl - Sd Gr Gr - Cl Bl - Sd Gr Br - SdGr
S-13	14+25	30	3.5 - 4.0	ND	0-1.9 1.9-4.0	Cndrs Br/Gr - Cl Gr
S-14	14+25	10	4.2 - 5.0	10.48	0-1.3 1.3-3.1 3.1 - 4.0 4.0 - 5.2 5.2 - 7.0	Bl - Cndrs Cly Sd Gr Br/Gr - Cl Sit Bl - Cl Sd Br - Cl Sd Gr
S-15	13+90	30	3.9-4.6	12.75	0-3.9 3.9-4.6 4.6 - 5.2 5.2 - 7.0	Cndrs Fill Bl - Sit & Cl Br - Ct Sit w Sd Br - Sit Sd Gr
S-16	13+75	0	3.0-3.3	ND	0-1.0 1.0-2.0 2.0 - 7.0 7.0 - BlU	Bl -Cndrs LtTn - SltSd&Gr Br - SltY Sd & Cl Br - SdGr
S-17	13+75	40	4.2 - 4.7	6.9	0-2.5 2.5-4.2 4.2-4.7 4.7+	Bl - Sd & Cndrs Tn / Bl - Sd Gr Cl/GrwBl - Slt Br - Cl SdGr
S-18	14+25	20	2.1 -2.6	0.96	0-0.9 0.9 - 2.1 2.1 - 2.3 2.3-2.6 2.6-8	Bl - Cndrs Dark Br - SltY Cl Gr - Cl Bl - SltY Br - SltY Sd Gr
S-19	14+25	0	4.0-4.6 4.6 - 5.1	19.5 ND	0.7 -1.4 1.4-4.0 4.0-4.7 4.7-5.1 5.1 -5.6 5.6-	Br - SltY Gr Br - SltY Cl Gr - Cl Bl - Sit Gr/ Br - Cl Br - SdGr
S-20	14+75	20	4.3-4.4	ND	1.5-2.6 2.6 - 3.7 3.7-4.3 .43 - 4.4 4.4 - 5.8	Bl - Gr Sd w Cndrs Bl - Cl Sit Sd Gr - Br Gr w Sit Sd Gr - Cl Br - GrGrSltSd
S-21	15+00	15	3.3 - 3.9	ND	2.5 - 3.3 3.3-3.5 3.5 - 3.7 3.7 - 3.9	Br - Bl Sd Gr Fill Bl - Cl Sd Gr - Cl Bl - Sd Cl Sit
S-22	14+75	0	2.5-3.1	ND	0-2 2.0-2.5 2.5-2.8 2.8-3.1 3.1 -3.7	No Sample Br - SdCl&Gr Bl -Gr Cl Bl - Gr Cl Br - SdGr Sit

UMMINGS
ITER

TABLE 6
AREAN
SUMMARY OF GEOPROBE SAMPLING AND ANALYSES
SUPPLEMENTAL SOIL REMEDIATION
INDUSTRIAL DRAINAGEWAY
KENTUCKY AVENUE WELLFIELD SITE
HORSEHEADS, NEW YORK

Sample Number	Station Location of Drainageway	Distance Back From Excavation Limit in ft.	Sampling Interval in ft. bgs	Rapid Assay PCB in ppm	Interval Depth in ft. bgs	Lithology
S-23	14+75	10	2.3 - 2.8	ND	0 - 2 2.0-2.3 2.3-2.8 2.8-3.7	No Sample Br - Sd Gr Bl - Sit Br-SdGr
S-24	14+50	0	No Sample		3.0-3.5 3.5-4.0 4.0-5.2	Br/Bl-GrwSd Br-GrwCl Gr/Br - Sd Gr
S-25	14+50	10	1.9-3.1 3.0 - 3.5	ND ND	0-1.9 1.9-3.0 3.0-3.5 3.5-4.3 4.3 - 6.0	Bl-SltwGr Bl/Gr - Cl w Sd Sit Bl - Cl Sit Br-ClGrwSlt Gr - Sd Gr
S-26	14+50	20	2.0 - 3.4 3.2 - 3.8	ND ND	0-2.0 2.0 - 3.4 3.4 - 4.1 4.1 -5.5	Gr/Bl-GrSdwCl Bl-SltwGr Br - Sit w Gr Br/Gr-SdwGr
S-27	13+75	60	2.0-2.5 3.3-3.8 3.8-4.3	ND ND ND	0 - 2 2.0-2.5 2.5-3.6 3.6 - 3.8 3.8-4.2 4.2-6.0	No Sample Bl - Sd Sit w Cl Bl-ClSltwGr Gr-Cl Bl - Sit w Sd Br - Cl w Sit
S-28	13+75	50	2.9 - 3.6	ND	0-2.0 2.0-2.6 2.6-2.9 2.9-3.6 3.6-6.0	No Sample Bl - Sd Sit Gr - Gr w Sd Bl - Sit Br-ClwGr
S-29	13+50	80	4.8-5.2 5.2 - 6.0	ND ND	0-2.0 2.0-2.7 2.7-3.6 3.6-4.5 4.5-5.2 5.2 - 6.0 6.0 - 8.0	No Sample Bl - Sd Sit Bl - Cl Gr Bl - Sit Sd Gr Fine Gr-Cl Bl - Sit Br - Sit Sd Cl w Gr

TABLE 7
SUMMARY OF POST-EXCAVATION CONFIRMATORY SAMPLING DATA
SUPPLEMENTAL SOIL REMEDIATION
INDUSTRIAL DRAINAGEWAD
KENTUCKY AVENUE WELLFIELD SITE
HORSEHEADS, NEW YORK

Excavated Area	Location	Sample Number	Date Sampled	Total PCB Concentration (mg/kg)	
				Grab	Composite
Area N	East of 13+60 to 13+90	13+50S	9/20/2004	0.12	
Area N	East of 13+90	13+90	9/20/2004	0.23	
Area N	East of 14+10 to 14+40	14+25	9/20/2004	3.0	
Area 23	West of Original Excavation	Area 23 West	9/17/2004		0.98
Area 23	South of Original Excavation	Area 23 South	9/23/2004		ND

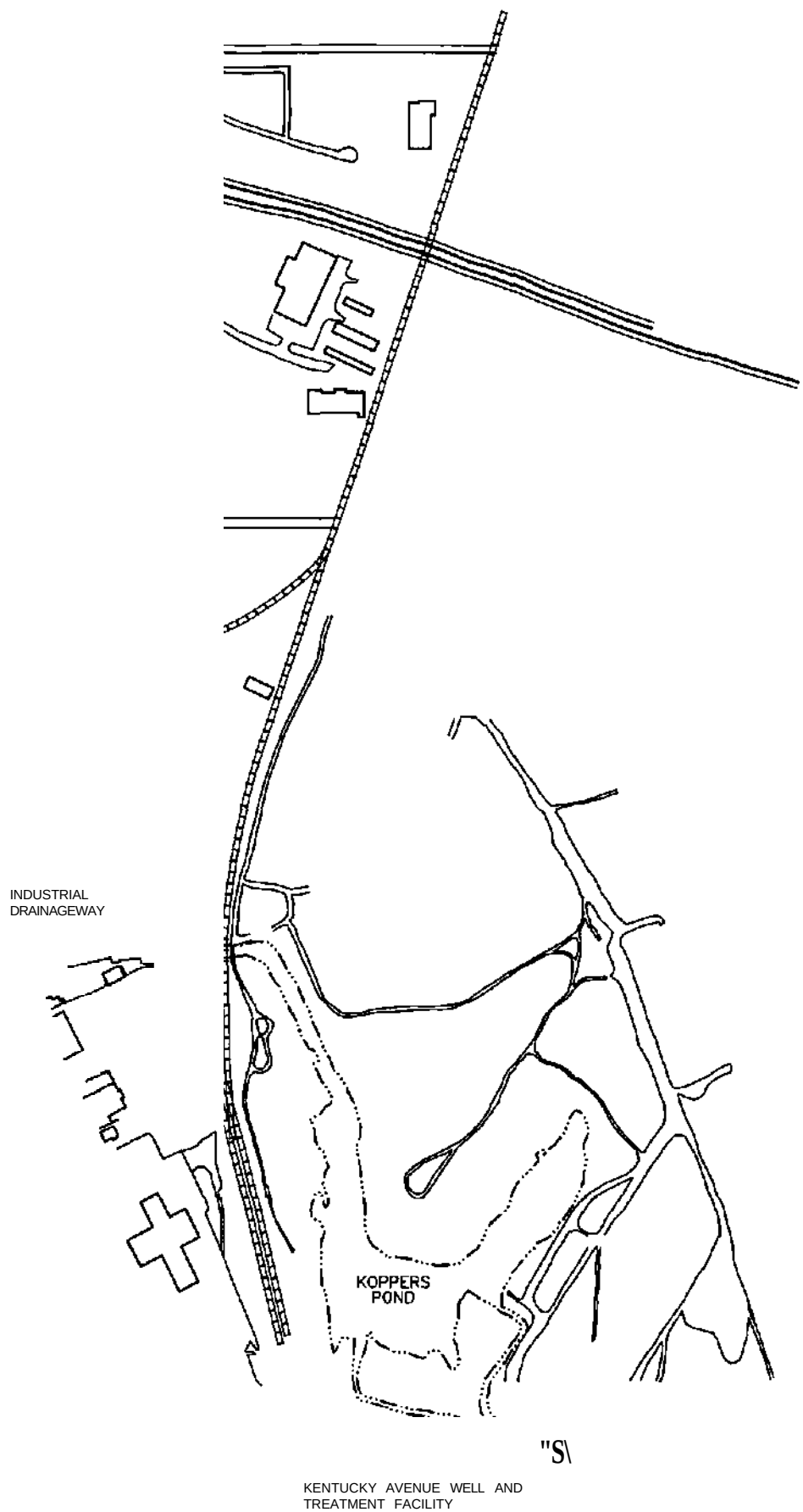
SUMMINGS
KF>ITER



FIGURES

*/^iUMMINGS
(F)ITER*

1ESEUQ
APPROXIMATE PROPERTY BOUNDARY
(FORMER WESTINGHOUSE FACILITY)
FENCE
BW-1, BARRIER WELL INSTALLED UNDER OU2



SCALE
400 400 800 FEET

FIGURE 1
SITE PLAN

KENTUCKY AVENUE WELLFIELD SITE - OU3
HORSEHEADS, NEW YORK

PREPARED FOR
VIACOM INC.

PITTSBURGH, PENNSYLVANIA

CUMMINGS
***&ITER**

J\ CONSULTANTS INC

DRAWN BY: T.E. McKee

CHECKED BY: ft Geno

APPROVED BY: W. Smith

DRAWING NUMBER

98245B1

DATE 3-5-98

DATE 3-19-98

DATE 3- 19-98

REFERENCE:

BASE MAP PROVIDED BY PHILLIP ENVIRONMENTAL SERVICES CORPORATION
DRAWING NUMBER 427100BV, TTLED "STUDY AREA BASE MAP", DATED 8-31-95.

REVISION	DATE	DESCRIPTION

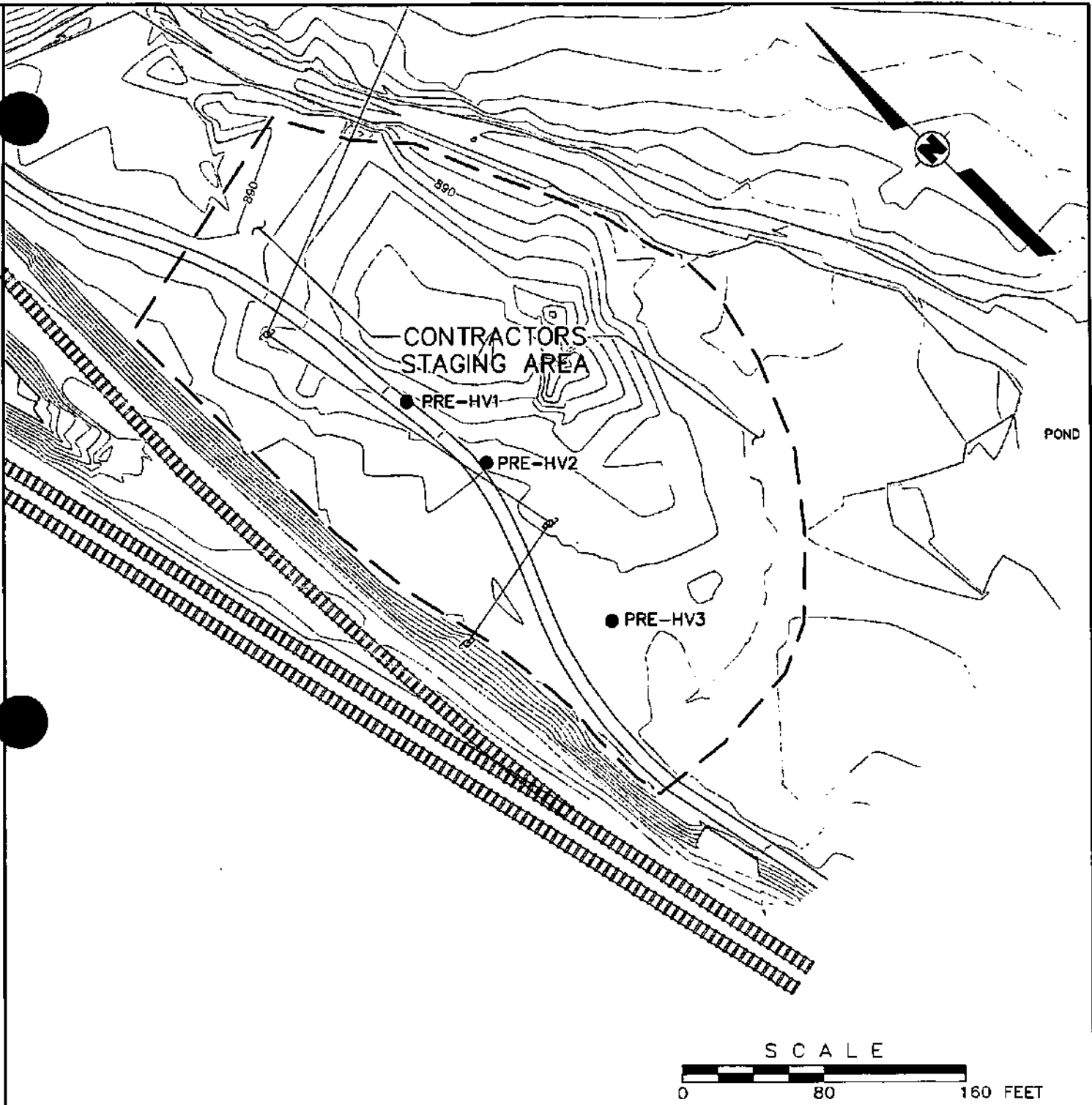
GW

JvaMwuMfnnc
nwoaii Busqtunns
339 Hurmakar B w l
Parkway Buldjin* Suit* E01
ltoafwUia. Pj 1S1M
(412) 373-32M
Fit: (4S) 373-S24l

DRAWN BY: T.N. Flznr
CHECKED BY: _____

FIGURE 2
INDUSTRIAL DRAINAGWAY
LAYOUT PUMPING PLAN
KENTUCKY AVENUE WELLF10D SITE - 0U3
HORSEHEADS, NEW YORK
PREPARED FOR
VIACOM INC.
PITTSBURCH, PENNSYLVANIA
SIZE
E SCALE 1" = 00'
DATE J-25-0J
DRAWING NUMBER
98245E20

DRAWING
NUMBER 98245A1



LEGEND

- PRE-HV3 APPROXIMATE LOCATION OF
PRE-CONSTRUCTION SOIL SAMPLE
- ^ UTILITY POLE

FIGURE 3
VILLAGE OF HORSEHEADS PRE-CONSTRUCTION
SOIL SAMPLE LOCATIONS

KENTUCKY AVENUE WELLFIELD SITE - 0U3
HORSEHEADS, NEW YORK

PREPARED FOR
VIACOM INC.
PITTSBURGH, PENNSYLVANIA

**nUMMINGS
*&ITER**

J1 CONSULTANTS INC

DRAWING NUMBER
98245A1

DRAWN BY: T.N. Fitzroy
CHECKED BY: W.C. Smith
APPROVED BY: W.C. Smith

DATE 8-26-02
DATE 8-27-02
DATE 8-27-02

REVISION	DATE	DESCRIPTION

LEGEND

(*) ORIGIN OF SAMPLE

S-1 TO S-28 ANALYST IDENTIFICATION

0.00 TO 1.00 VERTICAL ORIENTATION AREA

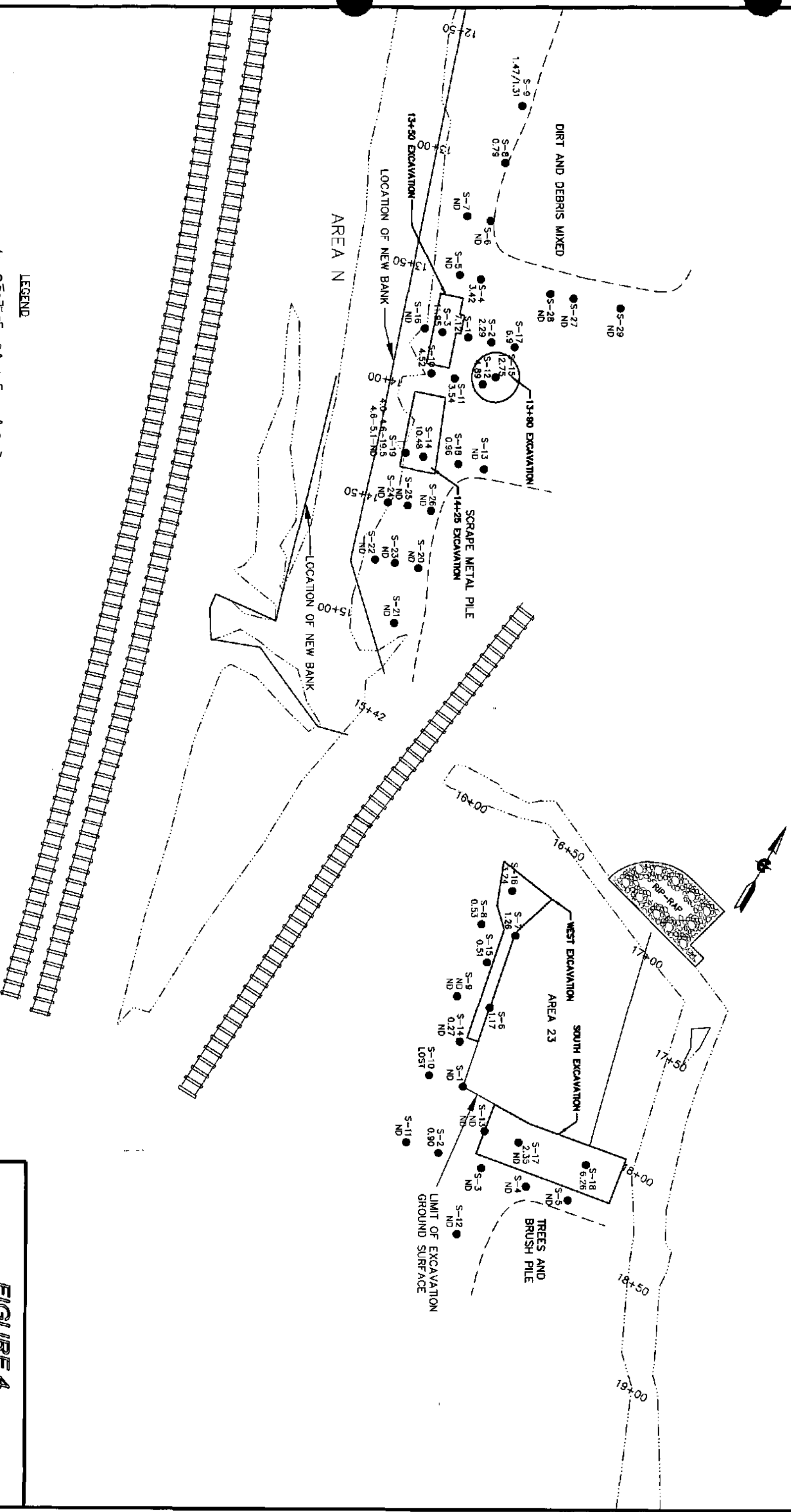


FIGURE 4

SUPPLEMENTAL SOIL REMEDIATION

AREAS N AND 23

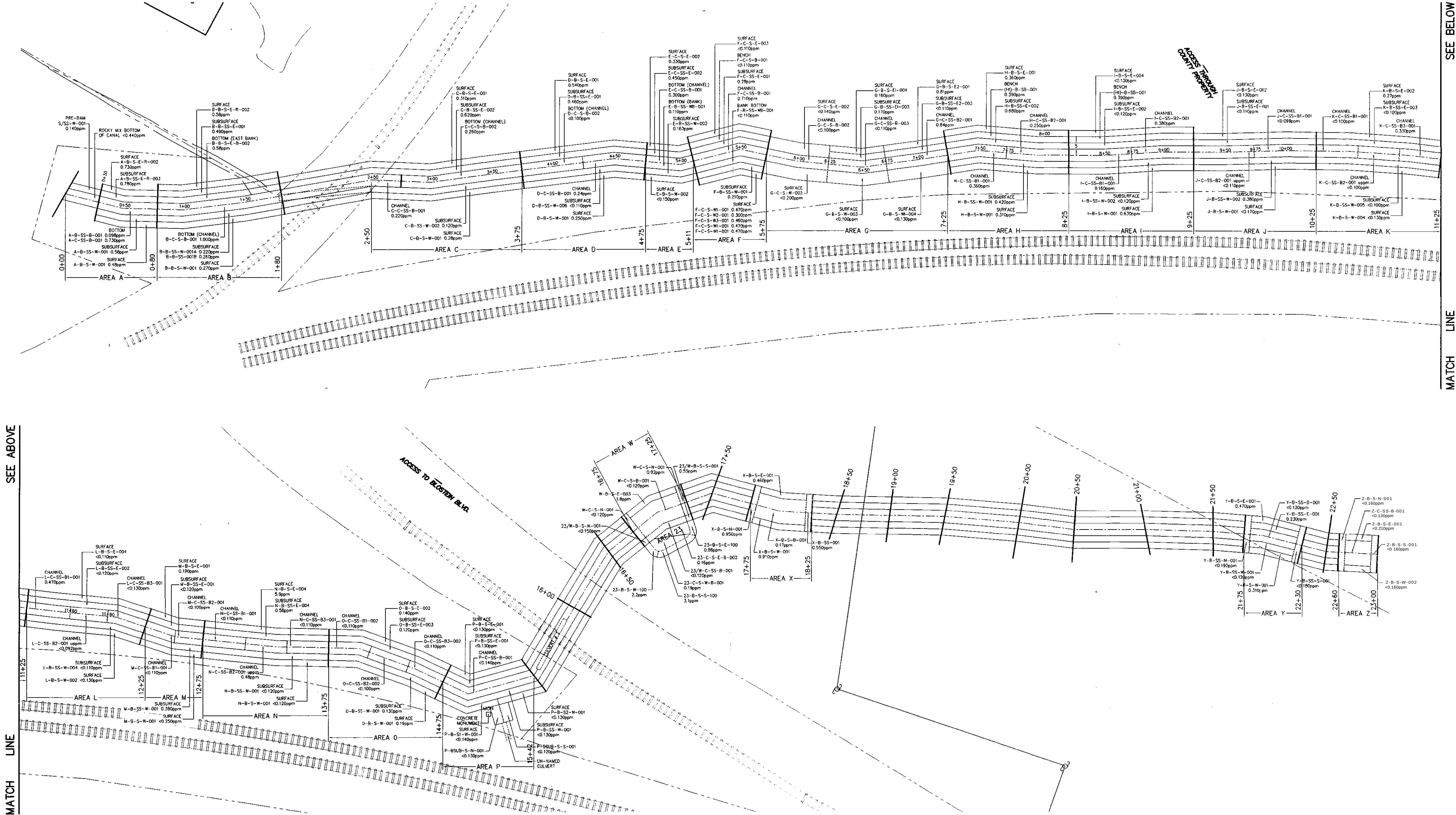
SCALE : 1"=40'

SEPTEMBER 2004



APPENDIX A

RECORD DRAWINGS



SEE ABOVE

MATCH LINE

SEE BELOW

MATCH LINE

I hereby certify that the foregoing is a true and correct copy of the original as submitted to me for filing, and that the same has been filed in my office.



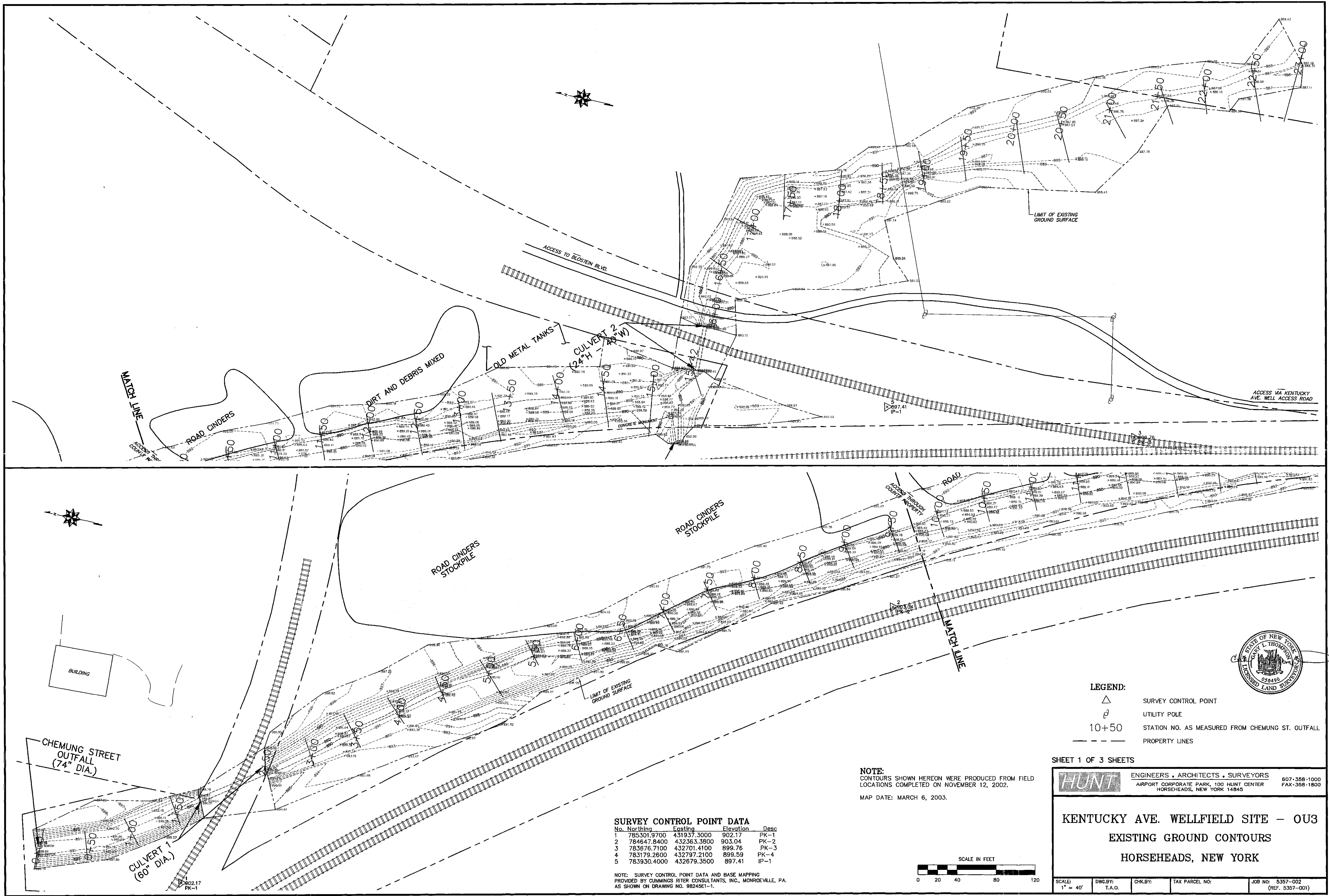
DATE: 3/20/03

(BS/WESTINGMOISE HORSEHEADS
KENTUCKY AVENUE
WELL! IELD-OU3
TOWN OF HORSEHEADS, CHEMUNG COUNTY, NEW YORK
INDUSTRIAL DRAINAGE WAY
CONFIRMATORY SAMPLE ID
RESULT

3/20/03
1"=40'

FAGAN ENGINEERS
Environmental Consultants
113 East Chemung Place
Elmira, N.Y. 14904
(607) 734-2165

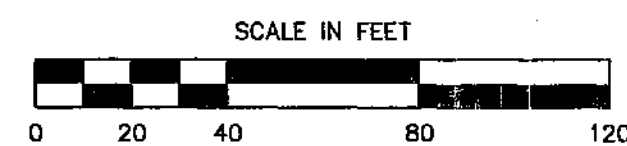
MS-14
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MS-14
S(PS-S
MS-14
S(PS-S



SURVEY CONTROL POINT DATA			
No.	Northing	Easting	Elevation Desc
1	785301.9700	431937.3000	902.17 PK-1
2	784647.8400	432363.3800	903.04 PK-2
3	783876.7100	432701.4100	899.76 PK-3
4	783179.2600	432797.2100	899.59 PK-4
5	783930.4000	432679.3500	897.41 IP-1

NOTE: SURVEY CONTROL POINT DATA AND BASE MAPPING PROVIDED BY CUMMINGS RITER CONSULTANTS, INC., MONROEVILLE, PA. AS SHOWN ON DRAWING NO. 98248E1-1.

NOTE:
CONTOURS SHOWN HEREON WERE PRODUCED FROM FIELD LOCATIONS COMPLETED ON NOVEMBER 12, 2002.
MAP DATE: MARCH 6, 2003.



LEGEND:	
	SURVEY CONTROL POINT
	UTILITY POLE
10+50	STATION NO. AS MEASURED FROM CHEMUNG ST. OUTFALL
	PROPERTY LINES

SHEET 1 OF 3 SHEETS

HUNT

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AIRPORT CORPORATE PARK, 100 HUNT CENTER
HORSEHEADS, NEW YORK 14845

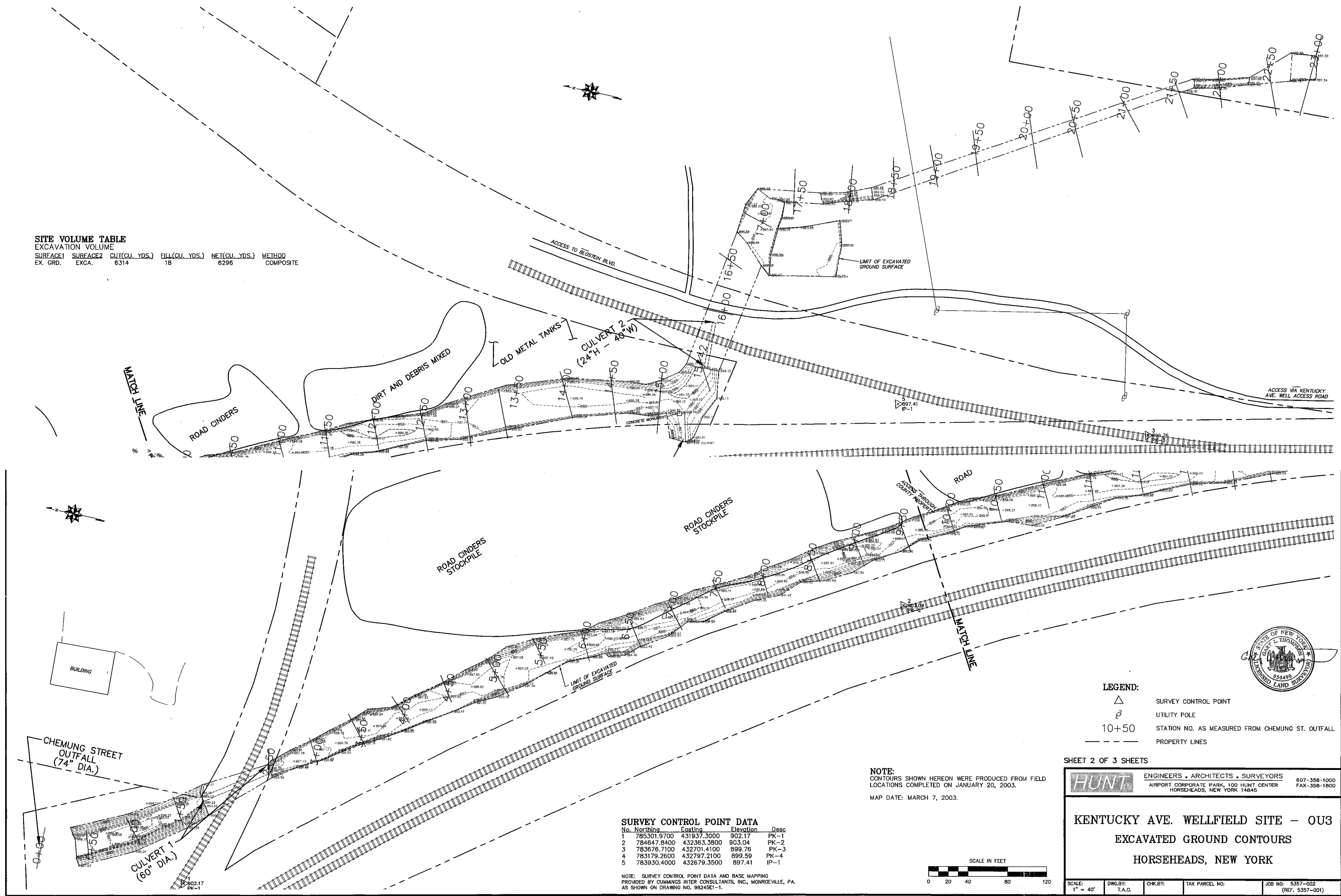
607-358-1000
FAX-358-1800

KENTUCKY AVE. WELLFIELD SITE - OU3
EXISTING GROUND CONTOURS
HORSEHEADS, NEW YORK

SCALE: 1" = 40'	DWG.BY: T.A.O.	CHK.BY:	TAX PARCEL NO:	JOB NO: 5357-002 (REF. 5357-001)

SITE VOLUME TABLE
EXCAVATION VOLUME

SURFACE	SURFACE2	CUT(CU. YDS.)	FILL(CU. YDS.)	NET(CU. YDS.)	METHOD
EX. GRD.	EXCA.	6314	18	6296	COMPOSITE

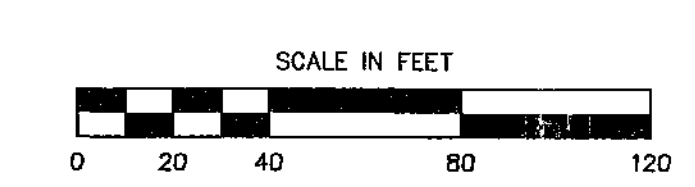


SURVEY CONTROL POINT DATA

No.	Northing	Easting	Elevation	Desc
1	785301.9700	431937.3000	902.17	PK-1
2	784647.8400	432363.3800	903.04	PK-2
3	783676.7100	432701.4100	899.76	PK-3
4	783179.2600	432797.2100	899.59	PK-4
5	783930.4000	432679.3500	897.41	IP-1

NOTE: SURVEY CONTROL POINT DATA AND BASE MAPPING PROVIDED BY CUMMINGS RITER CONSULTANTS, INC., MONROEVILLE, PA. AS SHOWN ON DRAWING NO. 98245E1-1.

NOTE:
CONTOURS SHOWN HEREON WERE PRODUCED FROM FIELD LOCATIONS COMPLETED ON JANUARY 20, 2003.
MAP DATE: MARCH 7, 2003.



- LEGEND:**
- △ SURVEY CONTROL POINT
 - ⊕ UTILITY POLE
 - 10+50 STATION NO. AS MEASURED FROM CHEMUNG ST. OUTFALL
 - PROPERTY LINES

SHEET 2 OF 3 SHEETS

HUNT
ENGINEERS • ARCHITECTS • SURVEYORS
AIRPORT CORPORATE PARK, 100 HUNT CENTER
HORSEHEADS, NEW YORK 14845

607-358-1000
FAX-358-1800

KENTUCKY AVE. WELLFIELD SITE - OUS
EXCAVATED GROUND CONTOURS
HORSEHEADS, NEW YORK

SCALE: 1" = 40'	DWG.BY: T.A.O.	CHK.BY:	TAX PARCEL NO:	JOB NO: 5357-002 (REF. 5357-001)



SITE VOLUME TABLE

BACK FILL VOLUME

SURFACE1	SURFACE2	CUT(CU. YDS.)	FILL(CU. YDS.)	NET(CU. YDS.)	METHOD
EXCA.	B-FILL	30	4533	4503	COMPOSITE

MATCH LINE

ROAD CINDERS

DIRT AND DEBRIS MIXED

OLD METAL TANKS

CULVERT 2
(24" H - 40" W)

CONCRETE MONUMENT

LIMIT OF BACK FILL SURFACE

ACCESS VIA KENTUCKY AVE. WELL ACCESS ROAD



BUILDING

CHEMUNG STREET
OUTFALL
(74" DIA.)

CULVERT 1
(60" DIA.)

ROAD CINDERS
STOCKPILE

ROAD CINDERS
STOCKPILE

MATCH LINE

LEGEND:

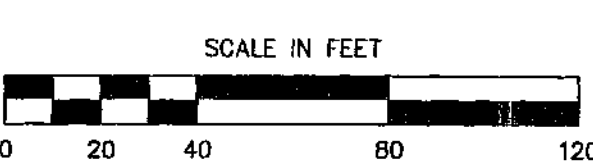
- SURVEY CONTROL POINT
- UTILITY POLE
- 10+50 STATION NO. AS MEASURED FROM CHEMUNG ST. OUTFALL
- PROPERTY LINES

SHEET 3 OF 3 SHEETS

NOTE:
CONTOURS SHOWN HEREON WERE PRODUCED FROM FIELD LOCATIONS COMPLETED ON MARCH 3, 2003.
MAP DATE: MARCH 7, 2003.
REVISED MAY 13, 2003.

No.	Northing	Easting	Elevation	Desc
1	785301.9700	431937.3000	902.17	PK-1
2	784647.8400	432363.3800	903.04	PK-2
3	783676.7100	432701.4100	899.76	PK-3
4	783179.2600	432797.2100	899.59	PK-4
5	783930.4000	432679.3500	897.41	IP-1

NOTE: SURVEY CONTROL POINT DATA AND BASE MAPPING PROVIDED BY CUMMINS RITER CONSULTANTS, INC., MONROEVILLE, PA. AS SHOWN ON DRAWING NO. 9824SE1-1.



HUNT ENGINEERS • ARCHITECTS • SURVEYORS
AIRPORT CORPORATE PARK, 100 HUNT CENTER
HORSEHEADS, NEW YORK 14845
607-358-1000
FAX-358-1800

KENTUCKY AVE. WELLFIELD SITE - OU3
BACK FILL CONTOURS
HORSEHEADS, NEW YORK

SCALE: 1" = 40'	DWG.BY: T.A.G.	CHK.BY:	TAX PARCEL NO:	JOB NO: 5357-002 (REF. 5357-001)

APPENDIX B

POST-EXCAVATION VERIFICATION AND POST-CONSTRUCTION BACKGROUND SOIL SAMPLE LABORATORY RESULTS (ELECTRONIC DATA)

rvJMMINGS
K&ITER

APPENDIX C

SAMPLING MEMORANDUM

M E M O

TO: Isabel Rodrigues (USEPA Region II) September 16, 2002
Terence Chuhay (CDM Federal Programs Corp.)
Aaron Gorges (Fagan Engineers)
Peter Poter (AAA Environmental Services, Inc.)
Leo Brausch (Viacom Inc.)

FROM: Bruce Geno Project No. 245.20/04
Cummings/Riter Consultants, Inc.

RE: **POST-EXCAVATION SAMPLE DOCUMENTATION**
INDUSTRIAL DRAINAGEWAY REMEDIATION - HORSEHEADS, NEW YORK

This memo provides clarification to post-excavation sampling requirements for sediment and bank soil remediation in the Industrial Drainageway.

- Sidewall samples of both sediments and bank soils will be collected at a frequency of 1 sample per 200 square feet of exposed sidewall, with a minimum of one sample for each sidewall in each discrete excavation. Sidewall samples will be collected in both the transectional and longitudinal directions.
- Bottom samples from both sediment and bank soil excavations will be collected at a frequency of 1 sample per 900 square feet of excavation, with a minimum of one bottom sample for each discrete excavation.
- Each sidewall and bottom sample will be collected as a composite sample consisting of five equal volume aliquots distributed evenly throughout the sidewall or bottom surface, respectively. There may be exceptions for small excavations, with concurrence of the USEPA oversight engineer.
- Although the Remedial Action Work Plan (Cummings/Riter Consultants, Inc., August 15, 2001) calls for the collection of additional sidewall samples for every additional two-foot depth increment, the New York State Department of Environmental Conservation *Technical Administrative Guidance Memorandum on Determination of Soil Cleanup Objectives and Cleanup Levels* (TAGM) distinguishes between surface soil (zero to two-foot depth) and subsurface soil (greater than two-foot depth). Therefore, it is consistent with the TAGM that sidewall samples be collected from two zones: zero to two feet and greater than two feet. USEPA has agreed to this practice.

/s/ CUMMINGS
JDITER

With USEPA concurrence, the sample designation has been modified from the Sampling and Analysis Plan (Cummings/Riter Consultants, Inc., Remedial Action Work Plan, Appendix B) to help track sample locations. Samples will be labeled with a series of four letters followed by a sample number, as follows:

A-B-S-N-001

where,

- first letter: Industrial Drainageway stationing: A= STA. 0+00 to 1+00, etc.
- second letter: B = bank sample or C = channel sample
- third letter: surface (S, less than two feet deep) or subsurface (SS, greater than two feet deep) sample,
- fourth letter: compass direction (north, south, east or west) for sidewall samples, or B = bottom samples, and
- number is numerical order of sample collected.

Quality control requirements do not include trip blank analysis.

Sample locations do not need to be surveyed; however, as-built drawings of completed excavations shall indicate sample locations.

Analysis of all confirmatory samples must be reported as Level IV data.

/^UMMINGS
\\E)ITER



APPENDIX D

DATA VALIDATION REPORT

APR 29 2003

Data Validation Report

Cummings-Riter Consultants, Inc.

Kentucky Avenue Wellfield Site OU3 - Horseheads, New York

SDG# 94773, 95433,9717^/97224,

94538,94081,94662

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^ \ L > C ^
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ECT.CON INC.

Environmental and Computer
Technology Consultants

3531 Fox Chase Drive
Imperial, PA 15126
(724) 695-8042
FAX (724) 695-2698
e-mail: ECTCONINC@aol.com



ECT.CONINC

Environmental and Computer
Technology Consultants

Data Validation Report

SDG#	94773
Validation Report Date	April 28,2003
Validation Guidance	USEPA Region 2 Guidelines for Data Review SW 846 Method 8082
Client Name	Cummings-Riter
Project Name	Viacom/Horseheads
Laboratory	Friend Laboratory Inc.
Method(s) Utilized	SW 846 8082
Analytical Fraction	PCBs

Samples/Matrix:

Date Sampled	Sample ID	Laboratory ID	PCBs	Matrix
9/30/02	C-B-S-W-001	94773-1	X	Solid
9/30/02	C-B-SS-W-001	94773-2	X	Solid
9/30/02	C-C-S-B-001	94773-5	X	Solid
9/30/02	C-C-SS-B-001	94773-6	X	Solid
9/30/02	C-B-SS-B-001	94773-7	X	Solid
9/30/02	C-B-SS-E-001	94773-8	X	Solid
9/30/02	C-B-S-E-001	94773-9	X	Solid <i>M</i>

Analytical data in this report were screened to determine analytical limitations of the data based on specific quality control criteria. This screening assumes analytical results are correct as reported and merely provides an interpretation of the reported quality control results. A minimum of 10% of laboratory calculations has been verified as part of this validation. Specific findings on analytical limitations are presented in this report. Annotated Form Is or spreadsheets for samples reviewed are included after the Data Assessment Findings. Form Is for the MS/MSD samples and spreadsheets are not annotated.

SUMMARY

The sample set for Viacom/Horsehead consists of seven solid field samples. These samples were analyzed for the parameters as provided above. The findings presented in this review of the analytical data assume that the information presented by the analytical laboratory is correct. This review is identified as a false positive/false negative review, and therefore, does not include the review of some quality control (QC) items. Those included in the review are listed below.

The polychlorinated biphenyl (PCBs) findings are based upon the assessment of the following:

False Positives/False Negatives Validation

- * • Data Completeness
 - * • Holding Times
 - * • Calibration and GC Performance
 - * • Blanks
 - * • Analytical Sequence Check
 - * • Target Compound Identification
 - Compound Quantitation and Reported Detection Limits
 - * • Chromatogram Quality
- * Criteria were met for this evaluation item.

This evaluation was conducted in accordance with USEPA Region II SOP No. HW-23B (May 2002), USEPA CLP National Functional Guidelines for Organic Data Review and the analytical method. Findings from this evaluation should be considered when using the analytical data. This report presents a summary of the data qualifications based on the review of the aforementioned evaluation criteria. This is followed by annotated Form Is/spreadsheets. Finally, the worksheets used to perform the evaluation are provided.

FINDINGS**Polychlorinated Biphenyls (PCBs)****1. Compound Quantitation**

The percent difference between columns exceeded the 25% quality control limit. For the following samples and compound, qualify PCB results as indicated in the table below. Samples were qualified based on SOP HW-23, Section 12.6.

Sample	Compound	% Difference	Qualifier
C-C-S-B-001	Aroclor 1254	81.1%	NJ
C-B-SS-B-001	Aroclor 1254	34.3%	J
C-B-S-E-001	Aroclor 1254	50%	J

NOTES**Polychlorinated Biphenyls (PCBs)****Completeness**

The USEPA Region II SOP No. HW-23B has the following sections that are not applicable to this project because it is a false positive/false negative review:

- Surrogate Recovery (Form 2) ,
- Laboratory Control Sample
- Matrix Spikes (Form 3)
- Contamination
- GC Apparatus and Materials
- Extraction Techniques for Sample Preparation
- Field Duplicates

The cooler temperature upon receipt at the laboratory was 0 C. Data are not qualified upon this basis.

Calibration

The laboratory used linear regression to calculate PCB results. The use of linear regression is permissible for SW-846 methodologies. The laboratory met the acceptance criteria specified in Section 7.5.2 of Method 8000B (r value greater than or equal to 0.99).

Data summary forms (including calibration factors) for the initial and continuing calibration is not provided for the second column except for Aroclor 1254. The second column is used only for fingerprint confirmation, therefore, the laboratory does not provide the calibration factor information. Because Aroclor 1254 was identified as a constituent of concern, the data summary information for the second column is provided for the continuing calibration. Data are not qualified on this basis.

The percent difference (%D) per peak for multi-standard Aroclors are provided. For SW 846, the laboratory used the average Aroclor concentration to determine the %D. Data are not qualified because the average value is used.

Retention Time

Retention time windows are not determined by the use of three standards for single standard calibration Aroclors. The center of the retention time window is defined as the retention time of the midpoint standard from the initial calibration. For the multi-standard calibration Aroclors, the center of the retention time window is the mean of the retention time generated from each standard. The retention time windows are the mean + 0.1 minutes. Data are not qualified on this basis.

Retention time windows are not provided for the second column except for Aroclor 1254. The second column is used only for fingerprint confirmation, therefore, the laboratory does not provide the retention time window information. Because Aroclor 1254 was identified as a constituent of concern, the retention time information for the second column is provided. Data are not qualified on this basis.

Compound Quantitation

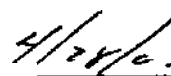
Samples were analyzed and reported at a dilution due to the presence of target compounds. Dilutions for samples are presented below. Reporting limits were adjusted for percent solids and dilutions.

C-B-S-W-001, C-B-SS-W-001, C-C-S-B-001, C-C-SS-B-001,
C-B-SS-B-001, C-B-SS-E-001, C-B-S-E-001_____

IOx



)ata Reviewer



Date

Glossary of Data Qualifiers

U	Not Detected.	The associated number indicates approximate sample concentration necessary to be detected.
UJ	Not Detected.	Quantitation limit may be inaccurate or imprecise.
J	Analyte Present.	Reported value may not be accurate or precise.
N	Consider Present.	Tentative identification. Special methods may be needed to confirm its presence or absence in future sampling efforts.
R	Unusable Result.	Analyte may or may not be present in the sample.
UR	Unusable Result.	Analyte may or may not be present in the sample.

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ECT.CON INC.

Environmental and Computer
Technology Consultants

Annotated Form 1's
(Spreadsheet)

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HORATORY
N • C

32 ITHACA STREET
TELEPHONE (607) 565-3600

WAVERLY, NY 14892-1532
PAX (607) 565-4083

Date: 04-OCT-2002

Lab Sample ID: L94773-1

AAA Environmental
Peter Porter
667 9 Moore Road
Syracuse, NY 13211

Sample Source: VIACOM/HORSEHEADS 19208
Origin: Q-B-S-W-001
Description: ; ^-COMPOSITE
Sampled On: 30-SEP-02 16:45 by CLIENT
Date Received: ; 01-QCT-02 09:00

Analysis Performed	Result	Units	Detection Limit	Date Analyzed	Method	Notebook Reference
Total Solids	56.6			01-OCT-02 00:00	CLP 3.0	02-066-79
EPA 6082						
PCB 1016	U	ug/kg	170	04-OCT-02 10:30	EPA 8082	02-004-9998
PCB 1221	U	ug/kg	350	04-OCT-02 10:30	EPA 8082	02-004-9998
PCB 1232	U	ug/kg	170	04-OCT-02 10:30	EPA 8082	02-004-9998
PCB 1242	U	ug/kg	170	04-OCT-02 10:30	EPA 8082	02-004-9998
PCB 1248	U	ug/kg	170	04-OCT-02 10:30	EPA 8082	02-004-9998
PCB 1254	280	ug/kg	170	04-OCT-02 10:30	EPA 8082	02-004-9998
PCB 1260	U	ug/kg	170	04-OCT-02 10:30	EPA 8082	02-004-9998

Extraction Information:

Surrogate Recovery:				02-OCT-02 00:00	EPA 3550	02-044-92
Tetrachloro-m-xylene	82					02-004-9998
Polychlorobiphenyl	96					02-004-9998

Results calculated on a dry weight basis.

Approved by: 
Lab Director

Page 1 of 1
NY 10252 NJ 73168 PA 68180 EPA NY 00033

QC 

KEY: ND o/ U = None Detected < = less than ug/L = micrograms per liter (equivalent to parts per billion)
mg/L = milligram per liter (equivalent to parts per million) mg/kg = milligrams per kilogram (equivalent to parts per million)
^ ^ ^ L ^ ^ L - - - = 8na l yte was detected in the method or trip blank J = result estimated below the J quantitation limit

Information in this report is accurate to the best of our knowledge and ability. In no event shall our liability exceed the cost of our services. Your samples will be discarded after 14 days unless we are advised otherwise.

FLI

ELI

32 ITHACA STREET
TELEPHONE (607) 565-3500

WAVERLY, NY 14892-1532
FAX (607) 565-4083

F R I E N D
L A B O R A T O R Y
I N C

Date: 04-OCT-2002

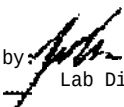
Lab Sample ID: L94773-2

AAA Environmental
Peter Porter
6679 Moore Road
Syracuse, NY 13211

Sample Source : VIAGOM/HORSEHEADS 1920S
Origin : C-B-SS-U-OOI
Description : COMPOSITE
Sampled On: 30-SEP-02 16:50 by CLIENT
Date Received: 01-OCT-02 09:00
P.O. No : N/A

Analysis Performed	Result	Units	Detection Limit	Date Analyzed	Method	Notebook Reference
Total Solids	55.8			01-OCT-02 00:00	CLP 3.0	02-066-79
EPA S082						
PCB 1016	U	ug/kg	160	04-OCT-02 13:08	EPA 8082	02-004-0004
PCB 1221	U	ug/kg	330	04-OCT-02 13:08	EPA 8082	02-004-0004
PCB 1232	U	ug/kg	160	04-OCT-02 13:08	EPA 8082	02-004-0004
PCB 1242	U	ug/kg	160	04-OCT-02 13:08	EPA 8082	02-004-0004
PCB 1248	U	ug/kg	160	04-OCT-02 13:08	EPA 8082	02-004-0004
PCB 1254	4100	ug/kg	160	04-OCT-02 13:08	EPA 8082	02-004-0004
PCB 1260	u	ug/kg	160	04-OCT-02 13:08	EPA 8082	02-004-0004
Extraction Information:						
				02-OCT-02 00:00	EPA 3550	02-044-92
Surrogate Recovery:						
Tetrachloro-m-xylene	80					02-004-0004
Dechlorobiphenyl	97					02-004-0004

Results calculated on a dry weight basis.

Approved by: 
Lab Director

Page 1 of 1
NY 10252 NJ 73168 PA 68180 EPA NY 00033

QC [^] ~~TL~~

KEY: MD or U = None Detected < = less than ug/L = micrograms per liter (equivalent to parts per billion)
mg/C = milligram per liter (equivalent to parts per million) mg/kg = milligrams per kilogram (equivalent to parts per million)
^ f l ^ _ = analyte was detected in the method or trip blank - result estimated below the quantitation limit

Information in this report is accurate to the best of our knowledge and ability. In no event shall our liability exceed the cost of these services. Your samples will be discarded after 14 days unless we are advised otherwise.

ELI

ENVIRONMENTAL
LABORATORY

82 ITHACA STREET
TELEPHONE (607) 565-3500

WAVERLY, NY 14892-1532
PAX (607) 565-4083

Date: 04-OCT-2002

Lab Sample ID: L94773-5

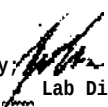
AAA Environmental
Peter Porter
6679 Moore Road
Syracuse, NY 13211

Sample Source: VACOT/HORSEHEADS 1920S
Origin: C-C-.S'BAQQI
Description: COMPOSpE
Sampled On: 30RS|p^p'16:50 by CLIENT
Date Received: p1r.0Ci^l:p9;00
P.O. No;

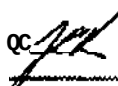
Analysis Performed	Result	Units	Detection Limit	Date Analyzed	Method	Notebook Reference
Total Solids	56.1			01-OCT-02 00:00	CLP 3.0	02-066-79
<u>EPA 8082</u>						
PCB 1016	U	ug/kg	170	04-OCT-02 13:39	EPA 8082	02-004-0005
PCB 1221	U	ug/kg	330	04-OCT-02 13:39	EPA 8082	02-004-0005
PCB 1232	U	ug/kg	170	04-OCT-02 13:39	EPA 8082	02-004-0005
PCB 1242	U	ug/kg	170	04-OCT-02 13:39	EPA 8082	02-004-0005
PCB 1248		ug/kg	170	04-OCT-02 13:39	EPA 8082	02-004-0005
PCB 1254	6800 fJ)	ug/kg	170	04-OCT-02 13:39	EPA 8082	02-004-0005
PCB 1260	U	ug/kg	170	04-OCT-02 13:39	EPA 8082	02-004-0005
Extraction Information:				02-OCT-02 00:00	EPA 3550	02-044-92
Surrogate Recovery:						
Tetrachloro-m-xylene	98					02-004-0005
Decachlorobiphenyl	135					02-004-0005

DMB
4/28/03

Results calculated on a dry weight basis.

Approved by: 
Lab Director

Page 1 of 1
NY 10252 NJ 73168 PA 68180 EPA NY 00033

QC 

KEY: ND o/ U = None Detected < = less than ug/L = micrograms per liter (equivalent to parts per billion)
mg/L = milligram per liter (equivalent to parts per million) mg/kg * milligrams per kilogram (equivalent to parts per million)
= analyte was detected in the method or trip blank J = result estimated below the quantitation limit

Information in this report is accurate to the best of our knowledge and ability, in no event shall our liability exceed the cost of these services. Your samples will be discarded after 14 days unless we are advised otherwise.

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32 ITHACA STREET
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WAVERLY, NY 14892-1532
FAX (607) 565-4083

Date: 04-OCT-2002

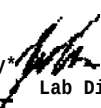
Lab Sample ID: L94773-6

AAA Environmental
Peter Porter
6679 Moore Road
Syracuse, NY 13211

Sample Source: VIACOM/HORSEHEADS WEOS
Origin: C-C-SS-B-OOI
Description: COMPOSITE
Sampled On: 30-SEP-02 17:00 by CLIENT
Date Received: 01-OCT-02 09:00
P.O. No: M/A

Analysis Performed	Result	Units	Detection Limit	Date Analyzed	Method	Notebook Reference
Total Solids	85			01-OCT-02 00:00	CLP 3.0	02-066-79
EPA 8082						
PCB 1016	U	ug/kg	110	04-OCT-02 11:01	EPA 8082	02-004-9999
PCS 1221	U	ug/kg	230	04-OCT-02 11:01	EPA 8082	02-004-9999
PCB 1232	U	ug/kg	110	04-OCT-02 11:01	EPA 8082	02-004-9999
PCB 1242	U	ug/kg	110	04-OCT-02 11:01	EPA 8082	02-004-9999
PCB 1248	U	ug/kg	110	04-OCT-02 11:01	EPA 8082	02-004-9999
PCB 1254	220	ug/kg	110	04-OCT-02 11:01	EPA 8082	02-004-9999
PCB 1260	U	ug/kg	110	04-OCT-02 11:01	EPA 8082	02-004-9999
Extraction Information:						
				02-OCT-02 00:00	EPA 3550	02-044-92
Surrogate Recovery:						
Tetrachloro-m-xylene	73					02-004-9999
Beechlobiphenyl	87					02-004-9999

Results calculated on a dry weight basis.

Approved by: 

Lab Director

Page 1 of 1
NY 10252 NJ 73168 PA 68180 EPA NY 00033

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KEY: ND U = None Detected < = less than ug/L = micrograms per Liter (equivalent to parts per billion)
ma/ = microgram per liter (equivalent to parts per million) mg/kg = milligrams per kilogram (equivalent to parts per million)
= analyte was detected in the method or trip blank J = result estimated below the quantitation limit

Information in this report is accurate to the best of our knowledge and ability. In no event shall our liability exceed the services. Your samples will be discarded after 14 days unless we are advised otherwise.

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N C

32 ITHACA STREET
TELEPHONE (607) 565-3500

WAVERLY, NY 14892-1532
FAX (607) 565-4083

Date: 04-OCT-2002

Lab Sample ID: L94773-7

AAA Environmental
Peter Porter
6 67 9 Moore Road
Syracuse, NY 13211

Sample Source: VIACOH/HORSEHEADS 19208
Origin: C-B-SS-B-001
Description: COMPOSITE
Sampled On: 30-SEP-Q2 16:30 by CLIENT
Date Received: 01-OCT-02 09:00
P.O. No.: N/A;

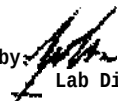
Analysis Performed	Result	Units	Detection Limit	Date Analyzed	Method	Notebook Reference
Total Solids	69.2			01-OCT-02 00:00	CLP 3.0	02-066-79
EPA jl08Lv™~						
PCB 1016	U	ug/kg	140	04-OCT-02 12:05	EPA 6082	02-004-0002
PCB 1221	U	ug/kg	270	04-OCT-02 12:05	EPA 8082	02-004-0002
PCB 1232	U	ug/kg	140	04-OCT-02 12:05	EPA 8082	02-004-0002
PCB 1242	U	ug/kg	140	04-OCT-02 12:05	EPA 6082	02-004-0002
PCB 1248	U	ug/kg	140	04-OCT-02 12:05	EPA 8082	02-004-0002
PCB 1254	1600 3	ug/kg	140	04-OCT-02 12:05	EPA 8082	02-004-0002
PCB 1260	u	ug/kg	140	04-OCT-02 12:05	EPA 8082	02-004-0002

Extraction Information:

Surrogate Recovery:				02-OCT-02 00:00	EPA 3550	02-044-92
Tetrachloro-m-xylene	78	%				02-004-0002
Decachlorobiphenyl	96	%				02-004-0002

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Results calculated on a dry weight basis.

Approved by: 
Lab Director

Page 1 of 1
NY 10252 Hi 73168 PA 68180 EPA NY 00033

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KEY: ND of U = None Detected < = less than ug/L = micrograms per liter (equivalent to parts per billion)
mg/C = milligram per liter (equivalent to parts per million) mg/kg = milligrams per kilogram (equivalent to parts per million)
= analyte was detected in the method or trip blank J = result estimated below the quantitation limit

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FLT

F R I E N D
LABORATORY
I • N • C

32 ITHACA STREET
TELEPHONE (607) 565-3500

WAVERLY, NY 14892-1532
PAX (607) 565-4083

Date: 04-OCT-2002

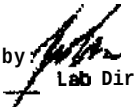
Lab Sample ID: L94773-8

AAA Environmental
Peter Porter
667 9 Moore Road
Syracuse, NY 13211

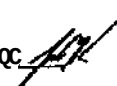
Sample Source: VIACOM/HORSEHEADS 19208
Origin: C-B-SS-E-001
Description: COMPOSITE
Sampled On: 30-SEP-02 16:35 by CLIENT
Date Received: 01-OCT-02 09:00
-156-J NO: N/A

Analysis Performed	Result	Units	Detection Limit	Date Analyzed	Method	Notebook Reference
Tote I Solids	62.4			01-OCT-02 00:00	CLP 3.0	02-066-79
EPA 8082						
PCB 1016	U	ug/kg	160	04-OCT-02 12:37	EPA 8082	02-004-0003
PCB 1221	u	ug/kg	320	04-OCT-02 12:37	EPA 8082	02-004-0003
PCB 1232	u	ug/kg	160	04-OCT-02 12:37	EPA 8082	02-004-0003
PCB 1242	u	ug/kg	160	04-OCT-02 12:37	EPA 8082	02-004-0003
PCB 1248	u	ug/kg	160	04-OCT-02 12:37	EPA 8082	02-004-0003
PCB 1254	3100	ug/kg	160	04-OCT-02 12:37	EPA 8062	02-004-0003
PCB 1260	U	ug/kg	160	04-OCT-02 12:37	EPA 8082	02-004-0003
Extraction Information:						
				02-OCT-02 00:00	EPA 3550	02-044-92
Surrogate Recovery:						
Tetrachloro-m-xylene	92					02-004-0003
Dechlorobiphenyl	115					02-004-0003

Results calculated on a dry weight basis.

Approved by: 
Lab Director

Page 1 of 1
NY 10252 NJ 73168 PA 68180 EPA NY 00033

QC 

KEY: ND < U = None Detected < = less than ug/L = micrograms per liter (equivalent to parts per billion)
mg/L = milligram per liter (equivalent to parts per million) mg/kg = milligrams per kilogram (equivalent to parts per million)
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Information in this report is accurate to the best of our knowledge and ability. In no event shall our liability exceed the cost of the services. Your samples will be discarded after 14 days unless we are advised otherwise.

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32 ITHACA STREET
TELEPHONE (607) 665-3500

WAVERLY, NY 14892-1532
FAX (607) 565-4083

Date: 04-OCT-2002

Lab Sample ID: L94773-9

AAA Environmental
Peter Porter
6679 Moore Road
Syracuse, NY 13211

Source: VIACOH/HORSEHEADS 1920B
Origin: C-B-S-E-OOI
Description: COMPOSITE
V¹-Sampled On: 30-SEP-02 16:40 by CLIENT
Date Received: 01-OCT-02 09:00
P.O. NO: N/A

Analysis Performed	Result	Units	Detection Limit	Date Analyzed	Method	Notebook Reference
Total Solids	56.7			01-OCT-02 00:00	CLP 3.0	02-066-79
EPA 8082						
PCB 1016		ug/kg	170	04-OCT-02 11:36	EPA 8082	02-004-0001
PCB 1221		ug/kg	350	04-OCT-02 11:36	EPA 8082	02-004-0001
PCB 1232		ug/kg	170	04-OCT-02 11:36	EPA 8082	02-004-0001
PCB 1242		ug/kg	170	04-OCT-02 11:36	EPA 8082	02-004-0001
PCB 1246		ug/kg	170	04-OCT-02 11:36	EPA 8082	02-004-0001
PCB 1254	310 J ^	ug/kg	170	04-OCT-02 11:36	EPA 8082	02-004-0001
PCB 1260		ug/kg	170	04-OCT-02 11:36	EPA 8082	02-004-0001

Extraction Information:

Surrogate Recovery:
Tetrachloro-m-xylene
Decachlorobiphenyl

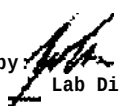
B6
93

02-OCT-02 00:00 EPA 3550 02-044-92

02-004-0001
02-004-0001

*TMB
4/28/03*

Results calculated on a dry weight basis.

Approved by: 
Lab Director

Page 1 of 1
NY 10252 NJ 73168 PA 68180 EPA NY 00033

****£**
QC
JL

KEY: ND o/ U = None Detected < = less than ug/l = micrograms per liter (equivalent to parts per billion)
mg/L = milligram per liter (equivalent to parts per million) mg/kg = milligrams per kilogram (equivalent to parts per million)
= analyte was detected in the method or trip blank = result estimated below the quantitation limit

Information in this report is accurate to the best of our knowledge and ability. In no event shall our liability exceed the cost of these services. Your samples will be discarded after 14 days unless we are advised otherwise.

^sl/^

ECT.CON INC.

Environmental and Computer
Technology Consultants

Support Documentation



COC



CUSTOMER # _____

CHAIN OF CODY RECORD

PAGE

ONE RESEARCH CIRCLE
WAVERLY NY 14892-1532
Telephone (607) 565 3500
Fax (607) 565-4083

Sample Site: VtAtO'''//Vo«e.HTIAT>5

P.O. #

<[;TMf?;...>

f«||SE\$GRMEnj» : i ^

c.-e.--5-VNi-ciol

X

Description: Grab ^Composite^Other
Matrix: DW WW MWCSof Air Other

O B - SS-W-OCM

s«S: rjgssg

ffcB'S-**4 5ftu

PCS'S 1 ^ SOTT

Description: Grab <^Egos3&> Other
Matrix: DW WW MW ^mb'Air Other

C-C -S- TVOfc|

?C^ ar/0 So-cc

Description: Grab ^ompositSyther
Matrix: DW WW MW2oTKiriOther

C-C-^5-3-60|

"pCB'S T>i So^U

0,1700

Description: Grab <T^r8bosrte> Other
Matrix: DW WW M W g j T Other

RELINQUISHED BY	DATE / TIME	ACCEPTED BY	DATE / TIME
SAMPLER			
A/SCHRECKENGOST	9/30/02 1710	[Signature]	9/30/02 5:40
[Signature]	830	[Signature]	10/1/02 900

NOTES TO LABORATORY

SUSPECTED CONTAMINATION LEVEL
NONE SLIGHT MODERATE HIGH (please circle)

94773
REQUESTED
COMPUTER NUMBER

LAB USE ONLY

1

-a.-sic*/-

5

CUSTOMER «

CHAIN OF C10ODY RECORD

PAGE

* «

TJ T T ONE RESEARCH CIRCLE
JP J ^ JL WAVERLY NY 14892-1532
y ft I E H15 Telephone (607) 565 3500
^B.QjATPRY Fax (607) 565-4083

CLIENT: y^AA EMtf*OIWE*TAL
ADDRESS: QriSr^e

INVOICE TO:
ADDRESS:

PHONE: FAX: <

Sample S ne,~V^C**^***6*^

PROJECT NO. / NAME

COPY TO:
ADDRESS:

P.O. #

DATE & TIME OF
SAMPLE COUECTION

SAMPLE DESCRIPTION

5
E
3
w
g
y
3:
a
u
A
W
O
M
t/Pjlg | Pa l u l"p
NUMBER pF
CONTAINERS

6 ANALYSES / TESTS REQUESTED

fc6's ** SerEU_

LAB USE ONLY

(3|frSO

Description: GrabC&pMite)other
Matrix: DW WW MW^SoiTVAir other

^FSS'G'O'il

X

pCB's -c^ S*-e>-

@, It*5"

Description: GrabCfonUtQjfte* Other
Matrix: DW WW MW<5opMr Other

cB-s-e -ocss

Pc3's xi* S*t_i_

Description: Grab (Eoniposite^Other
Matrix: DW WW MWSO^Air Other

Description: Grab Composite Other
Matrix: DW WW MW Soil Air Other

RELINQUISHED BY

DATE/TIME

ACCEPTED BY-

^AtmBf

17/0

&a

17/0
kfeSLo

DATE/TIME

9/30/04
tSMi

NOTESfeS|dRAiSRY-%
X

SUSPECTED CONTAMINATION LEVEL

NONE SUGT MODERATE HIGH (please circle)



Laboratory Case Narrative



ELI

FR1 EN1)

Laboratory Validation and Usability Assessment

Project: **AAA Environmental**
Viacom/Horseheads 19208
Sampled September 30, October 1, 2, & 5, 2002

The data reported in this package have been reviewed for compliance with QC acceptance limits as specified in the method cited for each analysis.

These statistical limits are typically based on historical laboratory data for a given sample matrix, and will not exceed any default limits specified by the method. CLP acceptance limits are also considered.

The following Quality Control operations are considered in the validation of reported results:

Holding times, surrogate recovery, spiked sample recovery, duplicates/spiked duplicate precision, tuning criteria, internal standard variation, continuing calibration variation, reference (check) sample recovery, and instrument, method, trip and field blanks. The appropriate frequency for each operation is also considered.

Every effort has been made to report data that is compliant with the EPA methodology cited for each analysis. In cases where the laboratory was unable to meet all method requirements prior to sample expiry, either due to the nature of the sample or other technical difficulty, results are reported with qualification with the understanding that qualified results may not be suitable for compliance purposes. The internal technical review is based on the USEPA Contract Laboratory Program *National Functional Guidelines for Organic Review* (EPA 540/R-94/012, February 1994) and *National Functional Guidelines for Inorganic Review* (EPA 540/R-94/013, February 1994).

Validation

Eighteen site samples and three matrix spike/matrix spike duplicate sets were received on October 1, 2, & 7, 2002, with ice. The temperatures as received were 0°C, 9°C, 28°C, and 5°C, in order of receipt. The cooler received at 9°C had ice present at -2°C, and the cooler received at 28°C had ice present at 3°C.

PCB

^

Site samples were analyzed by EPA method 8082 for PCBs with a two-microliter injection volume.

RTX-CLPesticides 1 and RTX-CLPesticides 2 capillary columns, 0.32 mm ID, with purge packed inlets and electronic pressure control are used on an Hewlett-Packard 5890 series II with dual ECD and an HP 7673 autosampler with simultaneous injection.

Data is collected with HP Chemstation software and processed by Thruput with Target software. If a peak is detected within the retention time window of a target compound, second-column confirmation is performed. Column RTX-CLPesticides 2 was used for the primary analysis. Column RTX-CLPesticides 1 was used to confirm only the fingerprint, not the quantitation. Form 10B's are provided in order to verify pattern recognition.

PCB 1254 was detected in each of the site samples except the Duplicate site sample. Second-column analysis confirmed the presence of these targets. No PCBs were detected in the method blanks.

Surrogate recoveries were within limits.

Site samples C-B-SS-W-001 and B-B-S-E-B-002 were spiked in duplicate. Spike recovery for PCB 1260 was within limits for the MSD of site sample B-B-S-E-B-002. All other spike recoveries were above the acceptance limits. Due to the levels of PCB 1254 detected in both site samples, overlapping peaks probably caused an elevation of the recoveries.

Precision as indicated by RPD was within acceptance limits.

Three blank spikes were associated with the site samples. Blank spike recoveries were within acceptance limits.

No other analytical difficulties were encountered.

Metals

Site sample R0025 was analyzed for TCLP Cadmium by Inductively Coupled Plasma - Optical Emission Spectrometry.

The ICP-OES instrument is an ARL 3560 with an AIM 1250 autosampler with an extension. The data is acquired with the Microactive, Australia software ICP Manager 35xx.

Site sample R0025 was spiked for TCLP Cadmium. Spike recovery was within acceptance limits.

Laboratory Control sample recovery for TCLP Cadmium was within acceptance limits.

No analytical difficulties were encountered.

Wet Chemistry

Site sample R0025 was analyzed in duplicate for paint filter by EPA method 9095. Precision as indicated by absolute difference was within the acceptance limit.

Usability Assessment

All reported data were found to be valid and usable within the EPA National Functional Validation guidelines except those that were qualified in this Laboratory Validation.

Laboratory validation and
Usability assessment conducted by:

*E%£*s?\$\$Jth~ & AjZ&tfr'x-*

Date: November 5, 2002

Elizabeth A. Keator
Quality Assurance



Worksheets



STANDARD OPERATING PROCEDURE

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YES NO N/A

PACKAGE COMPLETENESS AND DELIVERABLES

CASE NUMBER: " _____ SDG#

LAB: *ftrM**/ h ^ ^ A s IjtfL-* SITE: *__ \/*&V?_g //&&>,&**&*

1.0 Data Completeness and Deliverables

1.1 Has all the data been submitted in CLP deliverable format?



1.2 Have any missing deliverables been received and added to the data package?

J_I

ACTION: Call lab for explanation/resubmittal of any missing deliverables. If lab cannot provide them, note the effect on review of the data in the reviewer narrative.

2.0 Cover Letter, SDG Narrative

2.1 Is a laboratory narrative or cover letter present?

2.2 Are the case number and/or SDG number contained in the narrative or cover letter?

3.0 Data Validation Checklist

3.1 Does this data package contain:

Water data?

y

Waste data?

y

Soil/solid data?

y

YES NO N/A

POLYCHLORINATED BI PHENYLS

1.0 Traffic Reports and Laboratory Narrative

- 1.1 Are traffic report and chain-of-custody forms present for all samples?

ACTION: If no, contact lab for replacement of missing or illegible copies.

- 1.2 Do the traffic reports, chain-of-custody forms or SDG narrative indicate any problems with sample receipt, condition of the samples, analytical problems or special circumstances affecting the quality of the data?

ACTION: If any sample analyzed as a soil, other than TCLP, contains 50%-90% water, all data should be qualified as estimated, "J." If a soil sample, other than TCLP, contains more than 90% water, non detects shall be qualified as unusable, "R."

ACTION: If samples were not iced or if the ice was melted upon arrival at the laboratory and the temperature of the cooler was elevated (> 10° C), flag all positive results "J" and all non-detects "UJ".

2.0 Holding Times

- 2.1 Have any PCB technical holding times, determined from date of collection

to date of extraction, been exceeded? _____ IU: _____

Water and waste samples for PCB analysis must be extracted within 1 days of the date of collection. Extracts must be analysed within 40 days of the date of extraction. Soils and solid samples must be extracted within 14 days of collection and analyzed within 40 days of extraction.

ACTION: If technical holding times are exceeded, flag all positive results as estimated, "J," and sample quantitation limits "UJ" and document in the narrative that holding times were exceeded. If analyses were done more than 14 days beyond holding time, either on the first analysis or upon re-analysis, the reviewer must use

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YES NO N/A

professional judgement to determine the reliability of the data and the effects of additional storage on the sample results. At a minimum, all the data should at least be qualified "J", but the reviewer may determine that non-detects are unusable, "R."

3.0 Surrogate Recovery (Form II) ***H* / - / A • f' / fe^ - M''' ^***

3.1 Were the recoveries of tetrachloro-m-xylene (TCMX) and decachlorobiphenyl (DCB) presented on CLP Surrogate Recovery Summary forms (Form II), or equivalent, for each of the following matrices?

a. Water/Waste

J_L

b. Soil/Solid

f1

3.2 Are all the PCB samples listed on the appropriate surrogate recovery form for each of the following matrices?

a. Water

F1

b. Waste

c. Soil/Solid

ACTION: Call lab for explanation/resubmittals.
If missing deliverables are unavailable,
document the effect in the data assessment.

3.3 Did the laboratory provide their developed in-house Surrogate recoveries?

ACTION: If no, use 70 -130% recovery to qualify in section 3.4 below.

3.4 Were surrogate recoveries of TCMX or DCB outside of the laboratory-established upper (UCL) or lower (LCL) control limits for any sample or blank?

ACTION: Circle all outliers in red.

ACTION: No qualification is done if surrogates are diluted out. If recovery for both surrogates is

YES NO N/A

below the LCL, but above 10%, flag all results for that sample "J". If recovery is < 10% for either surrogate, qualify positive results "J" and flag non-detects "R". If recovery is above the UCL for both surrogates qualify positive values "J".

Note: DCB is used when PCBs are determined as Aroclors. DCB is the internal standard when determining PCB congeners and TCMX the surrogate.

3.5 Were surrogate retention times (RT) within the windows established during the initial 5-point analysis?

 L

1^

ACTION: If the RT limits are not met, the analysis may be qualified unusable (R) for that sample on the basis of professional judgement. However, flag positive hits as estimate (J) if confirmed by GC/MS analysis.

3.6 Are there any transcription/calculation errors between raw data and Form II? _____

- %

ACTION: If large errors exist, call lab for explanation/resubmittal. Make any necessary corrections and document the effect in data assessments.

4. ° Laboratory Control Sample Jj fi J^ faj<)E f /-nCte* ~ st# &'<&*/

4.1 Are raw data and percent recoveries present for all Laboratory Control samples as required by Method 8000B (section 8.5) and Method 8082 (section 8.4.2)?

 L

^

Verify that QC check samples were extracted and analyzed by the same procedures used for the actual samples.

ACTION: If any Laboratory Control Sample data are missing, call the lab for explanation /resubmittals. Make note in the data assessment.

NOTE: For aqueous samples, an additional QC check sample must be prepared and analyzed when any analyte in a matrix spike fails the required acceptance criteria (see section 5.3 below). The additional QC check sample must contain each analyte that failed in the MS analysis.

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YES NO N/A

Note: When the results for matrix spike analysis indicates a problem due to sample matrix effects, the LCS results are used to verify the laboratory can perform the analysis in a clean sample.

4.2 Were Laboratory Control Samples analyzed at the required concentration for all analytes of interest as specified in Method 8000B (sec.8.5)?

ACTION: If Laboratory Control Samples were not analyzed at the required concentration or the required frequency, make note in the data assessment and use professional judgement to determine the effect on the data.

LL ____

4.3 Were the LCS recoveries within the laboratory's in-house per cent recoveries (if not available, use 70 - 130%) I L ____

4.4 If no, were Laboratory Control Samples re-analyzed?

1 _____ ^y

Note: Corrective action must be taken when one or more of the analytes of interest fail the QC acceptance criteria (Method 8000B, section 8.7.4)

ACTION: If QC check samples were not re-analyzed, or a general system problem is indicated by repeated failure to meet the QC acceptance criteria specified in the method, make note in the data assessment and use professional judgement to determine the effect on the data.

5.0 Matrix Spikes (Form III) *JUA f-jUa*. t/ft**sc/'''srw**/*

5.1 Are all data for one matrix spike and matrix duplicate (unspiked) pair (MS/Dup) or matrix spike/matrix spike duplicate (MS/MSD) present and complete for each matrix Method 8082(section 8.4.1)?

NOTE: For soil and waste samples showing detectable amounts of organics, the lab may substitute replicate samples in place of the matrix spike (see Method 8000B-40, section 8.5.3)).

5.2 Have MS/Dup or MS/MSD results been summarized on modified CLP Form III?

ACTION: If any data are missing take action as specified in section 3.2 above.

5.3 Were matrix spikes analyzed at the required frequency

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YES NO N/A

for each of the following matrices? (One MS/Dup, MS/MSD must be performed for every 20 samples of similar matrix or concentration level. Laboratories analyzing one to ten samples per month are required to analyze at least one MS per month (Method 8000B-39 (section 8.5))).

a. Water	J-L	L ^
b. Waste		
c. Soil/Solid		_ ^

ACTION: If any MS/Dup or MS/MSD data are missing, take the action specified in 3.2 above.

- 5.4 Were the 70 - 130% recoveries used to compare the matrix spike recoveries, or did the lab use the optional QC acceptance criteria discussed in Method 8000B-40(section 8.5.3.1)?

List the criteria used and make note in data assessment.

Criteria used _____ ^ _ ^ _ ^ _ ^ _

- 5.5 Was the matrix spike prepared at the proper spike concentration? (Method 8000B, section 8.5.1-8.5.2) J_L U

For aqueous organic extractable, the spike concentration should be prepared according options in: Method 8000B-40, (section 8.5.1 and 8.5.2).

ACTION: No action is taken based on MS or replicate data alone. However, using informed professional judgement, the data reviewer may use the matrix spike or laboratory replicate results in conjunction with other QC criteria and determine the need for some qualification of the data. In some instances it may be determined that only the replicate or spiked samples are affected. Alternatively, the data may suggest that the laboratory is having a systematic problem with one or more analytes, thereby affecting all associated samples.

6.0 Blanks (Form IV)

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YES NO N/A

6.1 Was reagent blank data reported on CLP equivalent Method Blank Summary form(s) (Form IV)?

JledT' ____

6.2 Frequency of Analysis: Has a reagent blank been analyzed for every 20 (or less) samples of similar matrix or concentration or each extraction batch?

^ _____

ACTION: If any blank data are missing, take action as specified above (section 3.2) . If blank data is not available, reject (R) all associated positive data. However, using professional judgement, the data reviewer may substitute field blank' data for missing method blank data.

6.3 Chromatography: review the blank raw data - chromatograms, quant reports or data system printouts.

Is the chromatographic performance (baseline stability) for each instrument acceptable for PCBs?

^ _____

ACTION: Use professional judgement to determine the effect on the data.

7.0 Contamination fJ* *for for U t /J/w -/Uct'lw -*

NOTE: "water blanks", "distilled water blanks" and "drilling water blanks" are validated like any other sample and are not used to qualify the data. Do not confuse them with the other OC blanks discussed below.

7.1 Do any method/instrument/reagent/cleanup blanks have positive results for PCBs? when applied as described below, the contaminant concentration in these blanks are multiplied by the sample Dilution Factor and corrected for % moisture when necessary. _____ J_1

7.2 Do any field/rinse blanks have positive PCB results? _____

ACTION: Prepare a list of the samples associated with each of the contaminated blanks. (Attach a separate sheet.)

NOTE: All field blank results associated to a particular group of samples (may exceed one per case or one per day) may be used to qualify data.

YES NO N/A

Blanks may not be qualified because of contamination in another blank. Field blanks must be qualified for surrogate, or calibration QC problems.

ACTION: Follow the directions in the table below to qualify sample results due to contamination. Use the largest value from all the associated blanks.

Sample conc > EDL but < 5 x blank	Sample conc < EDL & is < 5 x blank value	Sample conc > EDL & > 5 x blank value
Flag sample result with a "U"	Report EDL & qualify "U"	No qualification is needed

NOTE: If gross blank contamination exists, all data in the associated samples should be qualified as unusable (R).

7.3 Are there field/rinse/equipment blanks associated with every sample?

J-L

Ji

ACTION: For low level samples, note in data assessment that there is no associated field/rinse/equipment blank. Exception: samples taken from a drinking water tap do not have associated field blanks.

8.0 GC Apparatus and Materials

8.1 Was the proper gas chromatographic capillary column used for the analysis of PCBs?

Action: Check raw data, instrument logs, or contact the lab to determine what type of columns were used. (Method 8082, section 4.2)

*/

8.2 Indicate the specific type of narrow bore or wide bore (.53 mm ID, fused silica GC columns, such as DB-608 and DB-1701 or equivalent).

column 1: _____

column 2: _____

ACTION: Note any changes to the suggested materials in section 8.1 above in the data assessment. Also note the impact (positive or negative) such changes have on the analytical results.

YES NO N/A

Calibration and GC Performance

9.1 Are the following Gas Chromatograms and Data Systems Printouts for both columns present for all samples, blanks, MS, replicates?

- a. Samples SJ. _ _
- b. All blanks IA _____
- c. Matrix spike samples - - Q J_L _____ i - /
- d. 5 pt. initial calibration standards t JLjUJi- uL _ _ ^ £
- e. calibration verification standards i^f***''^'^ J±f _____ -J?
- f. Laboratory Control samples (LCS)

ACTION: If no, take action specified in 3.2 above.

9.2 Are data summary forms (containing calibration factors or response factors) for the initial 5 pt. calibration and daily calibration verification standards present and complete for each column and each analytical sequence?

SA _____

Note: Calibration Aroclor mixtures other than 1016/1260 may be used (as per approved project QA plan)

NOTE: If internal standard calibration procedure is used (Method 8000B-15(section 7.4.2.2)), then response factors must be used for %RSD calculations and compound quantitation. If, external standard calibration procedures are used (Method 8000B-16 (section 7.4.2.1)), then calibration factors must be used. The internal standard approach is highly recommended for PCB congener analysis.

ACTION If any data are missing or it cannot be determined how the laboratory calculated calibration factors or response factors, contact the lab for explanation/resubmittals. Make necessary corrections and note any problems in the data assessment.

9.3 Are there any transcription/calculation errors between raw data and data summary forms?

_ ^ _

ACTION: If large errors exist, call lab for

YES NO N/A

explanation/resubmittal, make necessary corrections and document the effect in data assessments.

- 9.4 Are standard retention time (RT) windows for each PCB peak of interest presented on modified CLP summary forms? 

ACTION: If any data are missing, or it cannot be determined how RT windows were calculated, call the lab for explanation/resubmittals. Note any problems in the data assessment.

NOTE: Retention time windows for all PCBs are established using retention times from three calibration standards analyzed during the entire analytical sequence (Method 8000B, section 7.6).

Best results are obtained using retention times which span the entire sequence; i.e., using the calibration verification/continuing calibration standards analyzed every 12 hours.

frM

center for

- 9.5 Were RT windows on the confirmation column established using three standards as described above? 

NOTE: RT windows for the confirmation column should be established using a 3 pt. calibration, preferably spanning the entire analytical sequence as described in 9.4 above. If RT windows on one column are tighter than the other, this may result in false negatives when attempting to identify compounds in the samples.

ACTION: Note potential problems, if any, in the data assessment.

- 9.6 Do all standard retention times in each level of the initial 5 pt. calibrations for PCBs fall within the windows established during the initial calibration sequence? 

ACTION i: If no, all samples in the entire analytical sequence are potentially affected. Check to see if three standard spanning the entire sequence were used to obtain RT windows. If the lab used three standards from the 5 pt., RT windows may be too tight. If so, RT windows should be recalculated as per Method 8081B-15 (section 7.4.6).

ii. Alternatively, check to see if the chromatograms contain peaks

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YES NO N/A

within an expanded window surrounding the expected retention times.

If no peaks are found and the surrogates are visible, non-detects are valid. If peaks are present but cannot be discerned through pattern recognition or by using revised RT windows, qualify all positive results and non-detects as unusable, "R".

- 9.7 Has the linearity criteria for the initial calibration standards been satisfied for both columns? (% RSD must be < 20.0% for all analytes) . --, ^ . f £

ACTION: If no, qualify all associated positive results generated during the entire analytical sequence "J" and all non-detects "UJ". When RSD > 90%, flag all non-detect results for that analyte "R" (unusable).

- 9.8 Does the calibration verification/continuing Calibration standard contain the PCB peaks of interest, analyzed on each working day, prior to sample analyses (Method 8082, sections 7.6.2)? ^ _____

- 9.9 Has a calibration verification/continuing calibration standard been analyzed after every 10 samples and at the end of each analytical sequence (Method 8082, section 7.6.2) ✓

ACTION: If no, take action as specified in section 3.2 above. U ^ C T

jk\$ok'0\$Wf*~'
^ TM

- 9.10 Has the percent difference (%D) exceeded $\pm 15\%$ for any PCB analyte in any calibration verification/Continuing calibration standard? J_L

- 9.11 Has a new 5 pt. initial calibration curve been generated for those PCB analytes which failed in the calibration verification/continuing calibration standard (8000B, section 7.7.3), and all samples which followed the out-of-control calibration verification/standard continuing calibration Standard?

ACTION: If the %D for any analyte exceeded the $\pm 15\%$ criterion and the instrument was not recalibrated for those analytes, qualify positive results for all associated samples (those which followed the out-of-control standard) "J" and sample quantitation limits "UJ". If the %D was > 90%

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YES NO N/A

for any analyte, qualify non-detects "R",
unusable.

- 9.12 Have retention time (RT) windows been properly calculated for each analyte of interest (Msthod 8000B, section 7.6), using RTs from the associated calibration verification/continuing standard?



ACTION: If no, take action specified in section 3.2 above

- 9.13 Do all standard retention times for each calibration verification/continuing calibration standard fall within the windows established during the initial calibration sequence?
- 9.14 Do all standard retention times for each mid-concentration standard (analyzed after every 10 samples) fall within the daily RT windows

ACTION: If the answer to either 9.13 or 9.14 above is no, check the chromatograms of all samples which followed the last in-control standard. All samples analyzed after the last in-control standard must be re-injected, if initial analysis indicated the presence of the specific analyte that exceeded the retention time criteria. If samples were not re-analyzed, document under Contract Non-compliance in the Data Assessment.

Reviewer has two options to determine how to qualify questionable sample data. First option is to determine if possible peaks are present within daily retention time window. If no possible peaks are found, non-detects are valid. If possible peaks are found (or interference), qualify positive hits as presumptively present "NJ" and non-detects are rejected "R". Second option is to use the ratio of the retention time of the analyte over the retention time of either surrogate. The passing criteria is ± 0.06 RRT units of the RRT of the standard component. Reject "R" all questionable analytes exceeding criteria, and "NJ" all other positive hits.

For any multi-response analytes, retention time windows should be used but analyst and reviewer should rely primarily on pattern recognition or use option 2 specified in paragraph above.

- 9.15 Are there any transcription/calculation errors

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~~11~~ EPA Region II
46 Method 8082

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YES NO N/A

between raw data and data summary forms?

u

ACTION: If large errors exists, call lab for explanation/resubmittal, make any necessary corrections and document the effect in data assessments under "Conclusions".

10.0 Analytical Sequence Check (Form VIII-PEST)

10.1 Have all samples been listed on CLP Form VIII or equivalent, and are separate forms present for each column?

* /

ACTION: If no, take action specified in 3.2 above,

10.2 Was the proper analytical sequence followed for each initial calibration and subsequent analyses?

✓

ACTION: If no, use professional judgement to determine the severity of the effect on the data and qualify it accordingly. Generally, the effect is negligible unless the sequence was grossly altered or the calibration was also out of limits.

10.3 Were the TCMX/DCB surrogate RTs for the samples within the mean surrogate RT from the initial calibration? MX

Action: If no, see "Action" in section 9.14 above

11.0 Extraction Techniques for Sample Preparation *h) h for Jones + / for yCtC/ If*

Method 8081B permits a variety of extraction techniques to be used for sample preparation. Which extraction procedure was used?

1. Aqueous samples:

1. Separatory funnel (Method 3510)
2. Continuous liquid-liquid extraction (Method 3520)
3. Solid phase extraction (Method 3535)
4. Other

i L

-L I

2. Solid samples:

1. Soxhlet (Method 3540)

L L

YES NO N/A

2. Automated Soxhlet (Method 3541)
3. Pressurized fluid (Method 3545)
4. Microwave extraction (Method 3546)
5. Ultrasonic extraction (Method 3550)
6. Supercritical fluid (Method 3562)
7. Other

W ^

11.1 Extract Cleanup - Efficiency Verification (Form IX)

*1 false
fx t/f*

11.1.1 Method 8082 (section 7.2) references method 3660 (sulfur) and 3665A (sulfuric acid) to use for Cleaning extracts. Were one or both method used? J_]_

ACTION: If no, take action specified in 3.2 above. If data suggests cleanup was not performed, make note in the data assessment.

NOTE: Method 3620A, Florisil, may be used per approved project QA plan. The method does not list which analytes and surrogate(s) to use to verify column efficiency. The reviewer must check project plan to verify method used as well as the correct PCB list. If not stated or available, use the CLP listing or accept what the laboratory used.

11.2 Are all samples listed on modified CLP PCBs Florisil/Cartridge Check Form?

i_l

ACTION: If no, take action specified in 3.2 above.

11.3 Was GPC Cleanup (method 3640A) performed?

NOTE: GPC cleanup is not required and is optional. The reviewer should check Project Plan to verify requirement.

11.4 Were the same PCB analytes used in calibration used to check the efficiency of the cleanup procedures?

J_i

11.5 Are percent recoveries (% R) of the PCBs and surrogate compounds used to check the efficiency of the cleanup procedures within lab's in-house QC limits (use 70-130% if not available)

J_L

70-130% for GPC calibration?

STANDARD OPERATING PROCEDURE

JASEPA Region II
46 Method 8082

Date: May, 2002
SOP HW-23B, Rev.1.0

YES NO N/A

Qualify only the analyte(s) which fail the recovery criteria as follows;

ACTION: If % R are < 80%, qualify positive results "J" and quantitation limits "UJ". Non-detects should be qualified "R" if zero %R was obtained for PCBs. Use professional judgement to qualify positive results if recoveries are greater than the upper limit.

12.0 PCB Identification

12.1 Has CLP Form X or equivalent, showing **retention time** data for positive results on the two GC columns, been

- completed for every sample in which a PCB was detected?

* / _ _

ACTION: If no, take action specified in 3.2 above, or compile a list comparing the retention times for all sample hits on the two columns.

12.2 Are there any transcription/calculation errors between raw data and data summary forms (initial calibration summaries, calibration verification summaries, analytical sequence summaries, GPC and cleanup verification forms)?

1 ✓

ACTION: If large errors exist, call lab for explanation/resubmittal, make necessary corrections and note error in the data assessment.

12.3 Are retention times (RT) of sample compounds within the established RT windows for both columns/analyses?

1 ✓

ACTION: Qualify as unusable (R) all positive results which were not confirmed by second GC column analysis. Also qualify "R", unusable, all positive results not within RT windows unless associated standard compounds are similarly biased. The reviewer should use professional judgement to assign an appropriate quantitation limit.

12.4 Check chromatograms for false negatives, especially if RT windows on each column were established differently.
Were there any false negatives?

 d

STANDARD OPERATING PROCEDURE

USEPA Region II
SW846 Method 8082

Date: May, 2002
SOP HW-23B, Rev.1.0

YES NO N/A

ACTION: Use professional judgement to decide if the compound should be reported. If there is reason to believe that peaks outside retention RT windows should be reported, make corrections to data summary forms (Form I) and note in data assessment.

12.5 Was GC/MS confirmation provided when sample concentration was sufficient (> 10 ug/ml) in the final extract?

-U

ACTION: Indicate with red pencil which Form I results were confirmed by GC/MS and also note in data assessment.

12.6 Is the percent difference (%D) calculated for the positive sample results on the two GC columns <25.0%?

A

NOTE: The method requires quantitation from one column. The second column is to confirm the presence of an analyte. It is the reviewer's responsibility to verify from the project plan what the lab was required to report. If the lab was required to report concentrations from both columns, continue with validation for % Difference. If required, but not reported, either contact the lab for results or calculate the concentrations from the calibration. If not required, skip this section. Document actions in Data Assessment.

S- Ps^4 /%.

.

5

j.

ACTION: If the reviewer finds neither column shows interference for the positive hits, the data should be qualified as follows:

% Difference	Qualifier
0-25%	none
26-70%	irjii
71-100%	"NJ"
>100% *	"R"
100-200% (Interference detected)**	"NJ"
>50% (PCBs value is <CRQL)	"U"

When the reported PCBs value is <CRQL and the %D is >50%. raise the value to the CRQL and qualify with "U" (non-detect).

* Check the chromatogram. If pattern is confirmed qualify "J". If pattern is mixed, has interference, or the PCB cannot be positively determined due to weathering, qualify "JN".

STANDARD OPERATING PROCEDURE

PA Region II
46 Method 8082

Date: May, 2002
SOP HW-23B, Rev.1.0

YES NO N/A

If PCB can not be confirmed, qualify the PCB as "R".

** When the reported %D is 100-200% but interference is detected in either column, qualify the data with "NJ".

13.0 Compound Quantitation and Reported Detection Limits

13.1 Are there any transcription/calculation errors in Form I results? Check at least two positive values. Were any errors found? _____

IV ✓

NOTE: Single-peak PCBs results can be checked for rough agreement between quantitative results obtained on the two GC columns. The reviewer should use professional judgement to decide whether a much larger concentration obtained on one column versus the other indicates the presence of an interfering compound. If an interference is suspected, the lower of the two values should be reported and qualified according to section 12.6 above. This necessitates a determination of an estimated concentration on the confirmation column. The narrative should indicate that the presence of interferences has led to the quantitation of the second column confirmation results.

13.2 Are the EDLs (Estimated Detection Limits) adjusted to reflect sample dilutions and, for soils, % moisture? _____

IV ✓

ACTION: If errors are large, call lab for explanation/resubmittal, make any necessary corrections and document effect in data assessments.

*
r-? $XV^{\wedge}3$ - . * * i
JO, l^

ACTION: When a sample is analyzed at more than one dilution, the lowest EDLs are used (unless a QC exceedance dictates the use of the higher EDL data from the diluted sample analysis). Replace concentrations that exceed the calibration range in the original analysis by crossing out the value on the original Form I and substituting it with data from the analysis of diluted sample. Specify which Form I is to be used, then draw a red "X" across the entire page of all Form I's that should not be used, including any in the summary package.

•X-'
' ' ' ~7^y//J '^
' ' ' //.*'
.-
- / J\$ ^r\$/i
fS
^

STANDARD OPERATING PROCEDURE

USEPA Region II
SW846 Method 8082

Date: May, 2002
SOP HW-23B, Rev.1.0

YES NO N/A

ACTION: EDLs affected by large, off-scale peaks should be qualified as unusable, "R". If the interference is on-scale, the reviewer can provide a modified EDL flagged "UJ" for each affected compound.

14.0 Chromatoaram Quality

14.1 Were baselines stable?

14.2 Were any electropositive displacement (negative peaks) or unusual peaks seen?

ACTION: Note all system performance problems in the data assessment.

15.0 Field Duplicates *lik f- ftht JLU' VliALS*

15.1 Were any field duplicates submitted for PCB analysis?

I_L

ACTION: Compare the reported results for field duplicates and calculate the relative percent difference.

ACTION: Any gross variation between field duplicate results must be addressed in the reviewer narrative. However, if large differences exist, the identity of the field duplicates is questionable. An attempt should be made to determine the proper identification of field duplicates.

4C
PESTICIDE METHOD BLANK SUMMARY

NYSDEC SAMPLE NO.

MB 92

Lab Name: FRIEND LABORATORY, INC. Contract: _____

Lab Code: 10252 Case No.: _____ SAS No.: _____

Lab Sample ID: MB 92

Matrix: (soil/water) SOIL

Sulfur Cleanup: (Y/N) N

Date Analyzed (1): 10/08/02

Time Analyzed (1): 1843

Instrument ID (1): HP1

GC Column (1): RTX-CLPESTICIDES2 ID 0.32 (mm)

GC Column (2): RTX-CLPESTICIDES1 ID 0.32 (mm)

SDG No.: AAA

Lab File ID: E2980075

Extraction: (SepF/Cont/Sonc) SONC

Date Extracted: 10/02/02

Date Analyzed (2): _____

Time Analyzed (2): _____

Instrument ID (2): HP3

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

	NYSDEC SAMPLE NO.	LAB SAMPLE ID	DATE ANALYZED 1	DATE ANALYZED 2
01	QC92	QC92	10/04/02	
02	L94773-1	L94773-1	10/04/02	10/3/02
03	L94773-6	L94773-6	10/04/02	10/3/02
04	L94773-9	L94773-9	10/04/02	10/3/02
05	L94773-7	L94773-7	10/04/02	10/3/02
06	L94773-8	L94773-8	10/04/02	10/3/02
07	L94773-2	L94773-2	10/04/02	10/3/02
08	L94773-5	L94773-5	10/04/02	10/3/02
09	L94859-4	L94859-4	10/7/02	10/3/02
10	L94773-3, -2MS	L94773-3, -2MS	10/8/02	
11	L94773-4, -2MSD	L94773-4, -2MSD	10/8/02	
12				
13				
14				
15				
16				
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18				
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25				
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COMMENTS

00011

4C
PESTICIDE METHOD BLANK SUMMARY

NYSDEC SAMPLE NO.

MB 01

Lab Name: FRIEND LABORATORY, INC. Contract: _____
Lab Code: 10252 Case No.: _____ SAS No.: _____ SDGNo.: AAA
Lab Sample ID: MB 01 Lab File ID: E2980047
Matrix: (soil/water) SOIL Extraction: (SepF/Cont/Sonc) SONC
Sulfur Cleanup: (Y/N) N Date Extracted: 10/03/02
Date Analyzed (1): 10/07/02 Date Analyzed (2): _____
Time Analyzed (1): 1331 Time Analyzed (2): _____
Instrument ID (1): HP1 Instrument ID (2): HP3
GC Column (1): RTX-CLPESTICIDES2 ID 0.32 (mm)
GC Column (2): RTX-CLPESTICIDES1 ID 0.32 (mm)

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES. MS. MSD. AND MSB

	NYSDEC SAMPLE NO.	LAB SAMPLE ID	DATE ANALYZED 1	DATE ANALYZED 2
01	QC01	QC01	10/07/02	
02	L94910-1	L94910-1	10/07/02	10/04/02
03	L94910-2	L94910-2	10/07/02	10/04/02
04	L94910-3	L94910-3	10/07/02	10/04/02
05	L94910-4	L94910-4	10/07/02	10/04/02
06	L94910-5	L94910-5	10/07/02	10/04/02
07	L94910-6	L94910-6	10/07/02	10/04/02
08				
09				
10				
11				
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25				
26				

COMMENTS:

00012' .

Friend Inc.

Data File: /chem/hp3.i/1254FCONFIRMa.b/E3956347.D
Method: /chem/hp3.i/1254FCONFIRMa.b/8082_PCBsec.M
Sample Info: 250PPB 1254
Misc Info: CONFIRMATION
Analysis Date: 08-OCT-2002 19:20
Sample Matrix WATER
File Number 6347

Dilution Factor	1.0000
Sample Volume	1000.0000
Final Volume	5.0000

Analytes (ug/L)

Aroclor-1254	267.54
Tetrachloro-m-xylene	0.00%
Decachlorobiphenyl	0.00%

Analyst: CPW
Report Date: 10/09/2002 10:59

Supervisor:
Date:

ID
PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

MB92

Lab Name:

Contract:

Lab Code:

Case No.:

SAS No.:

SDG No. : AAA1007

Matrix: (soil/water) SOIL

Lab Sample ID: MB92

Sample wt/vol: 10.2 (g/mL) G

Lab File ID: E2980075

% Moisture: 0 decanted: (Y/N) N

Date Received: 10/01/2

Extraction: {SepF/Cont/Sonc) SONC

Date Extracted: 10/02/2

-Concentrated Extract Volume: 1000 (uL)

Date Analyzed: 10/08/2

Injection Volume: 2.0(uL)

Dilution Factor: 1.0

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

Sulfur Cleanup: (Y/N) N

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

12674-11-2	Aroclor-1016	I < . 0 . 01 .u n n n n n n n n n n	
1104-28-2	Aroclor-1221		
11141-16-5	Aroclor-1232		
53469-21-9	Aroclor-1242		
11097-69-1	Aroclor-1254		
11096-82-5	Aroclor-1260		
	Aroclor-1248	ip -0 , 01-	

Thru-Put Systems, Inc.

Data file \chem\hpl.i\8082r0917.b\E2980075.D
Lab Smp Id MB92 Client Smp ID: MB92
Inj Date 08-OCT-2002 18:43
Operator CPW Inst ID: hpl.i
Smp Info MB92
Misc Info
Comment
Method \chem\hpl.i\8082r0917.b\8082_PCBsec.M
Meth Date 09-Oct-2002 07:33 Administra Quant Type: ESTD
Cal Date 17-SEP-2002 16:43 Cal File: E2989834.D
Als bottle 1
Dil Factor 1.00000
Integrator Falcon Compound Sublist: PCB.sub
Target Version: 3.40 Sample Matrix: SOIL
Processing Host: TARGET3

Concentration Formula: $\text{Amt} * \text{DF} * ((\text{Vf} / \text{Ws}) * \text{Uf}) / \text{Ts} * 1000$

Name	Value	Description
DF	1.000	Dilution Factor
Vf.	10.000	Final volume
Ws	10.240	Weight of sample extracted
Uf	0.100	Unit Correction Factor
Ts	100.000	Total Solid

%

		CONCENTRATIONS			
		ON-COL	FINAL		
RT	EXP RT	DLT RT	RESPONSE (ug/L)	(ug/Kg)	TARGET RANGE RATIO
\$	1	Tetrachloro-m-xylene	CAS It:		
7.990	7.997	-0.007	'3939874	466.020	474.61
S	29	Decachlorobiphenyl	CAS ft:		
20.130	20.130	0.000	3110160	591.812	577.92

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00319

Friend Inc.

Data File: /chem/hpl.i/8082r0917.b/E2980075.D
Method: /chem/hpl.i/8 0 82r0 917.b/8082_PCBsec.M
Sample Info: MB92
Misc Info:
Analysis Date: 08-OCT-2002 18:43
Sample Matrix: SOIL
File Number: 0075

Dilution Factor	1.0000
Sample Weight	10.2404
Final Volume	10.0000
Total Solid	100.0000

Analytes (ug/Kg)

Aroclor-1016	0.00
Aroclor-1221	0.00
Aroclor-1232	0.00
Aroclor-1242	0.00
Aroclor-1254	0.00
Aroclor-1260	0.00
Aroclor-1248	0.00
Tetrachloro-m-xylene	97.20%
Decachlorobiphenyl	118.36%

*

Analyst: CPW
Report Date: 10/09/2002 10:53

Supervisor:
Date:

T

ID
PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

MB01

Lab Name: Contract: .

Lab Code: Case No. : SAS No. : SDG No. : AAA1002

Matrix: (soil/water) SOIL Lab Sample ID: MB01

Sample wt/vol: 10.0 <g/mL) G Lab File ID: E2980047

% Moisture: 0 decanted: (Y/N) N Date Received: 10/02/2

Extraction: (SepF/Cont/Sonc) SONC Date Extracted: 10/03/2

Concentrated Extract Volume: fOOcc (uL) Date Analyzed: 10/07/2

Injection Volume: . 2.0(uL) Dilution Factor: 1.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
12674-11-2	Aroclor-1016	/O •'O.O1	V
1104-28-2	Aroclor-1221	£° 0.02	u
11141-16-5	Aroclor-1232	io n ni	u
53469-21-9	Aroclor-1242		u
11097-69-1	Aroclor-1254	'O n m	u
11096-82-5	Aroclor-1260		u
		/C -0-reir	u

/f/f/cj-



6D

b Name: FRIEND LABORATORY, INC.

Contract:

b Code: 10252 Case No.: SAS No.: SDG No.: AAA

Instrument ID: HP1

GC Column: RTX-CLPest2 ID: 0.32 (mm)

Date(s) Analyzed: 09/17/02 09/17/02

File Numbers: 9827-9843

COMPOUND	Peak #	10 ppb	50 ppb	100 ppb	250 ppb	500 ppb	1000 ppb	MEAN RT	RTWI FROM	WINDOW TO
PCB1016	1	10.19	10.20	10.20	10.20	10.21	10.21	10.20	10.10	10.30
	2*	10.71	10.71	10.71	10.71	10.71	10.71	10.71	10.61	10.81
	3*	11.89	11.89	11.90	11.90	11.90	11.90	11.90	11.80	12.00
	4	11.97	11.98	11.98	11.98	11.98	11.98	11.98	11.88	12.08
	5	12.67	12.68	12.68	12.68	12.69	12.69	12.68	12.58	12.78
PCB 1221	1*				8.79			8.79	8.69	8.89
	2*				9.12			9.12	9.02	9.22
	3*				9.27			9.27	9.17	9.37
PCB 1232	1*				9.27			9.27	9.17	9.37
	2*				10.20			10.20	10.10	10.30
	3*				11.19			11.19	11.09	11.29
	4				11.47			11.47	11.37	11.57
	5				11.97			11.97	11.87	12.07
PCB 1242	1*				10.20			10.20	10.10	10.30
	2*				11.19			11.19	11.09	11.29
	3*				11.47			11.47	11.37	11.57
	4				12.68			12.68	12.58	12.78
	5				13.29			13.29	13.19	13.39
PCB 1248	1*				11.19			11.19	11.09	11.29
	2*				11.90			11.90	11.80	12.00
	3*				12.68			12.68	12.58	12.78
	4				13.21			13.21	13.11	13.31
	5				13.29			13.29	13.19	13.39
PCB 1254	1*	13.67	13.67	13.67	13.67	13.67	13.67	13.67	13.57	13.77
	2*	14.56	14.56	14.56	14.56	14.56	14.56	14.56	14.46	14.66
	3*	15.01	15.01	15.01	15.01	15.00	15.00	15.01	14.91	15.11
	4	15.34	15.35	15.35	15.35	15.35	15.35	15.35	15.25	15.45
	5	16.02	16.03	16.03	16.03	16.03	16.03	16.03	15.93	16.13
PCB 1260	1*	14.93	14.93	14.94	14.94	14.94	14.94	14.94	14.84	15.04
	2*	15.34	15.34	15.35	15.35	15.35	15.35	15.35	15.25	15.45
	3*	16.19	16.19	16.20	16.20	16.20	16.21	16.20	16.10	16.30
	4	16.75	16.75	16.76	16.76	16.76	16.77	16.76	16.66	16.86
	5	17.23	17.23	17.24	17.24	17.25	17.25	17.24	17.14	17.34
Tetrachloro-nvxylylene		7.97	7.99	8.00	7.99	8.00	8.00	7.99	7.89	8.09
Decachlorobiphenyl		20.11	20.12	20.13	20.13	20.13	20.13	20.13	20.03	20.23

* Denotes required peaks

Retention time windows are + 0.1 minutes for all compounds.

H.W**u**

%

00161

FORM 6
PCB INITIAL CALIBRATION DATA

Lab Name: _____ Contract: _____
 Lab Code: _____ Case No. : _____ SAS No. : _____ SDG No. : AAA916
 Instrument ID: HP1 Calibration Date(s) : 09/17/2 09/17/2
 GC Column: RTX-CLPESTICIDES 2 ID: 0.32 (mm)
 LAB FILE ID: _____ RF10: E2989834 RF50: E2989835 RF100: E2989836
 RF250: E2989843 RF500: E2989838

COMPOUND		RF10	RF50	RF100	RF250	RF500
Aroclor-1016		401.3	365.1	438.0	493.9	404.2
Aroclor-1221	(2)	136.5	147.3	177.8	191.1	175.4
	(3)	135.2	120.4	144.0	140.8	117.2
	(4)	140.8	136.7	181.1	189.3	184.3
	(5)	201.4	165.9	179.7	207.5	203.2
					86.2	
Aroclor-1232	(2)				64.3	
	(3)				307.9	
	(4)					
	(5)					
Aroclor-1242	(2)				283.3	
	(3)				161.5	
	(4)				221.6	
	(5)				97.5	
					57.9	
Aroclor-1254	(2)				352.7	
	(3)				515.2	
	(4)				225.6	
	(5)				162.9	
					195.6	
Aroclor-1260	(2)	316.9	313.4	305.2	308.2	343.4
	(3)	288.2	317.8	319.7	345.8	442.7
	(4)	190.1	233.8	239.2	278.8	384.7
	(5)	148.5	164.1	178.0	186.5	230.4
		253.9	263.2	271.9	294.5	392.1
Aroclor-1248	(2)	334.4	269.7	334.8	384.6	340.0
	(3)	358.5	290.3	352.0	415.1	365.1
	(4)	227.9	170.5	206.4	246.1	209.2
	(5)	234.8	173.2	208.2	246.2	210.6
		364.1	280.0	381.6	496.5	440.9
Tetrachloro -m-xylene Decachlorobiphenyl	(2)				278.0	
	(3)				163.4	
	(4)				213.4	
	(5)				186.5	
					304.2	
Tetrachloro -m-xylene		3613	5109	8081	7743	8808
Decachlorobiphenyl		3029	3502	5170	5257	6283

FORM 6
PCB INITIAL CALIBRATION DATA

MP

Job Name: _____ Contract: _____
 Code: _____ Case No. : _____ SAS No. : _____
 Instrument ID: HP1 Calibration Date (s) 09/17/2 AAA916
 GC Column: RTX-CLPESTICIDES 2 ID: 0.32 (mm) 09/17/2
 RF1000: E2989839

COMPOUND	RF100	CURVE	COEFFICIENTS A0	A1	%RSD OR R"2
Aroclor-1016	366.0	LINR	-18.105188	2.688e-003	0.991
	(2) 161.5	LINR	-9.4133819	6.109e-003	0.997
	(3) 100.6	LINR	-18.332671	9.78e-003	0.993
	(4) 162.6	LINR	-9.1394188	6.01e-003	0.995
	(5) 201.8	LINR	2.94297360	4.926e-003	1.000
Aroclor-1221		LINR	0.00000000	1.159e-002	1.000
	(2)	LINR	0.00000000	1.555e-002	1.000
	(3)	LINR	0.00000000	3.248e-003	1.000
	(4)	LINR			
	(5)	LINR			
Aroclor-1232		LINR	0.00000000	3.53e-003	1.000
	(2)	LINR	0.00000000	6.191e-003	1.000
	(3)	LINR	0.00000000	4.512e-003	1.000
	(4)	LINR	0.00000000	1.025e-002	1.000
	(5)	LINR	0.00000000	1.727e-002	1.000
Aroclor-1242		LINR	0.00000000	2.835e-003	1.000
	(2)	LINR	0.00000000	1.941e-003	1.000
	(3)	LINR	0.00000000	4.432e-003	1.000
	(4)	LINR	0.00000000	6.138e-003	1.000
	(5)	LINR	0.00000000	5.111e-003	1.000
Aroclor-1254	296.1	LINR	-6.4375383	3.29e-003	0.994
	(2) 434.5	LINR	16.6006465	2.262e-003	0.997
	(3) 371.6	LINR	21.3460443	2.623e-003	0.995
	(4) 190.9	LINR	4.45851132	5.219e-003	1.000
	(5) 352.0	LINR	11.6581973	2.751e-003	0.994
Aroclor-1260	329.3	LINR	-5.1814212	3.014e-003	0.998
	(2) 358.9	LINR	-3.4590831	2.769e-003	0.998
	(3) 210.0	LINR	-3.5269711	4.748e-003	0.998
	(4) 214.3	LINR	-2.0615020	4.659e-003	0.998
	(5) 480.7	LINR	11.3530028	2.078e-003	0.998
Aroclor-1248		LINR	0.00000000	3.596e-003	1.000
	(2)	LINR	0.00000000	6.12e-003	1.000
	(3)	LINR	0.00000000	4.686e-003	1.000
	(4)	LINR	0.00000000	5.361e-003	1.000
	(5)	LINR	0.00000000	3.287e-003	1.000
Tetrachloro-m-xylene	7679	LINR	5.59456943	1.219e-004	0.991
Decachlorobiphenyl	5238	LINR	4.64742762	1.888e-004	0.999

%

FORM VI PCB

00163

6F

Lab Name: FRIEND LABORATORY, INC.

Contract:

Lab Code: 10252 Case No.: _____ SAS No.: _____ SDG No.: AAA

Instrument ID: HP3

GC Column: RTX-CLPest1 ID: 0.32 (mm) Date(s) Analyzed: 10/03/02

File Numbers: 6274

COMPOUND	AMOUNT (ng)	PEAK	RT	RT WINDOW		CALIBRATION FACTOR
				FROM	TO	
PCB 1254	250 PPB	r	14.20	14.10	14.30	328.39
		2*	15.29	15.19	15.39	314.24
		3*	15.53	15.43	15.63	493.18
		4	15.89	15.79	15.99	262.87
		5	16.08	15.98	16.18	385.80
Tetrachloro-m-xylene	300 PPB		9.34	9.24	9.44	8579.98
De ca ch I orobi phenyl	300 PPB		20.92	20.82	21.02	5653.47

* Denotes required peaks

Single injections of the low standard are made to establish approximate retention times and instrument sensitivity. Five point calibrations are performed if a multipeak component is detected in a sample.

Alternate column confirmation is run if a pesticide or PCB is detected in a site sample.

OF
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7E
PCB CALIBRATION VERIFICATION SUMMARY

Lab Name: FRIEND LABORATORY, INC. Contract: _____
 Lab Code: 10252 Case No.: _____ SAS No.: _____ SDG No.: AAA

Sample Name: 250PPB 1254
 File Name: E2989996.D
 Instrument ID: HP1.I
 GC Column: RTX-CLPesticides 2

ID: 0.32 (mm)
 Analysis Date: 10/04/02
 Analysis Time: 0927

COMPOUND	PEAK	RT	RT WINDOW FROM TO	CALC AMOUNT	TRUE AMOUNT	%D
Aroclor-1254	1	13.66	13.57 13.77	283.52	250.00	13.41
Aroclor-1254	2	14.55	14.46 14.66	246.67	250.00	1.33
Aroclor-1254	3	15.00	14.91 15.11	261.59	250.00	4.64
Aroclor-1254	4	15.34	15.25 15.45	305.80	250.00	22.32
Aroclor-1254	5	16.02	15.93 16.13	261.10	250.00	4.44
Tetrachloro-m-xylene	1	7.98	7.89 8.09	314.70	300.00	4.90
Decachlorobiphenyl	1	20.12	20.03 20.23	340.26	300.00	13.42

* QC LIMITS: %D of amounts in the Continuing Calibration must be less than or equal to 15%.

00167

7E
PCB CALIBRATION VERIFICATION SUMMARY

Lab Name: FRIEND LABORATORY, INC. Contract: _____
Lab Code: 10252 Case No.: _____ SAS No.: _____ SDG No.: AAA

Sample Name: 250PPB1254
File Name: E2980007.D
Instrument ID: HP1.I
GC Column: RTX-CLPesticides 2

ID: 0.32 (mm)
Analysis Date: 10/04/02
Analysis Time: 1441

COMPOUND	PEAK	RT	RT WINDOW FROM TO	CALC AMOUNT	TRUE AMOUNT	%D
Aroclor-1254	1	13.66	13.57 13.77	277.12	250.00	10.85
Aroclor-1254	2	14.55	14.46 14.66	242.37	250.00	3.05
Aroclor-1254	3	14.99	14.91 15.11	259.16	250.00	3.66
Aroclor-1254	4	15.34	15.25 15.45	268.96	250.00	7.58
Aroclor-1254	5	16.02	15.93 16.13	244.61	250.00	2.16
Tetrachloro-m-xylene	1	7.98	7.89 8.09	295.72	300.00	1.43
Decachlorobiphenyl	1	20.12	20.03 20.23	325.72	300.00	8.57

* QC LIMITS: %D of amounts in the Continuing Calibration must be less than or equal to 15%.

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7E
PCB CALIBRATION VERIFICATION SUMMARY

Lab Name: FRIEND LABORATORY, INC. Contract:_____
Lab Code: 10252 Case No.:_____SAS No.:_____SDG No.: AAA

Sample Name: 250PPB 1254
File Name: E3956283.D
Instrument ID: HP3.I
GC Column: RTX-CLPesticides 1 ID: 0.32 (mm)
Analysis Date: 10/03/02
Analysis Time: 2116

COMPOUND	PEAK	RT	RTW	WINDOW	CALC	TRUE	%D
			FROM	TO	AMOUNT	AMOUNT	
Aroclor-1254	1	14.21	14.10	14.30	282.87	250.00	13.15
Aroclor-1254	2	15.29	15.19	15.39	293.88	250.00	17.55
Aroclor-1254	3	15.54	15.43	15.63	276.11	250.00	10.44
Aroclor-1254	4	15.90	15.79	15.99	273.35	250.00	9.34
Aroclor-1254	5	16.08	15.98	16.18	251.70	250.00	0.68
Tetrachloro-m-xylene	1	9.35	9.24	9.44	273.82	300.00	8.73
Decachlorobiphenyl	1	20.93	20.82	21.02	274.61	300.00	8.46

%

* QC LIMITS: %D of amounts in the Continuing Calibration must be less than or equal to 15%.

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7E
PCB CALIBRATION VERIFICATION SUMMARY

Lab Name: FRIEND LABORATORY, INC. Contract: _____
Lab Code: 10252 Case No.: _____ SAS No.: _____ SDG No.: AAA

Sample Name: 250PPB 1254
File Name: E3956292.D
Instrument ID: HP3.I
GC Column: RTX-CLPesticides 1

ID: 0.32 (mm)
Analysis Date: 10/04/02
Analysis Time: 2033

COMPOUND	PEAK	RT	RTWI FROM	N ^o DOW TO	CALC AMOUNT	TRUE AMOUNT	%D
Aroclor-1254	1	14.21	14.09	14.29	239.83	250.00	4.07
Aroclor-1254	2	15.29	15.17	15.37	235.59	250.00	5.76
Aroclor-1254	3	15.53	15.41	15.61	235.86	250.00	5.66
Aroclor-1254	4	15.89	15.77	15.97	222.26	250.00	11.10
Aroclor-1254	5	16.08	15.96	16.16	235.87	250.00	5.65
Tetrachloro-m-xylene	1	9.34	9.22	9.42	269.75	300.00	10.08
Decachlorobiphenyl	1	20.92	20.81	21.01	270.42	300.00	9.86

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* QC LIMITS: %D of amounts in the Continuing Calibration must be
less than or equal to 15%.

00176

8D
PCB ANALYTICAL SEQUENCE

MP Name: _____ Contract: _____
 Code: _____ Case No. : _____ SAS No.: _____ SDG No. : AAA916
 Instrument ID: HP1 Init. Calib. Date(s): 09/17/2 09/17/2
 GC Column: RTX-CLPESTICIDES 2 ID: 0.32 (mm)

THE ANALYTICAL SEQUENCE OF PERFORMANCE EVALUATION MIXTURES, BLANKS,
 SAMPLES, AND STANDARDS IS GIVEN BELOW:

MEAN SURROGATE RT FROM INITIAL CALIBRATION						
TCX: 8.00			DCB: 20.13			
EPA SAMPLE NO.	LAB SAMPLE ID	DATE ANALYZED	TIME ANALYZED	TCX RT #	DCB RT #	
01	STD11660	STD11660	09/17/2	1304	7.97	20.11
02	STD21660	STD21660	09/17/2	1335	7.99	20.12
03	STD31660	STD31660	09/17/2	1406	8.00	20.13
04	STD41660	STD41660	09/17/2	1437	7.99	20.13
05	STD51660	STD51660	09/17/2	1509	8.00	20.13
06	STD61660	STD61660	09/17/2	1540	8.00	20.13
07	STD11254	STD11254	09/17/2	1643	7.98	20.12
08	STD21254	STD21254	09/17/2	1714	7.99	20.13
09	STD31254	STD31254	09/17/2	1745	8.00	20.13
10	STD41254	STD41254	09/17/2	1816	7.99	20.13
11	STD51254	STD51254	09/17/2	1848	7.98	20.13
12	STD61254	STD61254	09/17/2	1919	8.00	20.13
13	STD41248	STD41248	09/17/2	1950	7.99	20.13
14	STD41242	STD41242	09/17/2	2021	7.99	20.13
15	STD41232	STD41232	09/17/2	2052	7.99	20.13
16	STD41221	STD41221	09/17/2	2124	8.00	20.13
17	EC16G0Q1	CC166001	09/18/2	1401	8.00	20.13
18	MB82 /	MB82	09/18/2	1433	8.02	20.13
19	QC82 /	QC82	09/18/2	1507	8.02	20.13
20	L94080fLRE	L94080-1RE	09/18/2	1538	7.99	20.13
21	L94080/2	L94080-2	09/18/2	1610	7.99	20.13
22	L9408/-3RE	L94080-3RE	09/18/2	1641	7.99	20.13
23	L9408/-4	L94080-4	09/18/2	1712	7.98	20.13
24	CC16f1b02	CC166002	09/18/2	1815	8.01	20.13
25	L940I1-1RE	L94081-1RE	09/18/2	1846	7.98	20.13
26	L940B1-4RE	L94081-4RE	09/18/2	1917	7.99	20.13
27	L94f81-5RE	L94081-5RE	09/18/2	1948	8.00	20.13
28	L94f)81-6RE	L94081-6RE	09/18/2	2019	7.99	20.13
29	L9f081-7R	L94081-7R	09/18/2	2051	7.98	20.13
30	L91081-1MSR	L94081-1MSR	09/18/2	2122	7.98	20.13
31	LS»081-1MSDR	L94081-1MSDR	09/18/2	2153	7.97	20.11
32	cJl66003	CC166003	09/18/2	2255	8.01	20.13
33	C#125401	CC125401	09/18/2	2327	7.99	20.13
34	CC125402	CC125402	09/19/2	1009	7.99	20.13
35	1*4080-1	L94080-1	09/19/2	1038	7.99	20.13
36	lfe4080-3R	L94080-3R	09/19/2	1116	7.99	20.13
37		L94081-6	09/19/2	1148	7.98	20.13

QC LIMITS
 TCX = Tetrachloro-m-xylene (+/- 0.10 MINUTES,
 DCB = Decachlorobiphenyl (+/- 0.10 MINUTES,

Column used to flag retention time values with an asterisk.
 * Values outside of QP limits.

8D
PCB ANALYTICAL SEQUENCE

Lab Name: Contract: SDG No. : AAA1001
 Lab Code: Case No. : SAS No. :
 Instrument ID: HP1 Init. Calib. Date(s) : 09/17/2 09
 GC Column: RTX-CLPESTICIDES 2 ID: 0.32 (mm)

THE ANALYTICAL SEQUENCE OF PERFORMANCE EVALUATION MIXTURES, BLANKS,
 SAMPLES, AND STANDARDS IS GIVEN BELOW:

MEAN SURROGATE RT FROM INITIAL CALIBRATION						
TCX: 8.00			DCB: 20.13			
EPA SAMPLE NO.	LAB SAMPLE ID	DATE ANALYZED	TIME ANALYZED	TCX RT #	DCB RT #	
01	jnciCCtlL	1254CC01	10/02/2	1527	7.99	20.13
02	MB92R /	MB92R	10/02/2	1556	7.98	20.13
03	QC92R 1	QC92R	10/02/2	1628	7.93	20.12
04	L94773-2R	L94773-2R	10/02/2	1657	7.99	20.13
05	L9477X-7R	L94773-7R	10/02/2	1728	7.99	20.13
06	L94771-8R	L94773-8R	10/02/2	1759	7.99	20.13
07	L947TO-4R	L94773-4R	10/02/2	1831	7.99	20.12
08	1254CJC02	1254CC02	10/02/2	1902	7.99	20.13
09	1254C03	1254CC03	10/03/2	0929	7.98	20.12
10	MB9^E	MB92RE	10/03/2	1000	7.97	20.12
11	QC9;fel	QC92RE	10/03/2	1032	7.98	20.12
12	L94I73-2RE	L94773-2RE	10/03/2	1103	7.97	20.12
13	L94I73-7RE	L94773-7RE	10/03/2	1134	7.97	20.12
14	L94P73-8RE	L94773-8RE	10/03/2	1205	7.97	20.12
15	L9/773-9RE	L94773-9RE	10/03/2	1237	7.98	20.12
16	L9I773-1RE	L94773-1RE	10/03/2	1308	7.97	20.12
17	L^773-5RE	L94773-5RE	10/03/2	1339	7.98	20.12
18	Lf4773-6RE	L94773-6RE	10/03/2	1410	7.97	20.12
19	IJ4773-2MSRE	L94773-2MSRE	10/03/2	1441	7.97	20.12
20	I4773-2MSDR	L94773-2MSDR	10/03/2	1513	7.97	20.12
21	J94859-4RE	L94859-4RE	10/03/2	1544	7.98	20.12
22		1254CC04	10/03/2	1615	7.97	20.12
23	1254CC05	1254CC05	10/04/2	0927	7.98	20.12
24	QC92	QC92	10/04/2	0959	7.98	20.12
25	L94773-1	L94773-1	10/04/2	1030	7.98	20.12
26	L94773-6	L94773-6	10/04/2	1101	7.98	20.12
27	L94773-9	L94773-9	10/04/2	1136	7.98	20.12
28	L94773-7	L94773-7	10/04/2	1205	7.98	20.12
29	L94773-8	L94773-8	10/04/2	1237	7.97	20.12
30	L94773-2	L94773-2	10/04/2	1308	7.98	20.12
31	L94773-5	L94773-5	10/04/2	1339	7.97	20.12
32	1254CC06	1254CC06	10/04/2	1441	7.98	20.12
33						
34						
35						
36						
37						

QC LIMITS
 TCX = Tetrachloro-m-xylene {+/- 0.10 MINUTES;
 DCB = Decachlorobiphenyl {+/- 0.10 MINUTES;

Column used to flag retention time values with an asterisk.
 * Values outside of QC limits.

8D
PCB ANALYTICAL SEQUENCE

m Lab Name: Contract: SDG No. : AAA1002
 Lab Code: Case No. : SAS No. :
 Instrument ID: HP1 Init. Calib. Date(s): 09/17/2 09/17/2
 GC Column: RTX-CLPESTI CEDES 2 ID: 0.32 (mm)

THE ANALYTICAL SEQUENCE OF PERFORMANCE EVALUATION MIXTURES, BLANKS,
 SAMPLES, AND STANDARDS IS GIVEN BELOW:

MEAN SURROGATE RT FROM INITIAL CALIBRATION TCX: 8:00 DCB: 20.13						
	EPA SAMPLE NO.	LAB SAMPLE ID	DATE ANALYZED	TIME ANALYZED	TCX RT #	DCB RT #
01	1254CC02	1254CC02	10/07/2	1300	7.98	20.12
02	MB01	MB01	10/07/2	1331	7.98	20.12
03	QC01	QC01	10/07/2	1403	7.97	20.12
04	L94910-1	L94910-1	10/07/2	1434	7.97	20.11
05	L94910-2	L94910-2	10/07/2	1505	7.97	20.12
06	L94910-3	L94910-3	10/07/2	1536	7.97	20.12
07	L94910-4	L94910-4	10/07/2	1608	7.98	20.12
08	L94910-5	L94910-5	10/07/2	1639	7.98	20.12
09	L94910-6	L94910-6	10/07/2	1710	7.97	20.12
10	1254CC03	1254CC03	10/07/2	1813	7.98	20.11
11						
12	LS4S51-H	WM^q - f	10/07/2	1831	7.98	20.11
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QC LIMITS

TCX = Tetrachloro-m-xylene (+/- 0.10 MINUTES)
 DCB = Decachlorobiphenyl (+/- 0.10 MINUTES)

Column used to flag retention time values with an asterisk.
 * Values outside of QC limits.

8D
PCB ANALYTICAL SEQUENCE

Lab Name: Contract:
Lab Code: Case No. : SAS No. : SDG No. : AAA1007
Instrument ID: HP1 Init. Calib. Date(s): 09/17/2009
GC Column: RTX-CLPESTICIDES 2 ID: 0.32 (mm)

THE ANALYTICAL SEQUENCE OF PERFORMANCE EVALUATION MIXTURES, BLANKS,
SAMPLES, AND STANDARDS IS GIVEN BELOW:

MEAN SURROGATE RT FROM INITIAL CALIBRATION						
TCX: 8.00			DCB: 20.13			
	EPA SAMPLE NO.	LAB SAMPLE ID	DATE ANALYZED	TIME ANALYZED	TCX RT #	DCB RT #
01	1254CC01	1254CC01	10/08/2	1249	7.99	20.13
02	MB05	MB05	10/08/2	1321	8.00	20.13
03	QC05	QC05	10/08/2	1402	8.00	20.13
04	L95095-1	L95095-1	10/08/2	1431	7.99	20.13
05	L95095-2	L95095-2	10/08/2	1505	7.99	20.13
06	L95095-2MS	L95095-2MS	10/08/2	1536	7.99	20.13
07	L95095-2MSD	L95095-2MSD	10/08/2	1607	7.99	20.13
08	L95095-5	L95095-5	10/08/2	1639	7.99	20.13
09	L95095-6	L95095-6	10/08/2	1710	7.99	20.13
10	1254CC02	1254CC02	10/08/2	1812	8.00	20.13
11	MB92	MB92	10/08/2	1843	7.99	20.13
12	L94773-3MS	L94773-3MS	10/08/2	1915	7.98	20.13
13	L94773-4MSD	L94773-4MSD	10/08/2	1946	7.99	20.13
14	1254CC03	1254CC03	10/08/2	2048	7.99	20.13
15						
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QC LIMITS
TCX = Tetrachloro-m-xylene (+/- 0.10 MINUTES)
DCB = Decachlorobiphenyl (+/- 0.10 MINUTES)

Column used to flag retention time values with an asterisk,
* Values outside of QC limits.

8D
PCB ANALYTICAL SEQUENCE

Lab Name: Contract: SDG No. : AAA1001CONFIRM
 .Lab Code: Case No. : SAS No. :
 ^Instrument ID: HP3 Init. Calib. Date(s): 10/03/2 10/03/2
 GC Column: RTX-CLPESTICIDES 1 ID: 0.32 (mm) JLPJL,
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THE ANALYTICAL SEQUENCE OF PERFORMANCE EVALUATION MIXTURES, BLANKS,
 SAMPLES, AND STANDARDS IS GIVEN BELOW:

MEAN SURROGATE RT FROM INITIAL CALIBRATION							
TCX: 9.34 DCB: 20.92							
	EPA SAMPLE NO.	LAB SAMPLE ID	DATE ANALYZED	TIME ANALYZED	TCX RT #	DCB RT #	
01	1254LLSTD	1254LLSTD	10/03/2	1606	9.36	20.93	
02	1254STD1	1254STD1	10/03/2	1636	9.34	20.92	
03	L94773-2	L94773-2	10/03/2	1707	9.34	20.91	
04	L94773-7	L94773-7	10/03/2	1738	9.33	20.91	
05	L94773-8	L94773-8	10/03/2	1809	9.33	20.92	
06	L94773-9	L94773-9	10/03/2	1840	9.32	20.91	
07	L94773-1	L94773-1	10/03/2	1911	9.33	20.91	
08	L94773-5	L94773-5	10/03/2	1942	9.34	20.92	
09	L94773-6	L94773-6	10/03/2	2013	9.34	20.92	
10	L94859-4	L94859-4	10/03/2	2045	9.34	20.92	
11	1254CC01	1254CC01	10/03/2	2116	9.35	20.93	
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QC LIMITS
 TCX = Tetrachloro-m-xylene (+/- 0-1° MINUTES)
 DCB * Decachlorobiphenyl (+/- 0.10 MINUTES)

Column used to flag retention time values with an asterisk.
 * Values outside of QC limits.

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FORM VIII PCB

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8D
PCB ANALYTICAL SEQUENCE

Lab Name: Contract: SDG No. : AAA1002
 Lab Code: Case No.: SAS No.:
 Instrument ID: HP3 Init. Calib. Date(s): 10/03/2010
 GC Column: RTX-CLPESTICIDES 1 ID: 0.32 (mm) ID/OM/OZ

THE ANALYTICAL SEQUENCE OF PERFORMANCE EVALUATION MIXTURES, BLANKS,
 SAMPLES, AND STANDARDS IS GIVEN BELOW:

MEAN SURROGATE RT FROM INITIAL CALIBRATION TCX: -9r34 9-3.2- DCB: I>0.D2 3(7. 31 00.Z. II						
	EPA SAMPLE NO.	LAB SAMPLE ID	DATE ANALYZED	TIME ANALYZED	TCX RT #	DCB RT #
01	1254CC01	1254CC01	10/04/2	1624	9.32	20.91
02	L94910-1	L94910-1	10/04/2	1655	9.34	20.92
03	L94910-2	L94910-2	10/04/2	1726	9.32	20.91
04	L94910-3	L94910-3	10/04/2	1758	9.33	20.92
05	L94910-4	L94910-4	10/04/2	1829	9.32	20.91
06	L94910-5	L94910-5	10/04/2	1900	9.33	20.92
07	L94910-6	L94910-6	10/04/2	1931	9.34	20.93
08	1254CC02	1254CC02	10/04/2	2033	9.34	20.92
09						
10						
11						
12						
13						
14						
15						
16						
17						
18						
19						
20						
21						
22						
23						
24						
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28						
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31						
32						
33						
34						
35						
36						
37						

41

QC LIMITS
 TCX = Tetrachloro-m-xylene (+/- 0.10 MINUTES;
 DCB = Decachlorobiphenyl (+/- 0.10 MINUTES;

Column used to flag retention time values with an asterisk.
 * Values outside of QC limits.

8D
PCB ANALYTICAL SEQUENCE

Lab Name: Contract: SDG No. : AAA1007CONFIRM
 Lab Code: Case No. : SAS No. :
 Instrument ID: HP3 Init. Calib. Date(s): 10/08/2 10/08/2
 Column: RTX-CLPESTICIDES 1 ID: 0.32 (mm)

THE ANALYTICAL SEQUENCE OF PERFORMANCE EVALUATION MIXTURES, BLANKS,
 SAMPLES, AND STANDARDS IS GIVEN BELOW:

MEAN SURROGATE RT FROM INITIAL CALIBRATION TCX: 9.38 DCB: 20.95							
EPA SAMPLE NO.		LAB SAMPLE ID	DATE ANALYZED	TIME ANALYZED	TCX RT	#	DCB RT
01	1254CC01	1254CC01	10/08/2	1613	9.38		20.95
02	L95095-1	L95095-1	10/08/2	1644	9.39		20.97
03	L95095-2	L95095-2	10/08/2	1715	9.38		20.96
04	L95095-5	L95095-5	10/08/2	1746	9.38		20.96
05		L95095-6	10/08/2	1818	9.37		20.96
06	1254CC02	1254CC02	10/08/2	1920	9.37		20.96
07							
08							
09							
10							
11							
12							
13							
14							
15							
16							
17							
18			^				
19							
20							
21							
22							
23							
24							
25							
26							
27							
28							
29							
30							
31							
32							
33							
34							
35							
36							
37							

QC LIMITS
 TCX = Tetrachloro-m-xylene (+/- 0.10 MINUTES)
 DCB = Decachlorobiphenyl (+/- 0.10 MINUTES)

Column used to flag retention time values with an asterisk.
 * Values outside of QC limits.

10B
PESTICIDE IDENTIFICATION SUMMARY
FOR MULTICOMPONENT ANALYTES

EPA SAMPLE NO.

L94773-1

Lab Name:

Contract:

Lab Code:

Case No.:

SAS No.:

SDG No. : AAA1001 * .

Lab Sample ID: L94773-1

Date(s) Analyzed: 10/04/2 tolo^hg.

Instrument ID (1): HP1

Instrument ID (2) : y\|> 3

GC Column(1) : RTX-CLPESTICIDES 2 ID: 0.32 (mm) GC Column(2) : ft-yY-CiPeST j-ID: /),3J-

ANALYTE	PEAK	RT	RT WINDOW FROM TO	CONCENTRATION	MEAN CONCENTRATION	%D
Aroclor-1254	1	13.65	13.57 13.77	47.42	280.21	
	2	14.54	14.46 14.66	338.15		
	3	14.92	14.90 15.10	429.61		
	4	15.33	15.25 15.45	237.09		
	5	16.01	15.93 16.13	348.78		
COLUMN 1	1	m.a0	>^iH. ID	iM-3c		
	2	J^,^T-	/,5,1^	IX,7ft	. ^ ^ , ^ - x	
	3	i, s ^ i	1-5,4,3	is5,fc7>	•S i S • ^ 3	
	4	i^,S'K	iSW	1-5,^	3 H ? , ^	
	5	i/,,"X	ISX9>	11*,1*??	-a^a-aa.	
COLUMN 2	1			=====		=r = ^ = =
	2					^ t
	3					^ 1
	4					
	5					
COLUMN 1	1					
	2					
	3					
	4					
	5					
COLUMN 2	1					
	2					
	3					
	4					
	5					
COLUMN 1	1					
	2					
	3					
	4					
	5					
COLUMN 2	1					
	2					
	3					
	4					
	5					

At least 3 peaks are required for identification of multicomponent analytes.

10B
PESTICIDE IDENTIFICATION SUMMARY
FOR MULTICOMPONENT ANALYTES

EPA SAMPLE NO.

L94773-2

Lab Name:

Contract:

*

ab Code:

Case No.:

SAS No.:

SDG No.: AAA1001

Lab Sample ID: L94773-2

Date(s) Analyzed: 10/04/2 io\c3lo?~

Instrument ID (1): HP1

Instrument ID (2): HP3

GC.Column(1) : RTX-CLPESTICIDES 2 ID: 0.32 (mm) GC Column(2) : RTK-CLPEST ID: Q, y
(mm)

ANALYTE	PEAK	RT	RT W	NDOW	CONCENTRATION	MEAN CONCENTRATION	%D
Aroclor-1254	1	13.66	13.57	13.77	5007.55	4086.18	
	2	14.55	14.46	14.66	4015.48		
	3	14.99	14.90	15.10	4008.44		
	4	15.34	15.25	15.45	4812.77		
	5	16.01	15.93	16.13	2586.66		
COLUMN 1	1	m-a.0	iH.10	14-30		3M 10,10	
	2	l-n.S**	15.1^	LS.dtf	^?Dir:. qq		
	3	15,33	fS.43	LS.(^3	^/oto.:-?>		
	4	15. ^	io.1'1	15. ^	3^i5^0(		
	5	i/^o>	15.18	Ifc-IS	3552.31		
COLUMN 2	1						
	2						
	3						
	4						
	5						
COLUMN 1	1						
	2						
	3						
	4						
	5						
COLUMN 2	1						
	2						
	3						
	4						
	5						
COLUMN 1	1						
	2						
	3						
	4						
	5						
COLUMN 2	1						
	2						
	3						
	4						
	5						

At least 3 peaks are required for identification of multicomponent analytes.

10B
PESTICIDE IDENTIFICATION SUMMARY
FOR MULTICOMPONENT ANALYTES

EPA SAMPLE NO.

L94773-3MS

Lab Name:

Contract:

Lab Code:

Case No. :

SAS No. :

SDG No. : AAA1007

Lab Sample ID: L94773-3MS

Date(s) Analyzed: 10/08/2008

Instrument ID (1): HP1

Instrument ID (2):

GC Column(1): RTX-CLPESTICIDES 2 ID: 0.32 (mm) GC Column(2): ID:

ANALYTE	PEAK	RT	RT WINDOW		CONCENTRATION	MEAN CONCENTRATION	%D
			FROM	TO			
Aroclor-1016	1	10.19	10.11	10.31	444.04		
	2	10.64	10.61	10.81	983.02		
	3	11.89	11.80	12.00	3436.30		
COLUMN 1	4	11.97	11.88	12.08	3068.12		
	5	12.67	12.59	12.79	1234.24	1833.14	
	1						

COLUMN 2

Aroclor-1260	1	14.94	14.84	15.04	2018.55		
	2	15.35	15.25	15.45	2617.09		
	3	16.20	16.11	16.31	1396.65		
COLUMN 1	4	16.75	16.67	16.87	1197.57		
	5	17.24	17.15	17.35	1118.61	1669.69	

COLUMN 2

COLUMN 1

COLUMN 2

At least 3 peaks are required for identification of multicomponent analytes.

10B
PESTICIDE IDENTIFICATION SUMMARY
FOR MULTICOMPONENT ANALYTES

EPA SAMPLE NO-

L94773-4MSD

Lab Name:

Contract:

Lab Code:

Case No. :

SAS No. :

SDG No. : AAA1007

Lab Sample ID: L94773-4MSD

Date(s) Analyzed: 10/08/2 _____

Instrument ID (1): HP1

Instrument ID (2):

GC Column(1) : RTX-CLPESTICIDES 2 ID: 0-32 (mm) GC Column(2) :

ID;

ANALYTE	PEAK	RT	RT WINDOW		CONCENTRATION	MEAN CONCENTRATION	%D
			FROM	TO			
Aroclor-1016 COLUMN 1	1	10.20	10.11	10.31	612.30	2290.10	
	2	10.70	10.61	10.81	625.00		
	3	11.90	11.80	12.00	4477.19		
	4	11.98	11.88	12.08	4096.55		
	5	12.67	12.59	12.79	1639.49		
COLUMN 2	1	^ \					
	2						
	3						
	4						
	5						
Aroclor-1260 COLUMN 1	1	14.94	14.84	15.04	2351.10	1848.43	
	2	15.35	15.25	15.45	2964.90		
	3	16.20	16.11	16.31	1532.98		
	4	16.75	16.67	16.87	1242.89		
	5	17.24	17.15	17.35	1150.28		
COLUMN 2	1	\					
	2						
	3						
	4						
	5						
COLUMN 1	1	V					
	2						
	3						
	4						
	5						
COLUMN 2	1	\					
	2						
	3						
	4						
	5						

At least 3 peaks are required for identification of multicomponent analytes

10B
PESTICIDE IDENTIFICATION SUMMARY
FOR MULTICOMPONENT ANALYTES

EPA SAMPLE NO.

L94773-5

Lab Name:

Contract:

Lab Code:

Case No. :

SAS No.:

SDG No.: AAAl001

Lab Sample ID: L94773-5

Date(s) Analyzed: 10/04/2010 fc/c3/o;i

Instrument ID (1): HP1

Instrument ID (2) : HP3

GC Column(1) : RTX-CLPESTICIDES 2 ID: 0.32(mm) GC Column(2) : RTX-CiPE5T ID: 0.32-

ANALYTE	PEAK	RT	RT WINDOW FROM TO	CONCENTRATION	MEAN CONCENTRATION	%D
Aroclor-1254 COLUMN 1	1	13.66	13.57 13.77	8244.31	6818.56	
	2	14.55	14.46 14.66	6193.37		
	3	14.99	14.90 15.10	6438.76		
	4	15.34	15.25 15.45	9950.56		
	5	16.00	15.93 16.13	3265.79		
COLUMN 2	1	m.ai	IM.30			
	2	is.as	i.^.ll ^.^l	11/00.^13		
	3	i&.S2>	w=iM3> 15.t"5	M^OH. II		
	4	/a.OT	1.^ Tc? is.qq	tHX<r.8S		
	5	ltc.C%	I.^ S i^..is	^0^ .5?4		
COLUMN 1	1					
	2					
	3					
	4					
	5					
COLUMN 2	1					
	2					
	3					
	4					
	5					
COLUMN 1	1					
	2					
	3					
	4					
	5					
COLUMN 2	1					
	2					
	3					
	4					
	5					

At -least 3 peaks are required for identification of multicomponent analytes.

10B
PESTICIDE IDENTIFICATION SUMMARY
FOR MULTICOMPONENT ANALYTES

EPA SAMPLE NO.

L94773-6

Lab Name:

Contract:

ab Code:

Case No.:

SAS No.:

SDG No. : AAA1001

Lab Sample ID: L94773-6

Date(s) Analyzed: 10/04/2 J_C_[03_ip3-

Instrument ID (1): HP1

Instrument ID (2) : HP-3

GC Column (1) : RTX-CLPESTICIDES 2 ID: 0.32 (mm) GC Column(2) : /TTV -CiPfST 1. ID: Q.3 3.

ANALYTE	PEAK	RT	RT W: [NDOW FROM TO	CONCENTRATION	MEAN CONCENTRATION	%D
Aroclor-1254	1	13.65	13.57	13.77	141.79	218.01
	2	14.54	14.46	14.66	274.20	
	3	14.99	14.90	15.10	295.56	
	4	15.33	15.25	15.45	174.70	
	5	15.99	15.93	16.13	203,79	
COLUMN 1	1		IM. IO	14. ^o		
	2	W. a *	15. ^o	l-n. 7f\	. *r*. fc7S	
	3	kS. sM	1 ^ . 43	k ^ . b > ~ h	, J3 ^ . -SD	
	4	L < > ID	l * i - ^	r - i . ^	M ^ . 10	
	5	I / . OS	t. 'VK*	Wo-LS	i 8 ^ . ^	
COLUMN 2	1					
	2					
	3					
	4					
	5					
COLUMN 1	1					
	2					
	3					
	4					
	5					
COLUMN 2	1					
	2					
	3					
	4					
	5					
COLUMN 1	1					
	2					
	3					
	4					
	5					
COLUMN 2	1					
	2					
	3					
	4					
	5					

At least 3 peaks are required for identification of multicomponent analytes.

10B
PESTICIDE IDENTIFICATION SUMMARY
FOR MULTICOMPONENT ANALYTES

EPA SAMPLE NO.

L94773-7

Lab Name:

Contract:

Lab Code:

Case No.:

SAS No.:

SDG No.: AAA1001

Lab Sample ID: L94773-7

Date(s) Analyzed: 10/04/2)0103103-

Instrument ID (1): HP1

Instrument ID (2) : HP3__

GC Column(1) : RTX-CLPESTICIDES 2 ID: 0.32 (mm) GC Column(2) : faX-CcPCST X ID: 0.3^-

ANALYTE	PEAK	RT	RT W	WINDOW	CONCENTRATION	MEAN CONCENTRATION	%D
Aroclor-1254	1	13.65	13.57	13.77	2081.35	1627.61	
	2	14.55	14.46	14.66	1541.13		
	3	14.99	14.90	15.10	1456.20		
	4	15.33	15.25	15.45	1986.66		
	5	16.01	15.93	16.13	1072.69		
COLUMN 1	1	(4.30	14.10	14-30	!3'43. 1*		
	2	i«s.as	15•\%	^3<=]	^i 1./*4		
	3	IS.SSI	^ . 4 3	\SArr*>	i V43 ^4.		
	4	L'S W	15.1*	is.<w	14 4?[. 31		
	5	\u>.en	1^98	1/.,-IX	irvs4.^4		3 4 - 3
COLUMN 2	1	=====					
	2						
	3						
	4						
	5						
COLUMN 1	1						
	2						
	3						
	4						
	5						
COLUMN 2	1						
	2						
	3						
	4						
	5						
COLUMN 1	1	=====	=^=s=: s=	=====	=====		
	2						
	3						
	4						
	5						
COLUMN 2	1						
	2						
	3						
	4						
	5						

At least 3 peaks are required for identification of multicomponent analytes.

10B
PESTICIDE IDENTIFICATION -SUMMARY
FOR MULTICOMPONENT ANALYTES

EPA SAMPLE NO.

L94773-8

Lab Name:

Contract:

Lab Code:

Case No. :

SAS No. :

SDG No.: AAA1001

Lab Sample ID: L94773-8

Date(s) Analyzed: 10/04/2 10103103-

Instrument ID (1): HP1

Instrument ID (2) : HP-3

GC Column(1) : RTX-CLPESTICIDES 2 ID: 0.32 (mm) GC Column(2) : KTX-CLPESTICIDES 1 ID: 0.32

ANALYTE	PEAK	RT	RT WINDOW FROM TO	CONCENTRATION	MEAN CONCENTRATION	%D
Aroclor-1254	1	13.66	13.57 13.77	3127.77	3063.36	
	2	14.55	14.46 14.66	2936.62		
	3	14.99	14.90 15.10	2791.77		
	4	15.34	15.25 15.45	3911.00		
	5	16.01	15.93 16.13	2549.65		
COLUMN 1	1	m-a0	M•tO IH-30		^ 5 4 - 0 5 "	13.5"
	2	L.S.aa	LTIS t^,tft	^ I . S I . ^		
	3	/,S..S3	I5-M3. It>,t/*>	JX1X. ^ 3		
	4	i.S.tfl	IS.V? /^,qq	^ C A S I . ^		
	5	ilf.CTf	\5<U llo.lK	<3fc<W. M4		
COLUMN 2	1					
	2					
	3					
	4					
	5					
COLUMN 1	1					
	2					
	3					
	4					
	5					
COLUMN 2	1					
	2					
	3					
	4					
	5					
COLUMN 1	1					
	2					
	3					
	4					
	5					
COLUMN 2	1					
	2					
	3					
	4					
	5					

At least 3 peaks are required for identification of multicomponent analytes.

10B
PESTICIDE IDENTIFICATION SUMMARY
FOR MULTICOMPONENT ANALYTES

EPA SAMPLE NO.

L94773-9

Lab Name:

Contract:

Lab Code:

Case No. :

SAS No. :

SDG No.: AAA1001

Lab Sample ID: L94773-9

Date(s) Analyzed: 10/04/2 *iOlo^>lo'X*

Instrument ID (1): HP1

Instrument ID (2) : MP3

GC Column(1) : RTX-CLPESTICIDES 2 ID: 0.32(mm) GC Column(2) : dJ\~CLPESTI ID: Q.31.

ANALYTE	PEAK	RT	RT WINDOW FROM TO	CONCENTRATION	MEAN CONCENTRATION	%D
Aroclor-1254	1	13.65	13.57 13.77	72.67	308.33	
	2	14.54	14.46 14.66	367.09		
	3	14.99	14.90 15.10	450.68		
	4	15.33	15.25 15.45	271.46		
	5	16.01	15.93 16.13	379.75		
COLUMN 1	1		IM.IO IM-^0		Hfc3.*fi	SO.V
	2	/^,as	L5.n AS.ST	38S.3^		
	3	^,S3~	I/S.M3 (.S.6;3	MT^,Tlo		
	4	ixtt	L*).!^ I<5.^	i q ^ . ^ 3		
	5	iu-oi	J^,^K I/_ tf	a^o.<i4		
COLUMN 2	1	==~==		=====s=		
	2					
	3					
	4					
	5					
COLUMN 1	1					^ 1
	2					
	3					
	4					
	5					
COLUMN 2	1					
	2					
	3					
	4					
	5					
COLUMN 1	1					
	2					
	3					
	4					
	5					
COLUMN 2	1					
	2					
	3					
	4					
	5					

At least 3 peaks are required for identification of multicomponent analytes.

ID
PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

L94773-1

Lab Name:

Contract:

Lab Code:

Case No.:

SAS No.:

SDG No.: AAA1001

Matrix: (soil/water) SOIL

Lab Sample ID: L94773-1

Sample wt/vol: 10.2 (g/mL) G

Lab File ID: E2989998

% Moisture: ~Q--43.H decanted: (Y/N) N

Date Received: 10/01/2

Extraction: (SepF/Cont/Sonc) SONC

Date Extracted: 10/02/2

Concentrated Extract Volume: 10000 (uL)

Date Analyzed: 10/04/2

Injection Volume: 2.0(uL)

Dilution Factor: 10.0

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

Sulfur Cleanup: (Y/N) N

CAS NO. COMPOUND CONCENTRATION UNITS:
{ug/L or ug/Kg) UG/KG Q

12674-11-2---	Aroclor-1016		U U U U U U
1104-28-2---	Aroclor-1221	/ i o u . 11	
11141-16-5--	Aroclor-1232	l-? n 0 . 17	
53469-21-9--	Aroclor-1242		
11097-69-1--	Aroclor-1254	280.21	
11096-82-5--	Aroclor-1260	' ^ 8^17-	
	Aroclor-1248	i l U p . 17	U

nWoi-

%

Thru-Put Systems, Inc.

Data file \chem\hpl.i\8082r0917.b\E2989998.D
 Lab Smp Id L94773-1 Client Smp ID: L94773-1
 Inj Date 04-OCT-2002 10:30
 Operator CPW Inst ID: hpl.i
 Smp Info L94773-1
 Misc Info WG32995,02-004
 Comment
 Method \chem\hpl.i\8082r0917.b\8082_PCBsec.M
 Meth Date 04-Oct-2002 09:44 Administra Quant Type: ESTD
 Cal Date 17-SEP-2002 16:43 Cal File: E2989834.D
 Als bottle 1
 Dil Factor 10.00000
 Integrator Falcon Compound Sublist: PCB.sub
 Target Version: 3.40 Sample Matrix: SOIL
 Processing Host: TARGET3

Concentration Formula: Amt * DF * ((Vf / Ws) * Uf) / Ts * 1000

Name	Value	Description
DF	10.000	Dilution Factor
Vf	10.000	Final volume
Ws	10.175	Weight of sample extracted (g)
Uf	0.100	Unit Correction Factor
Ts	56.600	Total Solid

CONCENTRATIONS									
			ON-COL		FINAL				
RT	EXP RT	DLT RT	RESPONSE (ug/L)		(ug/Kg)	TARGET	RANGE	RATIO	
\$ 1 Tetrachloro-m-xylene					CAS ft:				
7.977	7.997	-0.020	289496	40.8955	710.09				
\$ 29 DecachlorobiphenyX					CAS #:				
20.120	20.130	-0.010	228917	47.8645	B31.09				
25 Aroclor-1254					CAS #: 11097-69-1				
13-650	13.670	-0.020	2786	2.73079	47.42	80.00-	120 00	100 00(MH)	
14.540	14-563	-0.023	1270	19.4747	338.15	95.41-	135 41	45 59	
14.917	15-003	-0.086	1294	24.7421	429.61	83.91-	123 91	46 45	
15.330	15.350	-0.020	1762	13.6546	237.09	45.52-	85 52	63 23	
16.007	16-033	-0.026	3063	20.0871	348.7B	82.88-	122 88	109 94	
Average of Peak Concentrations =					280.21				

m

Flag Legend

- Compound response manually integrated.
- H - Operator selected an alternate compound hit

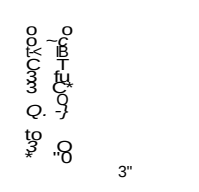
%

%

00017

Flag Legend

- M - Compound response manually integrated.
- H - Operator selected an alternate compound hit.



00022

Thru-Put Systems, Inc.

Data file \chem\hpl.i\8082r0917.b\E2980004.D
 Lab Smp Id L94773-2 Client Smp ID: L94773-2
 Inj Date 04-OCT-2002 13:08
 Operator CPW Inst ID: hpl.i
 Smp Info L94773-2
 Misc Info WG32995,02-004
 Comment
 Method \chem\hpl.i\8082r0917.b\8082_PCBsec.M
 Meth Date 04-Oct-2002 14:58 Administra Quant Type: ESTD
 Cal Date 17-SEP-r2002 16:43 Cal File: E2989834.D
 Als bottle 1
 Dil Factor 10.00000
 Integrator Falcon Compound Sublist: PCB.sub
 Target Version: 3.40 Sample Matrix: SOIL
 Processing Host: TARGET3

Concentration Formula: Amt * DF * ((Vf / Ws) * Uf) / Ts * 1000

Name	Value	Description	L
DF	10.000	Dilution Factor	
Vf	10.00 0	Final volume	
Ws	10.967	Weight of sample extracted	
Uf	0.100	Unit Correction Factor	
Ts	55.800	Total Solid	

%

CONCENTRATIONS									
			ON-COL		FINAL				
RT	EXP RT	•LT RT	.RESPONSE	(ug/L)	tug/Kg)	TARGET	RANGE	RATIO	
\$ l Tetrachloro-m-xylene					CAS «:				
7.980	7.997	-0.017	2B0155	39.7565	649.66				
S 29 Decachlorobiphenyl					CAS ft:				
20.117	20.130	-0.013	231113	48.2790	788.93				
25 Aroclor-1254					CAS «: 11097-69-1				
13.657	13.670	-0.013	95102	306.441	5007.55	80.00-	120.00	100.00(MH)	
14.550	14.563	-0.013	101298	245.731	4015.48	95.80-	135.80	106.51	
14.990	15.003	-0.013	85374	245.300	4008.44	85.18-	125.18	89.77	
15.337	15.350	-0.013	55580	294.522	4812.77	38.80-	78.80	58.44	
16.010	16.033	-0.023	53299	156.293	2586.66	78.24-	118.24	56.04	
Average of Peak Concentrations •					4086.18				

%

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Data File: \chem\hpl.i\8082r0917,b\E2980004.D
Report Date: 04-Oct-2002 15:08

QC Flag Legend

- M - Compound response manually integrated.
- H - Operator selected an alternate compound h

Date : 04-OCT-2002 13:08

Client ID: L94773-2

Sample Info: L94773-2

Volume Injected (uL): 2.0

Column phase: RTX-CLPesticides 2

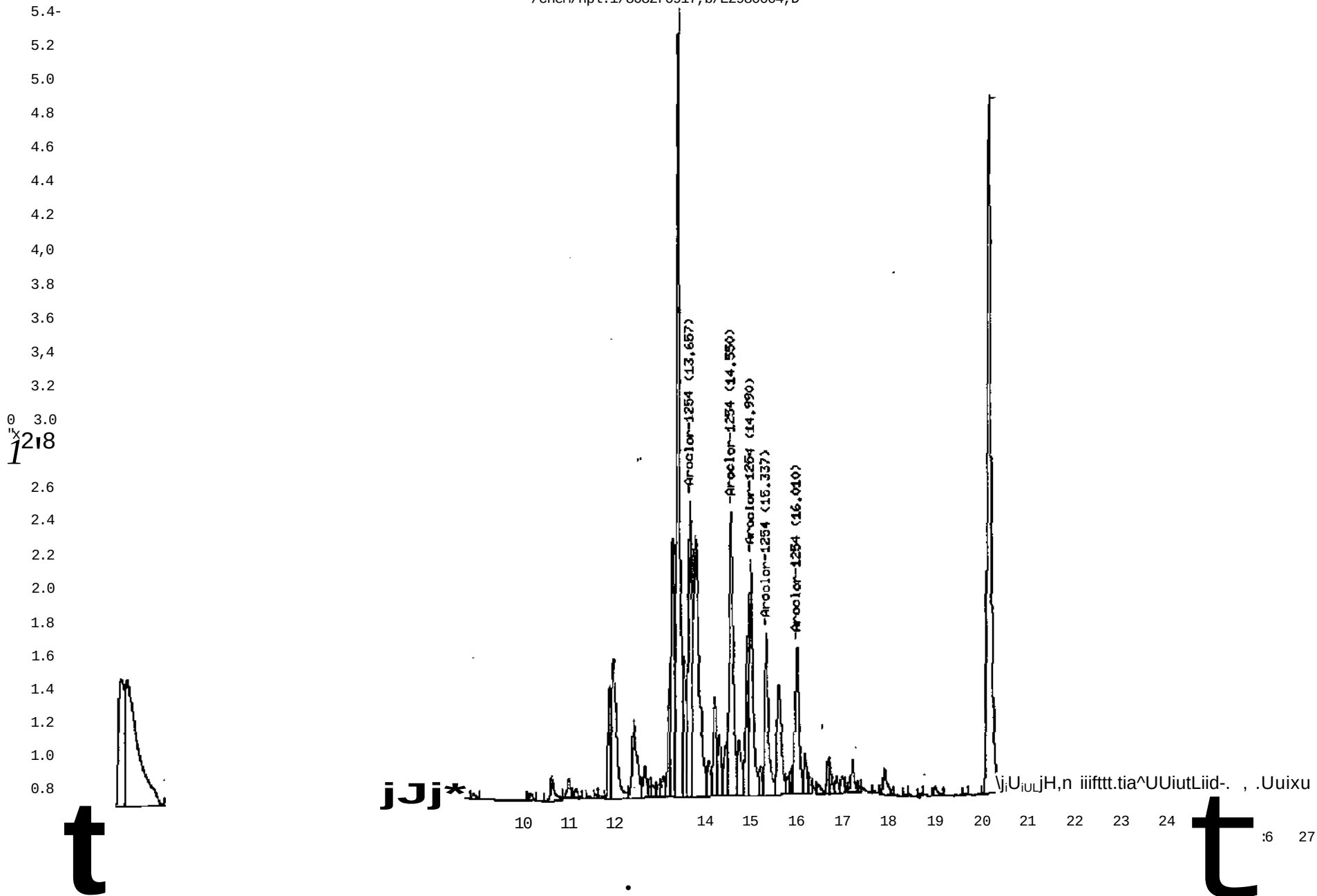
Instrument: hpl.i

Operator: CPW

Column diameter: 0.32

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/chem/hpl.i/8082r0917,b/E2980004,D



Friend Inc.

Data File: /chem/hpl.i/8082r0917.b/E2980004.D
Method: /chem/hpl.i/8082r0917.b/8082_JPCBsec.M
Sample Info; L94773-2
Misc Info; WG32995,02-004
Analysis Date: 04-OCT-2002 13:08
Sample Matrix SOIL
File Number 0004

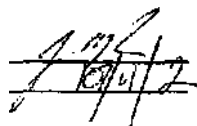
Dilution Factor	10.0000
Sample Weight	10.9670
Final Volume	10.0000
Total Solid	55.8000

Analytes fug/Kg)

Aroclor-1016	0.00
Aroclor-1221	0.00
Aroclor-1232	0.00
Aroclor-1242	0.00
Aroclor-1254	4086.18
Aroclor-1260	0.00
Aroclor-1248	0.00
Tetrachloro-m-xylene	79.51%
Decachlorobiphenyl	96.56%

Analyst CPW
Report Date 10/04/2002 15:08

Supervisor
Date



Friend Inc.

Data File: /chem/hp3.i/l254FCONFIRMa.b/E3956275.d
Method: /chem/hp3.i/1254FCONFIRMa.b/8082J?CBsec.M
Sample Info: L94773-2
Misc Info: CONFIRMATION
Analysis Date: 03-OCT-2002 17:07
Sample Matrix: SOIL
File Number: 6275

Dilution Factor	10.0000
Sample Weight	10.9670
Final Volume	10.0000
Total Solid	55.8000

Analytes (ug/Kg)

Aroclor-1254	3410.70
Tetrachloro-m-xylene	102.38%
Decachlorobiphenyl	111.65%

Analyst: CPW
Report Date: 10/04/2002 08:55

Supervisor:
Date:

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Flag Legend

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M - Compound response manually integrated.

H - Operator selected an alternate compound hit



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Tetrachloro-m-xylene (?4970)

-flroclor-1254 (13.657)
-Aroclor-1254 C144550)
-Aroclor-1254 <14.990>

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Lata File: A;hemyr.p3.i/'1254FC0NFIRha.b/E3956280,d
Date : 03-GCT-2002 19:42
Client ID: L94773-5
Sample Info; L94773-5
Volume Injected <uL): 2.0
Column phase; RTX-CLPesticides 1

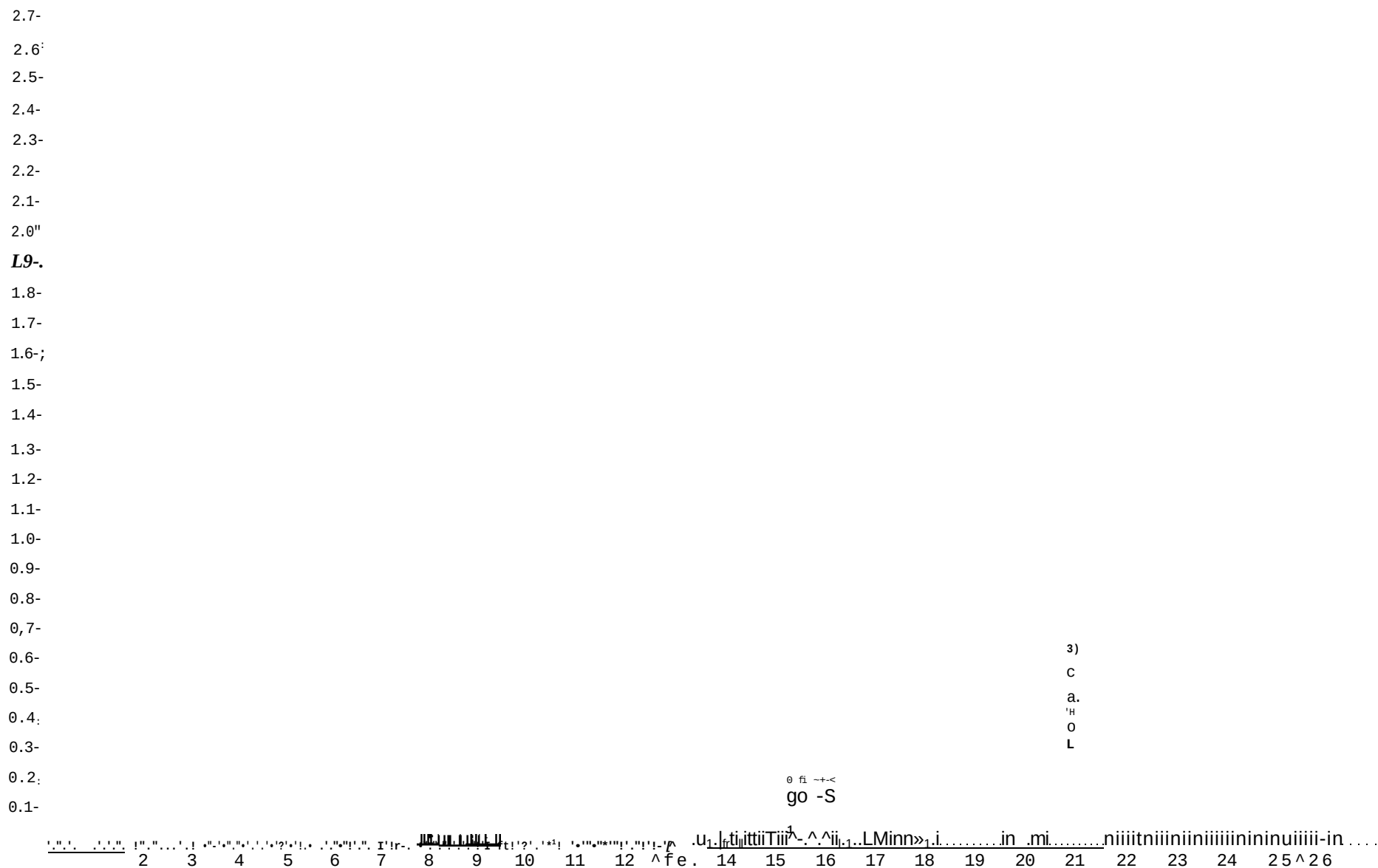
Instrument * hp3.i

Operator: CPU

Column diameter: 0.32

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•chem/hp3.i/1254FC0NFIRha.b/E3956280.d



Friend Inc.

Data File: /chem/hp3.i/l254FCONFIRMa.b/E3956280.d
Method: /chem/hp3.i/l254FCONFIRMa.b/8082_PCBsec
Sample Info; L94773-5
Misc Info; CONFIRMATION
Analysis Date 03-OCT-2002 19:42
Sample Matrix SOIL
File Number 6280

Dilution Factor	10.0000
Sample Weight	10.7111
Final Volume	10.0000
Total Solid	56.1000

Analytes (ug/Kg)

Aroclor-1254	3765.06
Tetrachloro-m-xylene	108.14%
Decachlorobiphenyl	116.04%

Analyst: CPW
Report Date: 10/04/2002 08:55

Supervisor:
Date:

Flag Legend

- « •
- M - Compound response manually integrated.
 - H - Operator selected an alternate compound hit

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Data File: \chem\hp3.i\1254FCONFIRMa.b\E3956281.d
Report Date: 04-Oct-2002 08:55

Page 2

Flag Legend

M - Compound response manually integrated.



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ID
PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

L94773-7

ab Name:	Contract:
ab Code:	Case No.: SAS NO. : SDG No. : AAA1001
Matrix: (soil/water) SOIL	Lab Sample ID: L94773-7
Sample wt/vol: 10.6 (g/mL) G	Lab File ID: E2980002
% Moisture: ~ 30% decanted: (Y/N) N	Date Received: 10/01/2
Extraction: (SepF/Cont/Sonc) SONC	Date Extracted: 10/02/2
Concentrated Extract Volume: <u>QOOO</u> (uL)	Date Analyzed: 10/04/2
Injection Volume: 2.0(uL)	Dilution Factor: 10.0
GPC Cleanup: (Y/N) N pH: 7.0	Sulfur Cleanup: (Y/N) N

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
12674-11-2	-Aroclor- 1016	mo -0.i4	
1104-28-2	-Aroclor- 1221"		
11141-16-5	-Aroclor- 1232"	NO ^4r4HU	
53469-21-9	-Aroclor- 1242"		
11097-69-1	-Aroclor- 1254"	1627.61	
11096-82-5	-Aroclor- 1260"	IMO Q^r4-	
	-Aroclor- 1248"	IHO -0^i4	
		i20E.	
		11/4/03-	

Friend Inc.

Data File: /chem/hp3.i/1254FCONFIRMa.b/E39562 81.d
Method: /chem/hp3.i/1254FCONFIRMa.b/8082_PCBsec.M
Sample Info: L94773-6
Misc Info: CONFIRMATION
Analysis Date; 03-OCT-2002 20:13
Sample Matrix. SOIL
File Number: 6281

Dilution Factor	10.0000
Sample Weight	10.2765
Final Volume	10.0000
Total Solid	85.0000

Analytes (ug/Kg)

Aroclor-1254	261.65
Tetrachloro-m-xylene	96.48%
Decachlorobiphenyl	106.77%

Analyst: CPW
Report Date: 10/04/2002 08:55
Supervisor:
Date:

Thru-Put Systems, Inc.

Data file : \chem\hpl.i\8082r0917.b\E2980002.D
Lab Smp Id: L94773-7 Client Smp ID: L94773-7
Inj Date : 04-OCT-2002 12:05
Operator : CPW Inst ID: hpl.i
Smp Info : L94773-7
Misc Info : WG32995,02-004
Comment :
Method : \chem\hpl.i\8082r0917.b\8082_PCBsec.M
Meth Date : 04-Oct-2002 14:58 Administra Quant Type: ESTD
Cal Date : 17-SEP-2002 16:43 Cal File: E2989834.D
Als bottle: 1
Dil Factor: 10.00000
Integrator: Falcon Compound Sublist: PCB.sub
Target Version: 3.40 Sample Matrix: SOIL
Processing Host: TARGET3

Concentration Formula: Amt * DF * ((Vf / Ws) * Uf) / Ts * 1000

Name	Value	Description
DF	10.000	Dilution Factor
Vf	10.000	Final volume
Ws	10.585	Weight of sample extracted (g)
Uf	0.100	Unit Correction Factor
Ts	69.200	Total Solid

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				CONCENTRATIONS																
				ON-COL	FINAL															
RT	EXP RT	DLT RT	RT	RESPONSE	(ug/L)	(ug/Kg)	TARGET	RANGE	RATIO											
.....^ o». & * i * 3 £ J																				
\$ 1	Tetrachloro-m-xylene				CAS				ff:											
7.980	7.997	-0.017		275926	39.2408	535.72														
S 29	Decachlorobiphenyl				CAS It:															
20.117	20.130	-0.013		229948	4B.0591	656.11														
25 Aroclor-1254				CAS # s		11097-69-1														
13.653	13.670	-0.017		4B297	152.457	20B1.35	80.00-	120.00	100.00(MH)											
14.547	14.563	-0.016		42567	112.8B6	1541.13	95.80-	135.80	88.14											
14.990	15.003	-0.013		32524	106.665	1456.20	85.18-	125.18	67.34											
15.333	15.350	-0.017		27029	145.521	1986.66	38.80-	7B.80	55.96											
16.010	16.033	-0.023		24322	78.5730	1072.69	7B.24-	118.24	50.36											
Average of Peak Concentrations •				1627.61																

Data File: \chem\hpl.i\8082r0917.b\E2980002.D
Report Date: 04-Oct-2002 15:08

Page 2

QC Flag Legend

M - Compound response manually integrated.
H - Operator selected an alternate compound hit.

Date : 04-OCT-2002 12:05

Client ID: L94773-7

Sample Info: L94773-7

Volume Injected (uL): 2,0

Column phase; RTX-CLPesticides 2

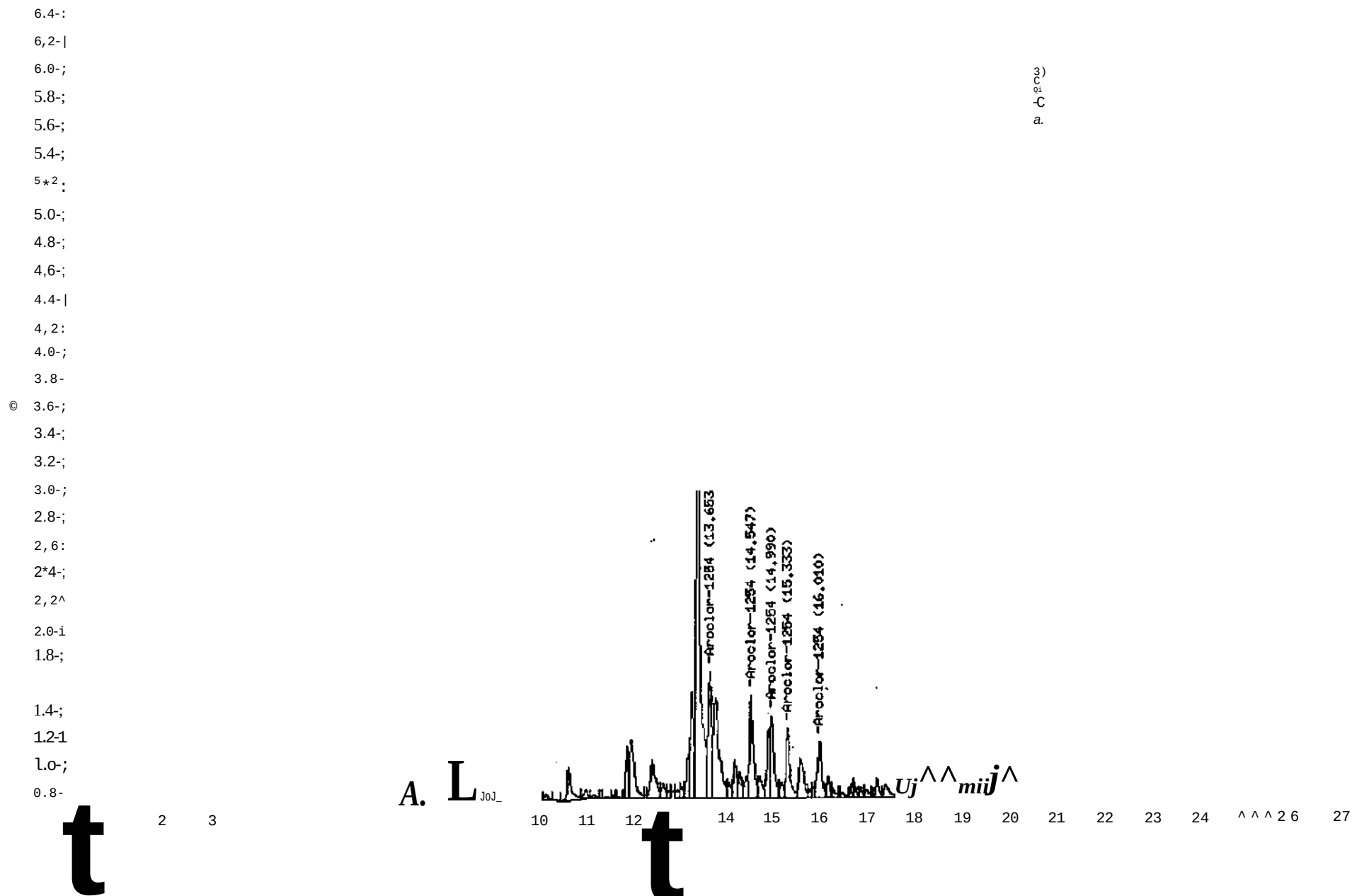
Instrument; hpl,i

Operator: CPW

Column diameter: 0,32

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/chem/hpl.i/8082r0917.b/E2980002.D



Friend Inc.

Data File: /chem/hpl.i/8082r0917.b/E2980002.D
Method: /chem/hpl.i/8082r0917.b/8082_PCBsec, M
Sample Info; L94773-7
Misc Info; WG32995,02-004
Analysis Date: 04-OCT-2002 12:05
Sample Matrix: SOIL
File Number: 0002

Dilution Factor	10.0000
Sample Weight	10.5851
Final Volume	10.0000
Total Solid	69.2000

Analytes (ug/Kg)

Aroclor-1016	0.00
Aroclor-1221	0.00
Aroclor-1232	0.00
Aroclor-1242	0.00
Aroclor-1254	1627.61
Aroclor-1260	0.00
Aroclor-1248	0.00
Tetrachloro-m-xylene	78.48%
Decachlorobiphenyl	96.12%

Analyst: CPW
Report Date: 10/04/2002 15:08
Supervisor:
Date:

Thru-Put Systems, Inc.

Data file : \chem\hp3.i\1254FCONFIRMa.b\E3956276.d
Lab Smp Id: L94773-7 Client Smp ID: L94773-7
Inj Date : 03-OCT-2002 17:38
Operator : CPW Inst ID: hp3.i
Smp Info : L94773-7
Misc Info : CONFIRMATION
Comment :
Method : \chem\hp3.i\1254FCONFIRMa.b\8082_PCBsec.M
Meth Date : 04-Oct-2002 08:42 Administra Quant Type: ESTD
Cal Date : 03-OCT-2002 16:36 Cal File: E3956274.d
Als bottle: 1
Dil Factor: 10.58510
Integrator: Falcon Compound Sublist: 1254.sub
Target Version: 3.40 Sample Matrix: SOIL
Processing Host: TARGET3

Concentration Formula: $\text{Amt} * \text{DF} * ((\text{Vf} / \text{Ws}) * \text{Uf}) / \text{Ts} * 1000$

Name	Value	Description
DF	10.585	Dilution Factor
Vf	10.000	Final volume
Ws	10.585	Weight of sample extracted (g)
Uf	0.100	Unit Correction Factor
Ts	69.200	Total Solid

CONCENTRATIONS									
				ON-COL		FINAL			
RT	EXP RT	DLT RT	RT	RESPONSE	{ ug/L)	(ug/Kg)	TARGET	RANGE	RATIO
\$ 1 Tetrachloro-m-xylene						CAS #:			
9.333	9.337	-0.004		435300	50.7344	733.16			
25 Aroclor-1254						CAS #: 11097-69-1			
14.200	14.203	-0.003		31205	95.0243	1373.18	80.00-	120..00	100..00
15.280	15.287	-0.007		11126	35.4052	511.64	79.42-	119..42	35 .65
15.523	15.530	-0.007		46882	95.0595	1373.69	126.59-	166..59	150 .24
15.687	15.890	-0.003		26346	100.223	1448.31	57.35-	97..35	84 .43
16.073	16.077	-0.004		36168	93.7479	1354.74	84.54-	124 .54	115 .90
Average of Peak Concentrations »						1212.31			
\$ 29 Decachlorobiphenyl						CAS ft:			
20.913	20.920	-0.007		317129	56.0946	B10.62			

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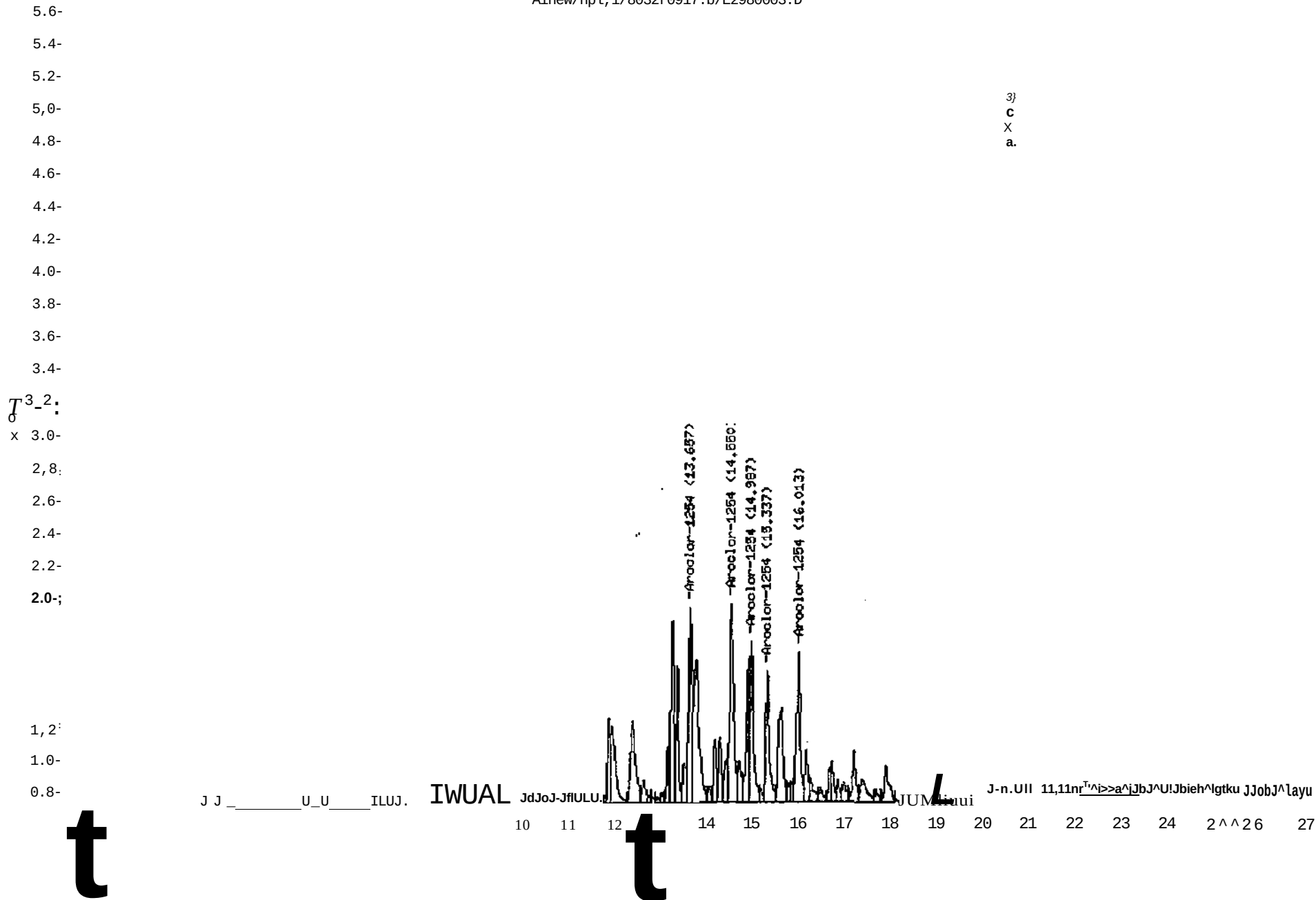
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Data File: /chem/hpl,i/e082r0917.b/E2980003.D
Date J 04-OCT-2002 12:37
Client ID: L94773-8
Sample Info: L94773-8
Volume Injected : 2.0
Column phase: RTX-CLPesticides 2

Instrument: hpl.i
Operator: CPW
Column diameter: 0.32

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Aihew/hpl,i/8032r0917.b/E2980003.D



Friend Inc.

Data File: /chem/hpl.i/8082r0917.b/E2980003.D
Method: /chem/hpl.i/8082r0917.b/8082_PCBsec.M
Sample Info: L94773-8
Misc Info: WG32995,02-004
Analysis Date: 04-OCT-2002 12:37
Sample Matrix: SOIL
File Number: 0003

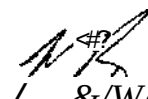
Dilution Factor	10.0000
Sample Weight	10.0543
Final Volume	10.0000
Total Solid	62.4000

Analytes (ug/Kg)

Aroclor-1016	0.00
Aroclor-1221	0.00
Aroclor-1232	0.00
Aroclor-1242	0.00
Aroclor-1254	3063.36
Aroclor-1260	0.00
Aroclor-1248	0.00
Tetrachloro-m-xylene	91.60%
Decachlorobiphenyl	114.56%

Analyst: CPW
Report Date: 10/04/2002 15:0:

Supervisor:
Date:


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Thru-Put Systems, Inc.

Data file : \chem\hp3.i\1254FCONFIRMa.b\E3956277.d
 Lab Smp Id L94773-8 Client Smp ID: L94773-8
 Inj Date 03-OCT-2002 18:09
 Operator CPW Inst ID: hp3.i
 Smp Info L94773-8
 Misc Info CONFIRMATION
 Comment
 Method \chem\hp3.i\1254FCONFIRMa.b\8082_PCBsec.M
 Meth Date 04-Oct-2002 08:42 Administra Quant Type: ESTD
 Cal Date 03-OCT-2002 16:36 Cal File: E3956274.d
 Als bottle 1
 Dil Factor 10.00000
 Integrator: Falcon Compound Sublist: 1254.sub
 Target Version: 3.40 Sample Matrix: SOIL
 Processing Host: TARGET3

Concentration Formula: Amt * DF * ((Vf / Ws) * Uf) / Ts * 1000

Name	Value	Description
DF	10.000	Dilution Factor
Vf	10.000	Final volume
Ws	10.054	Weight of sample extracted
Uf	0.100	Unit Correction Factor
Ts	62.400	Total Solid

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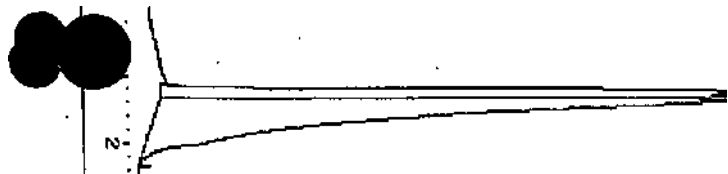
CONCENTRATIONS									
			ON-COL		FINAL				
RT	EXP RT	DLT RT	RESPONSE	(ug/L)	(ug/Kg)	TARGET	RANGE	RATIO	
S 1 Tetrachloro-m-xylene					CAS #:				
9.330	9.337	-0.007	479S97	55.6972	890.95				
25 Aroclor-1254					CAS «: 11097-69-1				
14.200	14.203	-0.003	46196	140.674	2242.22	80.00-	120.00	100.00	
15.283	15.287	-0.004	42413	134.967	2151.25	79.42-	119.42	91.81	
15.527	15.530	-0.003	B696B	100.395	2875.33	126.59-	166.59	192.59	
15.890	15.890	0.000	60230	229.122	3651.99	57.35-	97.35	130.38	
16.073	16.077	-0.004	65339	169.359	2699.44	84.54-	124.54	141.44	
Average of Peak Concentrations •					2724.05				
\$ 29 Decachlorobiphenyl					CAS ft:				
20.920	20.920	0.000	339425	60.0384	956.96				

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Tetrachloro-m-xylene (7.980)

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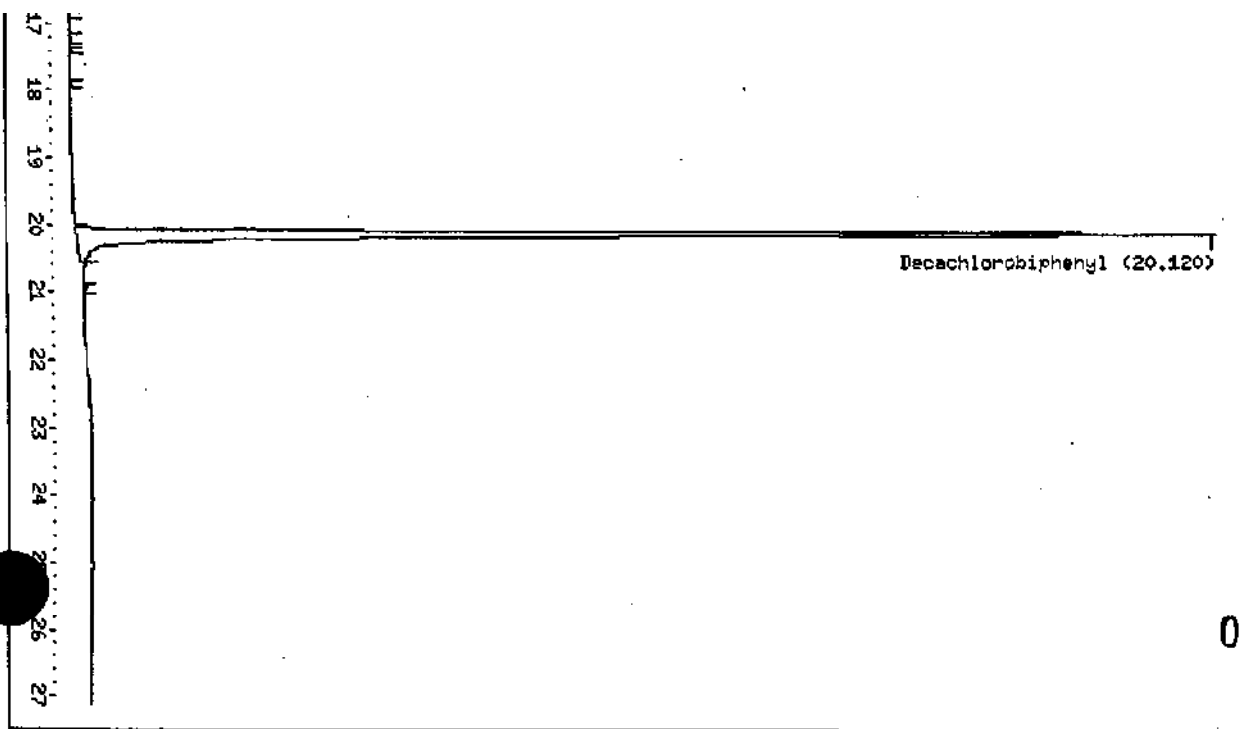
- -Aroclor-1254 (13.653)
- Aroclor-1254 (14.543)
- Aroclor-1254 (14.993)
- Aroclor-1254 <15.330)
- Aroclor-1254 (16.010)

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Friend Inc.

Data File: /chem/hpl.i/8082r0917.b/E2980001.D
Method: /chem/hpl.i/8082r0917.b/8082_PCBsec.M
Sample Info: L94773-9
Misc Info: WG32995,02-004
Analysis Date: 04-OCT-2002 11:36
Sample Matrix: SOIL
File Number: 0001

Dilution Factor	10.0000
Sample Weight	10.0965
Final Volume	10.0000
Total Solid	56.7000

Analytes (ug/Kg)

Aroclor-1016	0.00
Aroclor-1221	0.00
Aroclor-1232	0.00
Aroclor-1242	0.00
Aroclor-1254	308.33
Aroclor-1260	0.00
Aroclor-1248	0.00
Tetrachloro-m-xylene	85.75%
Decachlorobiphenyl	93.00%

Analyst: CPW
Report Date: 10/04/2002 15:08

Supervisor:
Date:

Data File: •ohem/hp3,i/1254FCuNFIRMa.b/E395S273.d
Bate : 03-OCT-2002 13:40
Client ID: L94773-9
Sample Info: L94773-9
Volume Injected : 2.0
Column phase: RTX-CLPesticides 1

Instrument: hp3,i
Operator: CPW
Column diameter:

/chem/hp3 • i •1254FC0NFI RHa . b/E3956278 . d

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Friend Inc.

Data File: /chem/hp3.i/l254FCONFIRMa.b/E39562 78.d
Method: /chem/hp3.i/1254FCONFIRMa.b/8082_PCBsec.M
Sample Info: L94773-9
• Misc Info; CONFIRMATION
Analysis Date: 03-OCT-2002 18:40
Sample Matrix SOIL
File Number: 6278

Dilution Factor	10.0000
Sample Weight	10.0965
Final Volume	10.0000
Total Solid	56.7000

Analytes (ug/Kg)

Aroclor-1254	462.39
Tetrachloro-m-xylene	105.86%
Decachlorobiphenyl	116.25%

Analyst: CPW
Report Date: 10/04/2002 08:55

Supervisor:
Date:

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WET CHEMISTRY TOTAL SOLIDS NOT %

Notebook : 02-066

Start Date : 01-OCT-02 12:36

End Date : 01-OCT-02 12:36

Analysis	ftflet	V*U<>e	initial	tet&2wd	3rdWth	Sth&th	7th&8th	^tWttOtft	Final	Bpd	Units
SMpU* 1*0.	Date Time	tnU	Method	Dish#	(<u>	Weight	Weight	Weight	Weight	vafattt	Result
h.....StaTt:~bcT-62'	12:36	fr-P	3-6	3'	—&<	1.244*	"O B P.....				^ 9 2 ^
Stop :01-OCT-02	12:36	*									
to\$r start:01-OCT-02	12:36	CLP	3.0	4	5.326?	1.2489	£?B5			"	-83.7
Stop :Q1-OCT-Q2	12:36										
its t											
^2	Start:01-OCT-02	12:36	CLP	3.0	"5	536?1	1.2503	5.2409			WJi'
Stop :Q1*OCT-02	12:36										
Comfecnts :											
X >%....."	Start:01-OCT-02	12:36	CLP	3.0	"6—^ ^ - " ^ ^ ^ " 'i ^ ^ y " " "						6'0'
Stop :01-OCT-02	12:36										
Contents 4											
M i j p f....."	Sta'rt:6l-6cf-62"	12:36	"";""ci>	3.6 ""	7	O & f c 1 - 2 5 4 8	TOST			1677"	X
Stop :qi-OCT-02	12:36										
WS t											
W & f c m	Start:01-OCT-Q2	12t36	CLP	3.0	"§—%,rm	'1-2451	urn			^ 8	
>... ,	Stop :01-OCT-02	12r36									
st* 'f											
iZ*3	Start:01-OCT-02	12:36	' , CLP	3.0	"9 OS52"	T 2 T	6*8967			TJOT	, X
Stop :01-OCT-02	12:36										
	Start:01-OCT-02	12:36	CLP	3.0	""I'd.....i'Imt.....i'.iSM	"SlftSft"				^	iiuiimn.....i'*)'
Stop :01-OCT-02	12:36										
'XoCTWfts i,											
WWIM	Start:01-OCT-02	12:36	CLP	3.0	TT—S:	i*i*~i~ii~iiiiiiiiiii	1.2475	4 J H		3576"	niL.....jiiiiini
Stop :01"OCT*02	12:36										
'tefflitysflt* ;											
&kW&+b	Start:01-OCT-u£	12:36	CLP	3.0	12	5.8879	1.2387	ft.\$&6			3 3 ? * "
Stop :01-6CT-02	12:36										
Calculations:											

Analyst Signature

Date /

Manager Signature

P~

/ Date

0036

Friend Inc.

Data File: /chem/hpl.i/8082r0917.b/E2980070.D
Method: /chem/hpl.i/8082r0917.b/8082_PCBsec.M
Sample Info: L95095-4
Misc Info: WG33079,02-004
Analysis Date: 08-OCT-2002 16:07
Sample Matrix: SOIL
File Number: 0070

Dilution Factor	10.0000
Sample Weight	10.0984
Final Volume	10.0000
Total Solid	65.2000

Analytes (ug/Kg)

Aroclor-1016	11.66%
Aroclor-1260	12.58%
Tetrachloro-m-xylene	72.87%
Decachlorobiphenyl	94.70%

Analyst: CPW
Report Date: 10/09/2002 10:53

Supervisor:
Date:'

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Analyst Signature *Julia L. Bugg*
60365

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Signature

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WET CHEMISTRY TOTAL SOLIDS NOTEBOOK

Notebook : 02-066
Start Date : 05-OCT-02 09:31
End Date : 05-OCT-02 09:31

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"9 b?m T248 T03T1
SSSPsiiS
;|||lift*

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minVITiTiM;Pfful~PijyYi
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Stop :05-OCT-02 09:31
Calculations: Final Results = (fnl - initial) x 1000000
wgt wgt

mls of sample

00366
Analyst Signature

10/9/02
Date

Manager Signature

/ Date



ECT.CON INC.

Environmental and Computer
Technology Consultants

Data Validation Report

SDG# 95433
Validation Report Date April 28, 2003
Validation Guidance USEPA Region 2 Guidelines for Data Review SW 846 Method 8082
Client Name Cummings-Riter
Project Name Viacom/Horseheads
Laboratory Friend Laboratory Inc.
Method(s) Utilized SW 846 8082
Analytical Fraction PCBs

Samples/Matrix:

Date Sampled	Sample ID	Laboratory ID	PCBs	Matrix
10/14/02	H-C-SS-B1-001	95433-1	X	Solid
10/14/02	H-C-SS-B2-001	95433-2	X	Solid
10/14/02	H-B-S-W-001	95433-3	X	Solid
10/14/02	H-B-SS-W-001	95433-4	X	Solid

Analytical data in this report were screened to determine analytical limitations of the data based on specific quality control criteria. This screening assumes analytical results are correct as reported and merely provides an interpretation of the reported quality control results. A minimum of 10% of laboratory calculations has been verified as part of this validation. Specific findings on analytical limitations are presented in this report. Annotated Form Is or spreadsheets for samples reviewed are included after the Data Assessment Findings. Form Is for the MS/MSD samples and spreadsheets are not annotated.

SUMMARY

The sample set for Viacom/Horsehead consists of four solid field samples. These samples were analyzed for the parameters as provided above. The findings presented in this review of the analytical data assume that the information presented by the analytical laboratory is correct. This review is identified as a false positive/false negative review, and therefore, does not include the review of some quality control (QC) items. Those included in the review are listed below.

The polychlorinated biphenyl (PCBs) findings are based upon the assessment of the following:

False Positives/False Negatives Validation

- * • Data Completeness
- Holding Times
- * • Calibration and GC Performance
- * • Blanks
- * • Analytical Sequence Check
- * • Target Compound Identification
- Compound Quantitation and Reported Detection Limits
- * • Chromatogram Quality
- * Criteria were met for this evaluation item.

This evaluation was conducted in accordance with USEPA Region II SOP No. HW-23B (May 2002), USEPA CLP National Functional Guidelines for Organic Data Review and the analytical method. Findings from this evaluation should be considered when using the analytical data. This report presents a summary of the data qualifications based on the review of the aforementioned evaluation criteria. This is followed by annotated Form Is/spreadsheets. Finally, the worksheets used to perform the evaluation are provided.

FINDINGS**Polychlorinated Biphenyls (PCBs)****1. Holding Time**

The cooler temperature upon receipt by the laboratory was measured as 18 C. For the following samples, qualify positive results of all PCBs as estimated "J" and nondetected results as estimated "UJ".

H-C-SS-B1-001

H-C-SS-B2-001

H-B-S-W-001

H-B-SS-W-001

2. Compound Quantitation

The percent difference between columns exceeded the 25% quality control limit. For the following sample and compound, qualify PCB results as indicated in the table below. Samples were qualified based on SOP HW-23, Section 12.6.

Sample	Compound	% Difference	Qualifier
H-B-S-W-001	Aroclor 1254	42.3%	J

NOTES**Polychlorinated Biphenyls (PCBs)****Completeness**

The USEPA Region II SOP No. HW-23B has the following sections that are not applicable to this project because it is a false positive/false negative review:

- Surrogate Recovery (Form 2)
- Laboratory Control Sample
- Matrix Spikes (Form 3)
- Contamination
- GC Apparatus and Materials
- Extraction Techniques for Sample Preparation
- Field Duplicates

Calibration

The laboratory used linear regression to calculate PCB results. The use of linear regression is permissible for SW-846 methodologies. The laboratory met the acceptance criteria specified in Section 7.5.2 of Method 8000B (r value greater than or equal to 0.99).

Data summary forms (including calibration factors) for the initial and continuing calibration is not provided for the second column except for Aroclor 1254. The second column is used only for fingerprint confirmation, therefore, the laboratory does not provide the calibration factor information. Because Aroclor 1254 was identified as a constituent of concern, the data summary information for the second column is provided for the continuing calibration. Data are not qualified on this basis.

The percent difference (%D) per peak for multi-standard Aroclors are provided. For SW 846, the laboratory used the average Aroclor concentration to determine the %D. Data are not qualified because the average value is used.

Retention Time

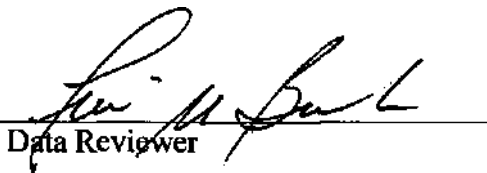
Retention time windows are not determined by the use of three standards for single standard calibration Aroclors. The center of the retention time window is defined as the retention time of the midpoint standard from the initial calibration. For the multi-standard calibration Aroclors, the center of the retention time window is the mean of the retention time generated from each standard. The retention time windows are the mean + 0.1 minutes. Data are not qualified on this basis.

Retention time windows are not provided for the second column except for Aroclor 1254. The second column is used only for fingerprint confirmation, therefore, the laboratory does not provide the retention time window information. Because Aroclor 1254 was identified as a constituent of concern, the retention time information for the second column is provided. Data are not qualified on this basis.

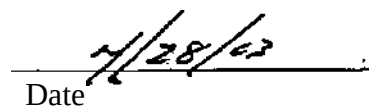
Compound Quantitation

Samples were analyzed and reported at a dilution due to the presence of target compounds. Dilutions for samples are presented below. Reporting limits were adjusted for percent solids and dilutions.

H-C-SS-BI-001, H-C-SS-B2-001, H-B-S-W-001, H-B-SS-W-001 IOx



Data Reviewer



Date

Glossary of Data Qualifiers

U	Not Detected.	The associated number indicates approximate sample concentration necessary to be detected.
UJ	Not Detected.	Quantitation limit may be inaccurate or imprecise.
J	Analyte Present.	Reported value may not be accurate or precise.
N	Consider Present.	Tentative identification. Special methods may be needed to confirm its presence or absence in future sampling efforts.
R	Unusable Result.	Analyte may or may not be present in the sample.
UR	Unusable Result.	Analyte may or may not be present in the sample.



^sl/^r

ECT.CON INC.

^ ^ ^ / I > ^ ^ ^
I Environmental and Computer
Technology Consultants

Annotated Form l's
(Spreadsheet)





32 ITHACA STREET
TELEPHONE (607) 565-3500

WAVERLY, NY 14892-1532
PAX (607) 565-4083

Date: 17-OCT-2002

Lab Sample ID: L95433-1

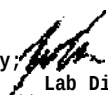
AAA Environmental
Peter Porter
6679 Moore Road
Syracuse, NY 13211

Sample Source: VACOMHORSEHEADS 1920B
Origin: H-C-SS-BI-OOI
Description: COMPOSITE
Sampled On: K-OCT-62 10:20 by CLIENT
Date Received: H-OCT-02 15:54
P.O. No: N/A

Analysis Performed	Result	Units	Detection Limit	Date Analyzed	Method	Notebook Reference
Total Solids	92			15-OCT-02 00:00	CLP 3.0	02-066-87
EPAJB0S2						
PCS 1016	UT	ug/kg	100	16-OCT-02 17:10	EPA 8082	02-004-0185
PCB 1221		ug/kg	200	16-OCT-02 17:10	EPA 80B2	02-004-0185
PCB 1232		ug/kg	100	16-OCT-02 17:10	EPA 8082	02-004-0185
PCB 1242		ug/kg	100	16-QCT-02 17:10	EPA 8082	02-004-0185
PCB 1248		ug/kg	100	16-OCT-02 17:10	EPA 8082	02-004-0185
PCB 1254	360 d	ug/kg	100	16-OCT-02 17:10	EPA 8082	02-004-0185
PCB 1260		ug/kg	100	16-OCT-02 17:10	EPA 8082	02-004-0185
Extraction Information:				15-OCT-02 00:00	EPA 3550	02-090-12
Surrogate Recovery:						
Tetrachloro-m-xylene	82					02-004-0185
1,2,4-trichlorobiphenyl	106					02-004-0185

41

Results calculated on a dry weight basis.

Approved by: 
Lab Director

Page 1 of 1
NY 10252 NJ 7316B PA 68180 EPA NY 00033

qc & tA

KEY: NO of U = None Detected < = less than ug/L = micrograms per liter (equivalent to parts per billion)
mg/L = milligram per liter (equivalent to parts per million) mg/kg = milligrams per kilogram (equivalent to parts per million)
= analyte was detected in the method or trip blank J = result estimated below the quantitation limit

Information in this report is accurate to the best of our knowledge and ability. In no event shall our liability exceed the cost of our services. Your samples will be discarded after 14 days unless we are advised otherwise.



32 ITHACA STREET
TELEPHONE (607) 565-3500

WAVERLY, NY 14892-1532
FAX (607) 565-4083

Date: 17-OCT-2002

Lab Sample ID: L95433-2

AAA Environmental
Peter Porter
6679 Moore Road
Syracuse, NY 13211

Sample Source: VIACOM/HORSEHEADS 1920S
Origin: H-C-SS-B2-QOI
Description: COMPOSITE
Sampled On: 14-OCT-02 10:25 by CLIENT
Date Received: H-OCT-02 15:54
P.O. NO: N/A

Analysis Performed	Result	Units	Detection Limit	Date Analyzed	Method	Notebook Reference
Total Solids	91.4			15-OCT-02 00:00	CLP 3.0	02-066-87
EPA 8082						
PCS 1016		ug/kg	110	16-OCT-02 17:42	EPA 8082	02-004 0186
PCB 1221		ug/kg	220	16-OCT-02 17:42	EPA 8052	02-004 0186
PCB 1232		ug/kg	110	16-OCT-02 17:42	EPA 8082	02-004 0186
PCB 1242		ug/kg	110	16-OCT-02 17:42	EPA 8082	02-004 0186
PCB 1248		ug/kg	110	16-OCT-02 17:42	EPA 8082	02-004 0186
PCB 1254		ug/kg	110	16-OCT-02 17:42	EPA 8082	02-004 0186
PCB 1260		ug/kg	110	16-OCT-02 17:42	EPA 8082	02-004 0186

Extraction Information:

Surrogate Recovery:
Tetrachloro-m-xylene
Bis(4-chlorophenyl)

92
143

15-OCT-02 00:00 EPA 3550 02-090-12

02-004-0186
02-004-0186

&

Results calculated on a dry weight basis.

Approved by:
Lab Director

Page 1 of 1
NY 10252 NJ 73168 PA 68180 EPA NY 00033

02-004-0186

KEY: KD or U - None Detected < = less than ug/L = micrograms per liter (equivalent to parts per billion)
mg/L = milligram per liter (equivalent to parts per million) mg/kg = milligrams per kilogram (equivalent to parts per million)
= analyte was detected in the method or trip blank J = result estimated below the quantitation limit

Quantitation in this report is accurate to the best of our knowledge and ability. In no event shall our liability exceed the cost of these services. Your samples will be discarded after 14 days unless we are advised otherwise.



32 ITHACA STREET
TELEPHONE (607) 565-3500

WAVERLY, NY 14892-1532
FAX (607) 565-4083

Date: 17-OCT-2002

Lab Sample ID: L95433-3

AAA Environmental
Peter Porter
6679 Moore Road
Syracuse, NY 13211

Sample Source: VIACOM/HORSEHEADS 19208
Origin: H-B-S-U-OQI
Description: COMPOSITE
Sampled On: K-OCT-02 10:30 by CLIENT
Date Received: K-OCT-02 15:54
P.O. No: N/A

Analysis Performed	Result	Units	Detection Limit	Date Analyzed	Method	Notebook Reference
Total Solids	62.2			15-OCT-02 00:00	CLP 3.0	02-066-87
EPA 8082						
PC6 1016	4 Uf	ug/kg	160	16-OCT-02 18:13	EPA 6082	02-004-0187
PCB 1221	1	ug/kg	310	16-OCT-02 18:13	EPA 8082	02-004-0187
PCB 1232	1	ug/kg	160	16-OCT-02 18:13	EPA 8082	02-004-0187
PCB 1242	1	ug/kg	160	16-OCT-02 18:13	EPA 8082	02-004-0187
PCB 1248		ug/kg	160	16-OCT-02 18:13	EPA 8082	02-004-0187
PCB 1254	310 3	ug/kg	160	16-OCT-02 18:13	EPA 8082	02-004-0187
PCB 1260	/US	ug/kg	160	16-OCT-02 18:13	EPA 8082	02-004-0187

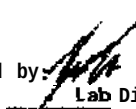
Extraction Information:

15-OCT-02 00:00 EPA 3550 02-090-12

Surrogate Recovery:
Tetrachloro-m-xylene 85 02-004-0187
Dibromobiphenyl 112 02-004-0187

of
4/11/03

Results calculated on a dry weight basis.

Approved by: 
Lab Director

Page 1 of 1
NY 10252 NJ 73168 PA 68180 EPA NY 00033

OX (JO/L)

KEY: ND or U = None Detected < = less than ug/L = micrograms per liter (equivalent to parts per billion)
mg/L = milligram per liter (equivalent to parts per million) mg/kg = milligrams per kilogram (equivalent to parts per million)
= analyte was detected in the method or trip blank J = result estimated below the quantitation limit

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32 ITHACA STREET
TELEPHONE (607) 565-3500

WAVERLY, NY 14892-1532
FAX (607) 565-4083

Date: 17-OCT-2002

Lab Sample ID: L95433-4

AAA Environmental
Peter Porter
6679 Moore Road
Syracuse, NY 13211

Sample Source: VIACOM/HORSEHEADS 19208
Origin: H-B-SS-U-001
Description: COMPOSITE
Sampled On: 14-OCT-02 10:35 by CLIENT
Date Received: 14-OCT-02 15:54
P.O. No: N/A

Analysis Performed	Result	Units	Detection Limit	Date Analyzed	Method	Notebook Reference
Total Solids	56.9			15-OCT-02 00:00	CLP 3.0	02-066-87
EPA 8082						
PCB 1016		ug/kg	160	16-OCT-02 18:44	EPA 8082	02-004-0188
PCB 1221		ug/kg	330	16-OCT-02 18:44	EPA 8082	02-004-0188
PCB 1232		ug/kg	160	16-OCT-02 18:44	EPA 8082	02-004-0188
PCB 1242		ug/kg	160	16-OCT-02 18:44	EPA 8082	02-004-0188
PCB 1248		ug/kg	160	16-OCT-02 18:44	EPA 8082	02-004-0188
PCB 1254		ug/kg	160	16-OCT-02 18:44	EPA 8082	02-004-0188
PCB 1260		ug/kg	160	16-OCT-02 18:44	EPA 8082	02-004-0188

Extraction Information:

Surrogate Recovery:				15-OCT-02 00:00	EPA 3550	02-090-12
Tetrachloro-m-xylene	102					02-004-0188
Benzochlorobiphenyl	141					02-004-0188

Results calculated on a dry weight basis.

Approved by:
Lab Director

Page 1 of 1
NY 10252 NJ 73168 PA 68180 EPA NY 00033

KEY: ND or U = None Detected < = less than ug/L = micrograms per liter (equivalent to parts per billion)
mg/L = milligram per liter (equivalent to parts per million) mg/kg = milligrams per kilogram (equivalent to parts per million)
- analyte was detected in the method or trip blank J = result estimated below the quantitation limit

Information in this report is accurate to the best of our knowledge and ability. In no event shall our liability exceed the cost of our services. Your samples will be discarded after 14 days unless we are advised otherwise.

^si/^r

ECT.CON INC.

^wy I \ ^ ^ v Environmental and Computer
I Technology Consultants

Support

Documentation



COC



CHAIN OF OfcrODY RECORD

jr

FLI
FRIEN~D
LABORATORY
I*N.C

ONE RESEARCH CIRCLE
 WAVERLY NY 14892-1532
 Telephone (607) 565 3500
 •, Fax (607) 565-4083

*

CLIENT" A A A etJ^XTZCJMMt^6*- INVOICE TO:
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PHONE: _ FAX:

«r

PROJECT NO. / NAME

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P.O. #

1%0#

DATE & TIME OF
SAMPLE COLLECTION

SAMPLE DESCRIPTION

NUMBEk Oh
CONTAINERS

ANALYSES / TESTS REQUESTED

| ' ^ ^

I I ^ ^ NUMBER

tfi/tf/oi

H-r,-SS-FSI -ocii

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LAB USE ONLY

Description: Grab Composite Other
 Matrix: DW WW MW Soil Air Other

H-C-SS-E&-O01 7

pcs's, S⁰^1-

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Description: Grab Composite Other
 Matrix: DW WW MW Soil Air Other

lo^V^tIL

H-6-5-^-CXM

X

PCS '5. ^OEC

Description: Grab V^bmposite^Other
 Matrix: DW WW MWIeS-fcir Other

/0//4/or

H-ft-ss-w-oo

5?

'PCJ&'a., S>0%

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Description: Grab^ComposjjJ Other
 Matrix: DW WW MWIgoiLAir Other

i i i i i i i

RELINQUISHED BY

DATE /TIME

ACCEPTED BY

DATE/TIME '

NOTES TO LABORATORY

SAMPLER |

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John Jones

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SUSPECTED CONTAMINATION LEVEL

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 -5
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Laboratory Case Narrative



ELI

F f t i E N n
LABORATORY
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Laboratory Validation and Usability Assessment

Project: **AAA Environmental**
Viacom/Horseheads 19208
Sampled October 14,2002

The data reported in this package have been reviewed for compliance with QC acceptance limits as specified in the method cited for each analysis.

These statistical limits are typically based on historical laboratory data for a given sample matrix, and will not exceed any default limits specified by the method. CLP acceptance limits are also considered.

The following Quality Control operations are considered in the validation of reported results:

Holding times, surrogate recovery, spiked sample recovery, duplicates/spiked duplicate precision, tuning criteria, internal standard variation, continuing calibration variation, reference (check) sample recovery, and instrument, method, trip and field blanks. The appropriate frequency for each operation is also considered.

Every effort has been made to report data that is compliant with the EPA methodology cited for each analysis. In cases where the laboratory was unable to meet all method requirements prior to sample expiry, either due to the nature of the sample or other technical difficulty, results are reported with qualification with the understanding that qualified results may not be suitable for compliance purposes. The internal technical review is based on the USEPA Contract Laboratory Program *National Functional Guidelines for Organic Review* (EPA 540/R-94/012, February 1994) and *National Functional Guidelines for Inorganic Review* (EPA 540/R-94/013, February 1994).

Validation

Twelve site samples were received on October 14, 2002, with ice. The temperature was 18°C, as received with ice at 0°C.

PCB

Site samples were analyzed by EPA method 8082 for PCBs with a two-microliter injection volume.

RTX-CLPesticides 1 and RTX-CLPesticides 2 capillary columns, 0.32 mm ID, with purge packed inlets and electronic pressure control are used on an Hewlett-Packard 5890 series II with dual ECD and an HP 7673 autosampler with simultaneous injection.

Data is collected with HP Chemstation software and processed by Thruput with Target software. If a peak is detected within the retention time window of a target compound, second-column confirmation is performed. Column RTX-CLPesticides 2 was used for the primary analysis. Column RTX-CLPesticides 1 was used to confirm only the fingerprint, not the quantitation. Form 10B's are provided in order to verify pattern recognition.

PCB 1254 was detected in each of the site samples. Second-column analysis confirmed the presence of these targets. No PCBs were detected in the method blank.

Surrogate recoveries were within limits.

One blank spike was associated with the site samples. Blank spike recoveries were within acceptance limits.

No analytical difficulties were encountered.

Metals

Site sample R0045-49/58-60 was analyzed for TCLP Cadmium by Inductively Coupled Plasma - Optical Emission Spectrometry.

The ICP-OES instrument is an ARL 3560 with an AIM 1250 autosampler with an extension. The data is acquired with the Microactive, Australia software ICP Manager 35xx.

Laboratory Control sample recovery for TCLP Cadmium was within acceptance limits.

No analytical difficulties were encountered.

Wet Chemistry

Site sample R0045-49/58-60 was analyzed for paint filter by EPA method 9095.

No analytical difficulties were encountered.

Usability Assessment

All reported data were found to be valid and usable within the EPA National Functional Validation guidelines except those that were qualified in this Laboratory Validation.

Laboratory validation and

Usability assessment conducted by:

Elizabeth A. Keator /L/0ate^

6

Date: December 20, 2002

Elizabeth A. Keator
Quality Assurance



Worksheets



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tf -0-AJ -d ' " ^ ' f5W33~ /

YES NO N/A

PACKAGE COMPLETENESS AND DELIVERABLES

CASE NUMBER: _____ SDG# 9\$<J3J

LAB: I'ffi'sncf Uhorabsv ±Al- STTF,]//o/tort //&&*&**/*

1.0 Data Completeness and Deliverables

1.1 Has all the data been submitted in CLP deliverable format? / IzL

1.2 Have any missing deliverables been received and added to the data package? I_I

ACTION: Call lab for explanation/resubmittal of any missing deliverables. If lab cannot provide them, note the effect on review of the data in the reviewer narrative.

2.0 Cover Letter, SDG Narrative

2.1 Is a laboratory narrative or cover letter present? ✓

2.2 Are the case number and/or SDG number contained in the narrative or cover letter? d

3.0 Data Validation Checklist

3.1 Does this data package contain:

Water data?

Waste data?

Soil/solid data?

✓ J

YES NO N/A

POLYCHLORINATED BIPHENYLS

1.0 Traffic Reports and Laboratory Narrative

- 1.1 Are traffic report and chain-of-custody forms present for all samples?

f^l

ACTION: If no, contact lab for replacement of missing or illegible copies.

- 1.2 Do the traffic reports, chain-of-custody forms or SDG narrative indicate any problems with sample receipt, condition of the samples, analytical problems or special circumstances affecting the quality of the data?

ACTION: If any sample analyzed as a soil, other than TCLP, contains 50%-90% water, all data should be qualified as estimated, "J." If a soil sample, other than TCLP, contains more than 90% water, non detects shall be qualified as unusable, "R."

ACTION: If samples were not iced or if the ice was melted upon arrival at the laboratory and the temperature of the cooler was elevated (> 10° C), flag all positive results "J" and all non-detects "UJ".

Pn/l/A.XSf^l
lO&W \
i tifC.

•AM

2.0 Holding Times

- 2.1 Have any PCB technical holding times, determined from date of collection to date of extraction, been exceeded?

— A

Water and waste samples for PCB analysis must be extracted within 7 days of the date of collection. Extracts must be analyzed within 40 days of the date of extraction. Soils and solid samples must be extracted within 14 days of collection and analyzed within 40 days of extraction.

/> I/ffC^C*
L& /i*JJfi?
f^ff/'^0*
&?*\$<*erf**'

ACTION: If technical holding times are exceeded, flag all positive results as estimated, "J," and sample quantitation limits "UJ" and document in the narrative that holding times were exceeded. If analyses were done more than 14 days beyond holding time, either on the first analysis or upon re-analysis, the reviewer must use

/#
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f//r fe^*
/&/(*/

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YES NO N/A

professional judgement to determine the reliability of the data and the effects of additional storage on the sample results. At a minimum, all the data should at least be qualified "J", but the reviewer may determine that non-detects are unusable, "R."

3.0 Surrogate Recovery (Form II) *tik^r pkr I fit*- jut***

3.1 Were the recoveries of tetrachloro-m-xylene (TCMX) and decachlorobiphenyl (DCB) presented on CLP Surrogate Recovery Summary forms (Form II), or equivalent, for each of the following matrices?

a. Water/Waste

J_L _____

b. Soil/Solid

/

3.2 Are all the PCB samples listed on the appropriate surrogate recovery form for each of the following matrices?

a. Water

b. Waste

c. Soil/Solid

J_L

y

ACTION: Call lab for explanation/resubmittals.
If missing deliverables are unavailable, document the effect in the data assessment.

3.3 Did the laboratory provide their developed in-house Surrogate recoveries?

, n

s

ACTION: If no, use 70 -130% recovery to qualify in section 3.4 below.

3.4 Were surrogate recoveries of TCMX or DCB outside of the laboratory-established upper (UCL) or lower (LCL) control limits for any sample or blank?

ACTION: Circle all outliers in red.

ACTION: No qualification is done if surrogates are diluted out. If recovery for both surrogates is

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YES NO N/A

below the LCL, but above 10%, flag all results for that sample "J". If recovery is < 10% for either surrogate, qualify positive results "J" and flag non-detects "R". If recovery is above the UCL for both surrogates qualify positive values "J".

Note: DCB is used when PCBs are determined as Aroclors. DCB is the internal standard when determining PCB congeners and TCMX the surrogate.

3.5 Were surrogate retention times (RT) within the windows established during the initial 5-point analysis?

S

ACTION: If the RT limits are not met, the analysis may be qualified unusable (R) for that sample on the basis of professional judgement. However, flag positive hits as estimate (J) if confirmed by GC/MS analysis.

3.6 Are there any transcription/calculation errors between raw data and Form II?

J_L *

ACTION: If large errors exist, call lab for explanation/resubmittal. Make any necessary corrections and document the effect in data assessments.

4.0 Laboratory Control Sample *f)h fi^Uu + ' P# "M"1'**

4.1 Are raw data and percent recoveries present for all Laboratory Control samples as required by Method 8000B (section 8.5) and Method 8082 (section 8.4.2)?

Verify that QC check samples were extracted and analyzed by the same procedures used for the actual samples.

ACTION: If any Laboratory Control Sample data are missing, call the lab for explanation /resubmittals. Make note in the data assessment.

NOTE: For aqueous samples, an additional QC check sample must be prepared and analyzed when any analyte in a matrix spike fails the required acceptance criteria (see section 5.3 below). The additional QC check sample must contain each analyte that failed in the MS analysis.



YES NO N/A

Note: When the results for matrix spike analysis indicates a problem due to sample matrix effects, the LCS results are used to verify the laboratory can perform the analysis in a clean sample.

4.2 Were Laboratory Control Samples analyzed at the required concentration for all analytes of interest as specified in Method 8000B (sec.8.5) ?

J_L ____

ACTION: If Laboratory Control Samples were not analyzed at the required concentration or the required frequency, make note in the data assessment and use professional judgement to determined the affect on the data.

4.3 Were the LCS recoveries within the laboratory's in-house per cent recoveries (if not available, use 70 - 130%) J_]_ ____

4.4 If no, were Laboratory Control Samples re-analyzed?

J_I /

Note: Corrective action must be taken when one or more of the analytes of interest fail the QC acceptance criteria (Method 8000B, section 8.7.4)

ACTION: If QC check samples were not re-analyzed, or a general system problem is indicated by repeated failure to meet the QC acceptance criteria specified in the method, make note in the data assessment and use professional judgement to determine the effect on the data.

5.0 Matrix Spikes (Form III)

5.1 Are all data for one matrix spike and matrix duplicate (unspiked) pair (MS/Dup) or matrix spike/matric spike duplicate (MS/MSD)present and complete for each matrix Method 8082{section 8.4.1)?

NOTE: For soil and waste samples showing detectable amounts of organics, the lab may substitute replicate samples in place of the matrix spike (see Method 8000B-40, section 8.5.3)).

5.2 Have MS/Dup or MS/MSD results been summarized on modified CLP Form III? f1

ACTION: If any data are missing take action as specified in section 3.2 above.

5.3 Were matrix spikes analyzed at the required frequency

YES NO N/A

for each of the following matrices? (One MS/Dup, MS/MSD must be performed for every 20 samples of similar matrix or concentration level. Laboratories analyzing one to ten samples per month are required to analyze at least one MS per month (Method 8000B-39 (section 8.5)).

a. Water

f 1 _____ ^L

b. Waste

c. Soil/Solid

J_L

y

ACTION: If any MS/Dup or MS/MSD data are missing, take the action specified in 3.2 above.

- 5.4 Were the 70 - 130% recoveries used to compare the matrix spike recoveries, or did the lab use the optional QC acceptance criteria discussed in Method 8000B-40(section 8.5.3.1)?

List the criteria used and make note in data assessment.

Criteria used _____.

- 5.5 Was the matrix spike prepared at the proper spike concentration? (Method 8000B, section 8.5.1-8.5.2) _1

For aqueous organic extractable, the spike concentration should be prepared according options in: Method 8000B-40, (section 8.5.1 and 8.5.2).

ACTION: No action is taken based on MS or replicate data alone. However, using informed professional judgement, the data reviewer may use the matrix spike or laboratory replicate results in conjunction with other QC criteria and determine the need for some qualification of the data. In some instances it may be determined that only the replicate or spiked samples are affected. Alternatively, the data may suggest that the laboratory is having a systematic problem with one or more analytes, thereby affecting all associated samples.

6.0 Blanks (Form IV)

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YES NO N/A

6.1 Was reagent blank data reported on CLP equivalent Method Blank Summary form(s) (Form IV)?

il

6.2 Frequency of Analysis: Has a reagent blank been analyzed for every 20 (or less) samples of similar matrix or concentration or each extraction batch?

IA

ACTION: If any blank data are missing, take action as specified above (section 3.2). If blank data is not available, reject (R) all associated positive data. However, using professional judgement, the data reviewer may substitute field blank data for missing method blank data.

6.3 Chromatography: review the blank raw data - chromatograms, quant reports or data system printouts.

Is the chromatographic performance (baseline stability) for each instrument acceptable for PCBs?

☒ *jj*

ACTION: Use professional judgement to determine the effect on the data.

7.0 Contamination

NOTE: "Water blanks", "distilled water blanks" and "drilling water blanks" are validated like any other sample and are not used to qualify the data. Do not confuse them with the other QC blanks discussed below.

7.1 Do any method/instrument/reagent/cleanup blanks have positive results for PCBs? When applied as described below, the contaminant concentration in these blanks are multiplied by the sample Dilution Factor and corrected for % moisture when necessary.

jj

7.2 Do any field/rinse blanks have positive .r.t PCB results? *PC\ -\LXXML\NA ~£»- ffi*\$ 4 /\^**t ~*

LL

ACTION: Prepare a list of the samples associated with each of the contaminated blanks. (Attach a separate sheet.)

NOTE: All field blank results associated to a particular group of samples (may exceed one per case or one per day) may be used to qualify data.

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YES NO N/A

Blanks may not be qualified because of contamination in another blank. Field blanks must be qualified for surrogate, or calibration QC problems.

ACTION: Follow the directions in the table below to qualify sample results due to contamination. Use the largest value from all the associated blanks.

Sample cone > EDL but < 5 JL blank	Sample cone < EDL & is < 5 x blank value	Sample cone > EDL & > 5 x blank value
Flag sample result with a "U"	Report EDL & qualify "U"	No qualification is needed

NOTE: If gross blank contamination exists, all data in the associated samples should be qualified as unusable (R).

7.3 Are there field/rinse/equipment blanks associated with every sample? ^C^JULU^L^AJ^JM^ -V-/-^*^*^* " **J***

ACTION: For low level samples, note in data assessment that there is no associated field/rinse/equipment blank. Exception: samples taken from a drinking water tap do not have associated field blanks.

8.0 GC Apparatus and Materials fff± **us**

8.1 Was the proper gas chromatographic capillary column used for the analysis of PCBs?

Action: Check raw data, instrument logs, or contact the lab to determine what type of columns were used. (Method 8082, section 4.2) **J_i**

8.2 Indicate the specific type of narrow bore or wide bore (.53 mm ID, fused silica GC columns, such as DB-608 and DB-1701 or equivalent).

column 1: _____ ^

column 2:

ACTION: Note any changes to the suggested materials in section 8.1 above in the data assessment. Also note the impact (positive or negative) such changes have on the analytical results.

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YES NO N/A

9-0 Calibration and GC Performance

9.1 Are the following Gas Chromatograms and Data Systems Printouts for both columns present for all samples, blanks, MS, replicates?

a. Samples

b. All blanks

c. Matrix spike samples ~"

d. 5 pt. initial calibration standards

e. calibration verification standards

f. Laboratory Control samples (LCS) - ~ ~*

ACTION: If no, take action specified in 3.2 above.

9.2 Are data summary forms (containing calibration factors or response factors) for the initial 5 pt. calibration and daily calibration verification standards present and complete for each column and each analytical sequence?

Note: Calibration Aroclor mixtures other than 1016/1260 may be used (as per approved project QA plan)

NOTE: If internal standard calibration procedure is used (Method 8000B-15(section 7.4.2.2)), then response factors must be used for %RSD calculations and compound quantitation. If, external standard calibration procedures are used (Method 8000B-16 (section 7.4.2.1)), then calibration factors must be used. The internal standard approach is highly recommended for PCB congener analysis.

ACTION: If any data are missing or it cannot be determined how the laboratory calculated calibration factors or response factors, contact the lab for explanation/resubmittals. Make necessary corrections and note any problems in the data assessment.

9.3 Are there any transcription/calculation errors between raw data and data summary forms?

ACTION: If large errors exist, call lab for

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YES NO N/A

explanation/resubmittal, make necessary corrections and document the effect in data assessments.

- 9.4 Are standard retention time (RT) windows for each PCB peak of interest presented on modified CLP summary forms?

ACTION: If any data are missing, or it cannot be determined how RT windows were calculated, call the lab for explanation/resubmittals. Note any problems in the data assessment.

NOTE: Retention time windows for all PCBs are established using retention times from three calibration standards analyzed during the entire analytical sequence (Method 8000B, section 7.6).

Best results are obtained using retention times which span the entire sequence; i.e., using the calibration verification/continuing calibration standards analyzed every 12 hours.

- 9.5 Were RT windows on the confirmation column established using three standards as described above?

NOTE: RT windows for the confirmation column should be established using a 3 pt. calibration, preferably spanning the entire analytical sequence as described in 9.4 above. If RT windows on one column are tighter than the other, this may result in false negatives when attempting to identify compounds in the samples.

ACTION: Note potential problems, if any, in the data assessment.

- 9.6 Do all standard retention times in each level of the initial 5 pt. calibrations for PCBs fall within the windows established during the initial calibration sequence?

ACTION i: If no, all samples in the entire analytical sequence are potentially affected. Check to see if three standard spanning the entire sequence were used to obtain RT windows. If the lab used three standards from the 5 pt., RT windows may be too tight. If so, RT windows should be recalculated as per Method 8081B-15 (section 7.4.6).

ii. Alternatively, check to see if the chromatograms contain peaks



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YES NO N/A

for any analyte, qualify non-detects "R",
unusable.

/ ^ fl**

- 9.12 Have retention time (RT) windows been properly calculated for each analyte of interest (Method 8000B, section 7.6), using RTs from the associated calibration verification/continuing standard?

J. _

ACTION: if no, take action specified in section 3.2 above

- 9.13 Do all standard retention times for each calibration verification/continuing calibration standard fall within the windows established during the initial calibration sequence?

✓

- 9.14 Do all standard retention times for each mid-concentration standard (analyzed after every 10 samples) fall within the daily RT windows

J_

ACTION: If the answer to either 9.13 or 9.14 above is no, check the chromatograms of all samples which followed the last in-control standard. All samples analyzed after the last in-control standard must be re-injected, if initial analysis indicated the presence of the specific analyte that exceeded the retention time criteria. If samples were not re-analyzed, document under Contract Non-compliance in the Data Assessment.

Reviewer has two options to determine how to qualify questionable sample data. First option is to determine if possible peaks are present within daily retention time window. If no possible peaks are found, non-detects are valid. If possible peaks are found (or interference), qualify positive hits as presumptively present "NJ" and non-detects are rejected "R". Second option is to use the ratio of the retention time of the analyte over the retention time of either surrogate. The passing criteria is + 0.06 RRT units of the RRT of the standard component. Reject "R" all questionable analytes exceeding criteria, and "NJ" all other positive hits.

For any multi-response analytes, retention time windows should be used but analyst and reviewer should rely primarily on pattern recognition or use option 2 specified in paragraph above.

- 9.15 Are there any transcription/calculation errors

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YES NO N/A

within an expanded window surrounding the expected retention times.

If no peaks are found and the surrogates are visible, non-detects are valid. If peaks are present but cannot be discerned through pattern recognition or by using revised RT windows, qualify all positive results and non-detects as unusable, "R".

- 9.7 Has the linearity criteria for the initial calibration standards been satisfied for both columns? (% RSD must be < 20.0% for all analytes) .

- _ ^ Cftf

A _

ACTION: If no, qualify all associated positive results generated during the entire analytical sequence "J" and all non-detects "UJ". When RSD > 90%, flag all non-detect results for that analyte "R" (unusable).

- 9.8 Does the calibration verification/continuing Calibration standard contain the PCB peaks of interest, analyzed on each working day, prior to sample analyses (Method 8082, sections 7.6.2)?

☒

- 9.9 Has a calibration verification/continuing calibration standard been analyzed after every 10 samples and at the end of each analytical sequence (Method 8082, section 7.6.2)

☒

ACTION: If no, take action as specified in section 3.2 above.

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iwd a " * ***&- /

- 9.10 Has the percent difference (%D) exceeded $\pm 15\%$ for any PCB analyte in any calibration verification/Continuing calibration standard?

&** ' /
J_I V _

- 9.11 Has a new 5 pt. initial calibration curve been generated for those PCB analytes which failed in the calibration verification/continuing calibration standard (8000B, section 7.7.3), and all samples which followed the out-of-control calibration verification/standard continuing calibration Standard?

☒

ACTION: If the %D for any analyte exceeded the $\pm 15\%$ criterion and the instrument was not recalibrated for those analytes, qualify positive results for all associated samples (those which followed the out-of-control standard) "J" and sample quantitation limits "UJ". If the %D was > 90%

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YES NO N/A

between raw data and data summary forms?

ACTION: If large errors exists, call lab for explanation/resubmittal, make any necessary corrections and document the effect in data assessments under "Conclusions".

10.0 Analytical Sequence Check (Form VIII-PEST)

10.1 Have all samples been listed on CLP Form VIII or equivalent, and are separate forms present for each column?

☒ -

ACTION: If no, take action specified in 3.2 above.

10.2 Was the proper analytical sequence followed for each initial calibration and subsequent analyses?

☐ fc

ACTION: If no, use professional judgement to determine the severity of the effect on the data and qualify it accordingly. Generally, the effect is negligible unless the sequence was grossly altered or the calibration was also out of limits.

10.3 Were the TCMX/DCB surrogate RTs for the samples within the mean surrogate RT from the initial calibration?

☒ -

Action: If no, see "Action" in section 9.14 above

11.0 Extraction Techniques for Sample Preparation *jjfc Jfa^ LLJUU /"/ ftdsU **/*.*

Method 8081B permits a variety of extraction techniques to be used for sample preparation. Which extraction procedure was used?

1. Aqueous samples:

1. Separatory funnel (Method 3510)
2. Continuous liquid-liquid extraction (Method 3520)
3. Solid phase extraction (Method 3535)
4. Other

.L-L

2. Solid samples:

1. Soxhlet (Method 3540)

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YES NO N/A

2. Automated Soxhlet (Method 3541)
3. Pressurized fluid (Method 3545)
4. Microwave extraction (Method 3546) LL
5. Ultrasonic extraction (Method 3550)
6. Supercritical fluid (Method 3562)
7. Other Ji

11.1 Extract Cleanup - Efficiency Verification (Form IX)

'1^'

11.1.1 Method 8082 (section 7.2) references method 3660 (sulfur) and 3665A (sulfuric acid) to use for Cleaning extracts. Were one or both method used? J_] __

ACTION: If no, take action specified in 3.2 above. If data suggests cleanup was not performed, make note in the data assessment.

NOTE: Method 3620A, Florisil, may be used per approved project QA plan. The method does not list which analytes and surrogate(s) to use to verify column efficiency. The reviewer must check project plan to verify method used as well as the correct PCB list. If not stated or available, use the CLP listing or accept what the laboratory used.

11.2 Are all samples listed on modified CLP PCBs Florisil/Cartridge Check Form?

ACTION: If no, take action specified in 3.2 above.

11.3 Was GPC Cleanup (method 3640A) performed? JL

NOTE: GPC cleanup is not required and is optional. The reviewer should check Project Plan to verify requirement.

11.4 Were the same PCB analytes used in calibration used to check the efficiency of the cleanup procedures? i-L

11.5 Are percent recoveries (% R) of the PCBs and surrogate compounds used to check the efficiency of the cleanup procedures within lab's in-house QC limits (use 70-130% if not available) JL

70-130% for GPC calibration? J_I

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YES NO N/A

Qualify only the analyte(s) which fail the recovery criteria as follows:

ACTION: If % R are < 80%, qualify positive results "J" and quantitation limits "UJ". Non-detects should be qualified "R" if zero %R was obtained for PCBs. Use professional judgement to qualify positive results if recoveries are greater than the upper limit.

12.0 PCB Identification

12.1 Has CLP Form X or equivalent, showing **retention time** data for positive results on the two GC columns, been completed for every sample in which a PCB was detected?

ACTION: If no, take action specified in 3.2 above, or compile a list comparing the retention times for all sample hits on the two columns.

12.2 Are there any transcription/calculation errors between raw data and data summary forms (initial calibration summaries, calibration verification summaries, analytical sequence summaries, GPC and cleanup verification forms)?

ACTION: If large errors exist, call lab for explanation/resubmittal, make necessary corrections and note error in the data assessment.

12.3 Are retention times (RT) of sample compounds within the established RT windows for both columns/analyses?

ACTION: Qualify as unusable (R) all positive results which were not confirmed by second GC column analysis. Also qualify "R", unusable, all positive results not within RT windows unless associated standard compounds are similarly biased. The reviewer should use professional judgement to assign an appropriate quantitation limit.

12.4 Check chromatograms for false negatives, especially if RT windows on each column were established differently.
Were there any false negatives?

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YES NO N/A

ACTION: Use professional judgement to decide if the compound should be reported. If there is reason to believe that peaks outside retention RT windows should be reported, make corrections to data summary forms (Form I) and note in data assessment.

12.5 Was GC/MS confirmation provided when sample concentration was sufficient (> 10 ug/ml) in the final extract?

f1

ACTION: Indicate with red pencil which Form I results were confirmed by GC/MS and also note in data assessment.

12.6 Is the percent difference (%D) calculated for the positive sample results on the two GC columns <25.0%?

✓

NOTE: The method requires quantitation from one column, The second column is to confirm the presence of an analyte. It is the reviewer's responsibility to verify from the project plan what the lab was required to report. If the lab was required to report concentrations from both columns, continue with validation for % Difference. If required, but not reported, either contact the lab for results or calculate the concentrations from the calibration. If not required, skip this section. Document actions in Data Assessment.

ACTION: If the reviewer finds neither column shows interference for the positive hits, the data should be qualified as follows:

<u>% Difference</u>	<u>Qualifier</u>
0-25%	none
26-70%	"J"
71-100%	"NJ"
>100% *	"R"
100-200% (Interference detected)**	"NJ"
>50% (PCBs value is <CRQL)	"U"

When the reported PCBs value is <CRQL and the %D is >50%, raise the value to the CRQL and qualify with "U" (non-detect).

* Check the chromatogram. If pattern is confirmed qualify "J". If pattern is mixed, has interference, or the PCB cannot be positively determined due to weathering, qualify "JN".

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YES NO N/A

If PCB can not be confirmed, qualify the PCB as "R".

** When the reported %D is 100-200% but interference is detected in either column, qualify the data with "NJ".

13.0 Compound Quantitation and Reported Detection Limits

13.1 Are there any transcription/calculation errors in Form I results? Check at least two positive values. Were any errors found?

NOTE: Single-peak PCBs results can be checked for rough agreement between quantitative results obtained on the two GC columns. The reviewer should use professional judgement to decide whether a much larger concentration obtained on one column versus the other indicates the presence of an interfering compound. If an interference is suspected, the lower of the two values should be reported and qualified according to section 12.6 above. This necessitates a determination of an estimated concentration on the confirmation column. The narrative should indicate that the presence of interferences has led to the quantitation of the second column confirmation results.

13.2 Are the EDLs (Estimated Detection Limits) adjusted to reflect sample dilutions and, for soils, % moisture?

ACTION: If errors are large, call lab for explanation/resubmittal, make any necessary corrections and document effect in data assessments.

ACTION: When a sample is analyzed at more than one L. dilution, the lowest EDLs are used (unless a QC exceedance dictates the use of the higher EDL data from the diluted sample analysis). Replace concentrations that exceed the calibration range in the original analysis by crossing out the value on the original Form I and substituting it with data from the analysis of diluted sample. Specify which Form I is to be used, then draw a red "X" across the entire page of all Form I's that should not be used, including any in the summary package.

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YES NO N/A

ACTION: EDLs affected by large, off-scale peaks should be qualified as unusable, "R". If the interference is on-scale, the reviewer can provide a modified EDL flagged "UJ" for each affected compound.

14.0 Chromatogram Quality

14.1 Were baselines stable?

14.2 Were any electropositive displacement (negative peaks) or unusual peaks seen?

✓ -

ACTION: Note all system performance problems in the data assessment.

15.0 Field Duplicates A K

15.1 Were any field duplicates submitted for PCB analysis?

LL

ACTION: Compare the reported results for field duplicates and calculate the relative percent difference.

ACTION: Any gross variation between field duplicate results must be addressed in the reviewer narrative. However, if large differences exist, the identity of the field duplicates is questionable. An attempt should be made to determine the proper identification of field duplicates.

4 C
PESTICIDE METHOD BLANK SUMMARY

NYSDEC SAMPLE NO.

MB 12

Lab Name: FRIEND LABORATORY, INC.		Contract:	
Lab Code: 10252	Case No.: _____	SAS No.:	SDG No.: AAA
Lab Sample ID: MB 12		LabFile ID:E2980182	
Matrix: (soil/water) SOIL		Extraction:(SepF/Cont/Sonc) SONC	
Sulfur Cleanup: (Y/N) N		Date Extracted: 10/15/02	
Date Analyzed (1): 10/16/02		Date Analyzed (2): _____	
Time Analyzed (1): 1536		Time Analyzed (2V) _____	
Instrument ID (1): HP1		Instrument ID (2): HP3	
GC Column (1): RTX-CLPESTICIDES2 ID 0.32 (mm)			
GC Column (2): RTX-CLPESTICIDES1 ID 0.32 (mm)			

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

	NYSDEC SAMPLE NO.	LAB SAMPLE ID	DATE ANALYZED 1	DATE ANALYZED 2
01	QC12	QC12	10/16/02	
02	H-C-SS-B1-001	L95433-1	10/16/02	10/16/02
03	H-C-SS-B2-001	L95433-2	10/16/02	10/16/02
04	H-B-S-W-001	L95433-3	10/16/02	10/16/02
05	H-B-SS-W-001	L95433-4	10/16/02	10/16/02
06	H-B-S-E-001	L95433-5	10/16/02	10/16/02
07	H-B-SS-E-001	L95433-6	10/16/02	10/16/02
08	DUPLICATE	L95433-7	10/16/02	10/16/02
09	23-C-S-W-B-001	L95433-8	10/16/02	10/16/02
10	23-C-S-E-B-001	L95433-9	10/16/02	10/16/02
11	23-B-S-E-001	L95433-10	10/16/02	10/16/02
12	23-B-S-W-001	L95433-11	10/16/02	10/16/02
13	R0045^9/58-60	L95433-12	10/16/02	10/16/02
14				
15				
16				
17				
18				
19				
20				
21				
22				
23				
24				
25				
26				

COMMENTS

3F
SOIL PCB BLANK SPIKE RECOVERY
SW846/8082

Lab name: FRIEND LABORATORY, INC.

Reference: 02-004-0183

Lab code: 10252

Date analyzed: 10/16/02

Matrix Spike - Lab Sample No.: QC12

Date Extracted: 10/15/02

COMPOUND	SPIKE ADDED (ug/kg)	SAMPLE CONCENTRATION (ug/kg)	MS CONCENTRATION (ug/kg)	MS % REC #	QC LIMITS REC
K B 1016	471	0	420	89	50-114
PCB 1260	471	0	521	111	10-127

Column to be used to flag recovery values with an asterisk

* Values outside of QC limits

Spike Recovery: 0 out of 2 outside limits

COMMENTS:

ID
PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO

MB12

Name: Contract: MB12

Lab Code: Case No. : SAS No. : SDG No. : AAA1014

Matrix: (soil/water) SOIL Lab Sample ID: MB12

Sample wt/vol: 10.3 (g/mL) G Lab File ID: E2980182

% Moisture: 0 . decanted: (Y/N) N Date Received: 10/14/2

Extraction: (SepF/Cont/Sonc) SONC Date Extracted: 10/15/2

Concentrated Extract Volume: 100 Q Q (up Date Analyzed: 10/16/2

Injection Volume: 2.0{uL) Dilution Factor: 1.0

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

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

12674-11-2	-Aroclor- 1016
1104-28-2	-Aroclor- 1221"
11141-16-5	-Aroclor- 1232"
53469-21-9	-Aroclor- 1242"
11097-69-1	-Aroclor- 1254"
11096-82-5	-Aroclor- 1260"
	-Aroclor- 1248"

9.7	~~0.01~~	U
19	~~0.02~~	U
9.7	~~0.01~~	U
9.7	~~0.01~~	U
9.7	~~0.01~~	U
9.7	~~0.01~~	U
9.7	~~0.01~~	U
<i>QQR</i>		
<i>12/30/02</i>		

Thru-Put Systems, Inc.

Data file : \chem\hpl.i\8082r0917.b\E2980182.D
 Lab Smp Id: MB12 Client Smp ID: MB12
 Inj Date : 16-OCT-2002 15:36
 Operator : CPW Inst ID: hpl.i
 Smp Info : MB12
 Misc Info
 Comment
 Method \chem\hpl.i\8082r0917.b\8082_PCBsec.M
 Meth Date 17-Oct-2002 07:11 Administra Quant Type: ESTD
 Cal Date 17-SEP-2002 16:43 Cal File: E2989834.D
 Als bottle 1
 Dil Factor 1.00000
 Integrator: Falcon Compound Sublist: PCB.sub
 Target Version: 3.40 Sample Matrix: SOIL
 Processing Host: TARGET3

Concentration Formula: $\text{Amt} * \text{DF} * ((\text{Vf} / \text{Ws}) * \text{Uf}) / \text{Ts} * 1000$

Name	Value	Description
DF	1.000	Dilution Factor
Vf	10.000	Final volume
Ws	10.268	Weight of sample extracted (g)
Uf	0.100	Unit Correction Factor
Ts	100.000	Total Solid

		CONCENTRATIONS					
		ON-COL	FINAL				
RT	EXP RT DLT RT	RESPONSE { ug/L)	(ug/Kg)	TARGET	RANGE	RATIO	
5	1 Tetrachloro-m-xylene					CAS #!	
7.990	7.997 -0.007	4186757	516.125			502.64	
S	29 Decachlorobiphenyl					CAS #:	
20.133	20.130 0.003	3383203	643.359			626.55	

$$Y \sim Cx \mid O^S)$$

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Tetrachloro-n-xylene (7,990)

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Decaohlorobiphenyl (20*133)

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Friend Inc.

Data File: /chem/hpl.i/8082r0917.b/E2980182.D
Method: /chem/hpl.i/8082r0917.b/8082_PCBsec.M
Sample Info: MB12
Misc Info:
Analysis Date: 16-OCT-2002 15:36
Sample Matrix: SOIL
File Number: 0182

Dilution Factor	1.0000
Sample Weight	10.2683
Final Volume	10.0000
Total Solid	100.0000

Analytes (ug/Kg)

Aroclor-1016	0.00
Aroclor-1221	0.00
Aroclor-1232	0.00
Aroclor-1242	0.00
Aroclor-1254	0.00
Aroclor-1260	0.00
Aroclor-1248	0.00
Tetrachloro-m-xylene	103.22%
Decachlorobiphenyl	128.67%

Analyst: CPW
Report Date: 10/17/2002 07:45

Supervisor:
Date:



01/12/02	RTX-CLPEST 1 PG ON COLUMN IDL						UG/LIN WATER	CRDL (UG/L)
Instrument#3	Run#1	Run #2	Run #3	Average	SD	SD*6.95	IDL	
PCB 1016	99.14	100.48	98.05	99.22	1.21	8.44	0.1	1.0
PCB 1221	200.36	193.87	196.82	197.02	3.25	22.6	0.2	2.0
PCB 1232	97.97	96.72	99.17	97.95	1.22	8.51	0.1	1.0
PCB 1242	99.14	100.08	101.34	100.19	1.10	7.67	0.1	1.0
PCB 1248	101.82	101.01	99.76	100.86	1.04	7.22	0.1	1.0
PCB 1254	99.63	100.10	99.13	99.62	0.487	3.39	0.1	1.0
PCB 1260	100.74	100.76	101.10	100.87	0.199	1.39	0.1	1.0

01/12/02	RTX-CLPEST 2 PG ON COLUMN IDL						UG/LIN WATER	CRDL (UG/L)
Instrument#3	Run#1	Run #2	Run #3	Average	SD	SD*6.95	IDL	
PCB 1016	106.01	105.20	106.90	106.04	0.850	5.91	0.1	1.0
PCB 1221	202.83	203.02	204.03	203.29	0.642	4.46	0.1	2.0
PCB 1232	105.99	105.07	104.41	105.16	0.796	5.53	0.1	1.0
PCB 1242	104.27	105.07	108.17	105.84	2.06	14.3	0.1	1.0
PCB 1248	101.79	101.90	101.19	101.63	0.379	2.64	0.1	1.0
PCB 1254	101.02	103.64	105.02	103.23	2.03	14.1	0.1	1.0
PCB 1260	102.25	102.84	103.11	102.74	0.437	3.04	0.1	1.0

ID
PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

L95433-1

Lab Name:	Contract:	
Lab Code:	Case No. :	SAS No. : SDG No.: AAA1014
Matrix: (soil/water) SOIL		Lab Sample ID: L95433-1
Sample wt/vol: 10.9 (g/mL) G		Lab File ID: E2980185
% Moisture: 8.0 decanted: (Y/N) N		Date Received: 10/14/2
Extraction: (SepF/Cont/Sonc) SONC		Date Extracted: 10/15/2
Concentrated Extract Volume: <u>10000</u> (uL)		Date Analyzed: 10/16/2
Injection Volume: 2.0 (uL)		Dilution Factor: 10.0
GPC Cleanup: (Y/N) N pH: 7.0		Sulfur Cleanup: (Y/N) N

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
12674-11-2	-Aroclor- 1016	10.0	-0TX0-
1104-28-2	-Aroclor- 1221"	aco	0.26
11141-16-5	-Aroclor- 1232"	joo	0.1e
53469-21-9	-Aroclor- 1242"	/oo	0.10-
11097-69-1	-Aroclor- 1254"		
11096-82-5	-Aroclor- 1260"		364.09
	-Aroclor- 1248"		
		i ^{oo}	&r±€r
			;a/3o/03i

Thru-Put Systems, Inc.

Data file \chem\hpl.i\8082r0917.b\E2980185.D
Lab Smp Id L95433-1 Client Smp ID: L95433-1
Inj Date 16-OCT-2002 17:10
Operator CPW Inst ID: hpl.i
Smp Info L95433-1
Misc Info WG33196,02-004
Comment
Method \chem\hpl.i\8082r0917.b\8082_PCBsec.M
Meth Date 17-Oct-2002 07:11 Administra Quant Type: ESTD
Cal Date 17-SEP-2002 16:43 Cal File: E2989834.D
Als bottle 1
Dil Factor 10.00000
Integrator Falcon Compound Sublist: PCB.sub
Target Version.: 3.40 Sample Matrix: SOIL
Processing Host: TARGET3

Concentration Formula: $\text{Amt} * \text{DF} * ((\text{Vf} / \text{Ws}) * \text{Uf}) / \text{Ts} * 1000$

Name	Value	Description
DF	10.000	Dilution Factor
Vf	10.000	Final volume
Ws	10.872	Weight of sample extracted (g)
Uf	0.100	Unit Correction Factor
Ts	92.000	Total Solid

*

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		CONCENTRATIONS							
		ON-COL	FINAL						
EXP RT	DLT RT	RESPONSE (ug/L)	fug/Kg)	TARGET	RANGE	RATIO			
S 1 Tetrachloro-m-xylene CAS #:									
8.013	7.997	0.016	291540 41.1447	411.34	33. f-				
\$ 29 Decachlorobiphenyl CAS «:									
20.130	20.130	0.000	257101 53.1853	531.72					
25 Aroclor-1254 CAS #: 11097-69-1									
13.670	13.670	0.000	19700 58.3757	583.61	80.00-	120.00	100.00(MH)		
14.560	14.563	-0.003	15670 52.0458	520.33	103.67-	143.67	79.54		
15.003	15.003	0.000	4665 33.6379	336.29	73.24-	113.24	23.79		
15.347	15.350	-0.003	3219 21.2599	212.55	41.14-	81.14	16.34		
15.987	16.033	-0.046	1859 16.7726	167.68	77.22-	117.22	9.44		
Average of Peak Concentrations -			364.09						

M

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Data File: \chem\hpl.i\8082r0917.b\E2980185.D
Report Date: 17-Oct-2002 07:45

QC Flag Legend

M - Compound response manually integrated.

H - Operator selected an alternate compound hit.

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Friend Inc.

Data File: /chem/hpl.i/8082r0917.b/E2980185.D
Method: /chem/hpl.i/8082r0917.b/8082_PCBsec.M
Sample Info: L95433-1
Misc Info: WG33196,02-004
Analysis Date: 16-OCT-2002 17:10
Sample Matrix: SOIL
File Number: 0185

Dilution Factor	10.0000
Sample Weight	10.8723
Final Volume	10.0000
Total Solid	92.0000

Analytes (ug/Kg)

Aroclor-1016	0.00
Aroclor-1221	0.00
Aroclor-1232	0.00
Aroclor-1242	0.00
Aroclor-1254	364.09
Aroclor-1260	0.00
Aroclor-1248	0.00
Tetrachloro-m-xylene	82.29%
Decachlorobiphenyl	106.37%

Analyst: CPW
Report Date: 10/17/2002 07:45

Supervisor:
Date:





Thru-Put Systems, Inc.

Data file : \chem\hp3.i\l254FCONFIRMIIIa b\E3956426.D
 Lab Smp Id: L95433-1 Client Smp ID: L95433-1
 Inj Date 16-OCT-2002 01:50
 Operator CPW Inst ID: hp3.i
 Smp Info L95433-1
 Misc Info CONFIRMATION
 Comment
 Method \chem\hp3.i\l254FCONFIRMIIIa b\8082_PCBsec.M
 Meth Date 16-Oct-2002 12:27 Administra Quant Type: ESTD
 Cal Date 16-OCT-2002 01:19 Cal File: E3956425.D
 Als bottle 1
 Dil Factor 10.00000
 Integrator: Falcon Compound Sublist: 1254.sub
 Target Version: 3.40 Sample Matrix: SOIL
 Processing Host: TARGET3

Concentration Formula: Amt * DF. * ((Vf / Ws) * Uf) / Ts * 1000

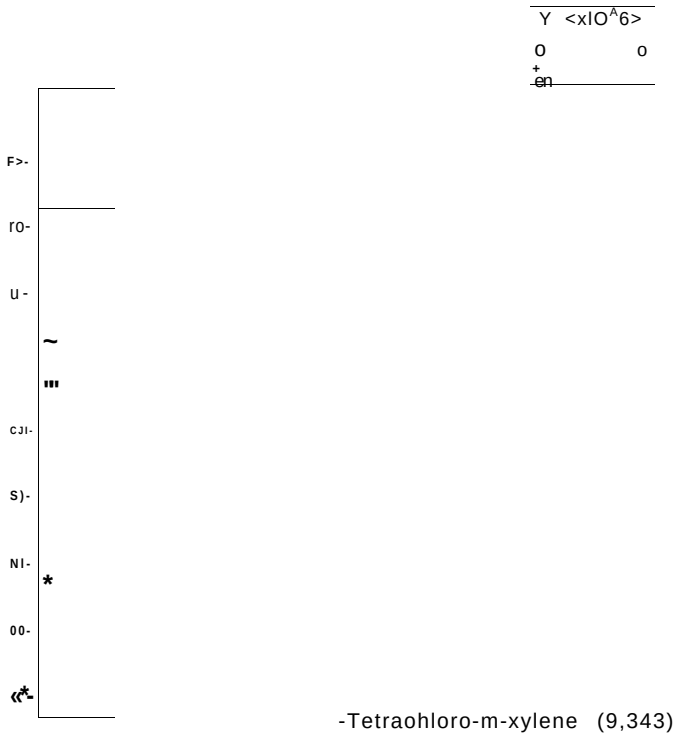
Name	Value	Description
DF	10.000	Dilution Factor
Vf	10.000	Final volume
Ws	10.872	Weight of sample extracted (g)
Uf	0.100	Unit Correction Factor
Ts	92.000	Total Solid

ft

CONCENTRATIONS									
			ON-COL		FINAL				
RT	EXP RT	DLT RT	RESPONSE	{ ug/L)	ug/Kg)	TARGET	RANGE	Ratio	
\$ 1 Tetrachloro-m-xylene					CAS #:				
9.343	9.337	0.006	895741	58.8131	587.98				
25 Aroclor-1254					CAS ft: 11097-69-1				
14.213	14.213	0.000	54424	84.1565	841.35	80.00-	120.00	100.00	
15.287	15.297	-0.010	7695	11.5089	115.06	83.82-	123.82	"14.14	
15.540	15.537	0.003	60374	58.9038	588.89	136.90-	176.90	110-93	
16-087	16.087	0.000	26892	32.0221	320.14	111.13-	151.13	49.41	
16.450	16.447	0.003	30197	33.4508	334.42	119.15-	159.15	55.48	
Average of Peak Concentrations					439.97				
5 29 Decachlorobiphenyl					CAS **: 639.10				
20.930	20.927	0.003	693518	63.9260	639.10				

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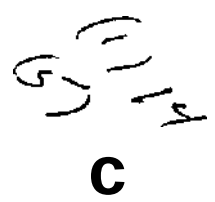
00012



-Aroclor-1254 <14.213>

^Aroclor-1254 <15.287>
 -Aroclor-1254 <15.540>

/ -Aroclor-1254 <16.087>
 -firoclor-1254 (16,450)



Argument: hp3

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r0, -Deoachlorobiphenyl (20,930)

r0, -

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Date J 16-OCT-2002 17:42

Client ID; L95433-2

Sample InfoJ L95433-2

Volume Injected ; 2,0

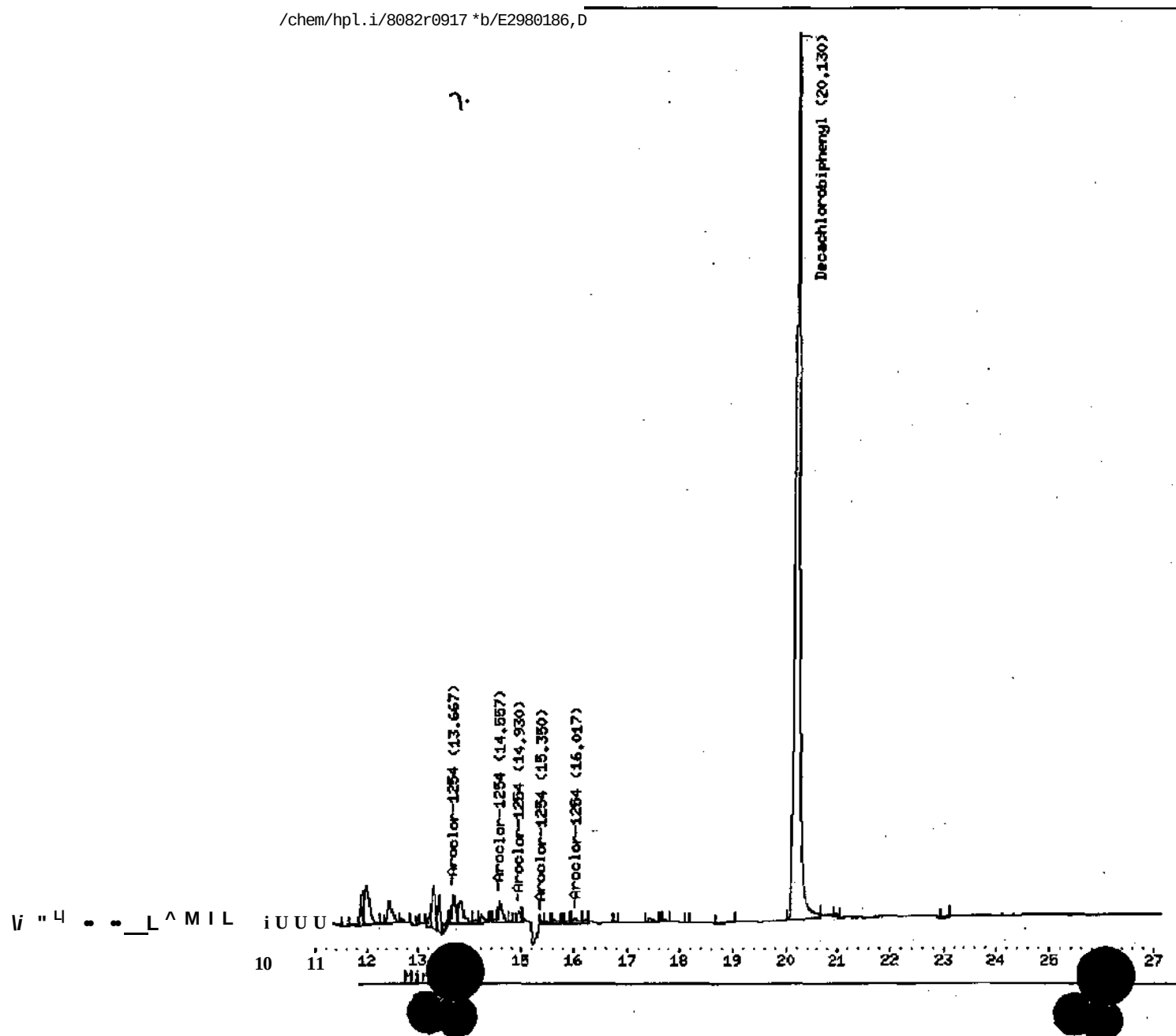
Column phase; RTX-CLPesticides 2

Instrument: hpl.i

Operator; CPU

Column diameter: 0,32

/chem/hpl.i/8082r0917 *b/E2980186.D



Friend Inc.

Data File: /chem/hpl.i/8082r0917.b/E2980186.D
Method: /chem/hpl.i/8082r0917.b/8082_PCBsec.M
Sample Info: L95433-2
Misc Info: WG33196,02-004
Analysis Date: 16-OCT-2002 17:42
Sample Matrix: SOIL
File Number: 0186

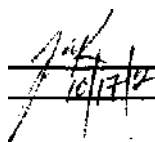
Dilution Factor	10.0000
Sample Weight	10.1400
Final Volume	10.0000
Total Solid	91.4000

Analytes (ug/Kg)

Aroclor-1016	0.00
Aroclor-1221	0.00
Aroclor-1232	0.00
Aroclor-1242	0.00
Aroclor-1254	252.39
Aroclor-1260	0.00
Aroclor-1248	0.00
Tetrachloro-m-xylene	92 23%
Decachlorobiphenyl	

Analyst: CPW
Report Date: 10/17/2002 07:45

Supervisor:
Date:





Thru-Put Systems, Inc.

Data file : \chem\hp3.i\1254FC0NFIRMIIIa b\E3956427.D
 Lab Smp Id: L95433-2 Client Smp ID: L95433-2
 Inj Date : 16-OCT-2002 02:22
 Operator : CPW Inst ID: hp3.i
 Smp Info : L95433-2
 Misc Info : CONFIRMATION
 Comment :
 Method : \chem\hp3.i\1254FC0NFIRMIIIa b\8082_PCBsec.M
 Meth Date : 16-Oct-2002 12:27 Administra Quant Type: ESTD
 Cal Date : 16-OCT-2002 01:19 Cal File: E3956425.D
 Als bottle: 1
 Dil Factor: 10.00000
 Integrator: Falcon Compound Sublist: 1254.sub
 Target Version: 3.40 Sample Matrix: SOIL
 Processing Host: TARGET3

Concentration Formula: $\text{Amt} * \text{DF} * ((\text{Vf} / \text{Ws}) * \text{Uf}) / \text{Ts} * 1000$

Name	Value	Description
DF	10.000	Dilution Factor
Vf	10.000	Final volume
Ws	10.140	Weight of sample extracted (g)
Uf	0.100	Unit Correction Factor
Ts	91.400	Total Solid

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CONCENTRATIONS									
RT	EXP RT	DLT RT	RESPONSE	ON-COL (ug/L)	FINAL (ug/Kg)	TARGET	RANGE	RATIO	
			— " —						
S 1 Tetrachlorobiphenyl					CAS #: 11097-69-1				
9.340	9.337	0.003	91663B	60.1B52	649.39				
25 Aroclor-1254					CAS #: 11097-69-1				
14.213	14.213	0.000	35096	54.2694	585.56	80.00-	120.00	100.00	
15.290	15.297	-0.007	5428	8.11831	87.60	83.82-	123.82	15.47	
15.540	15.537	0.003	29890	29.1621	314.66	136.90-	176.90	85.17	
16.087	16.087	0.000	B434	10.0429	108.36	111.13-	151.13	24.03	
16.447	16.447	0.000	13818	15.3069	165.16	119.15-	159.15	39.37	
Average of Peak Concentrations					252.27				
\$ 29 Decachlorobiphenyl					CAS #: 11097-69-1				
20.923	20.927	-0.004	630169	58.0867	626.75				

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Tetrachloro-ra-xylene <9,340> o

-Aroolor-1254 <14*213)

€E-Aroolor-1254 <15,290)
- -Aroclor-1254 <15.540)
|"-Aroclor-12S4 <16,087)
§• -Aroolor-1254 <16.447)

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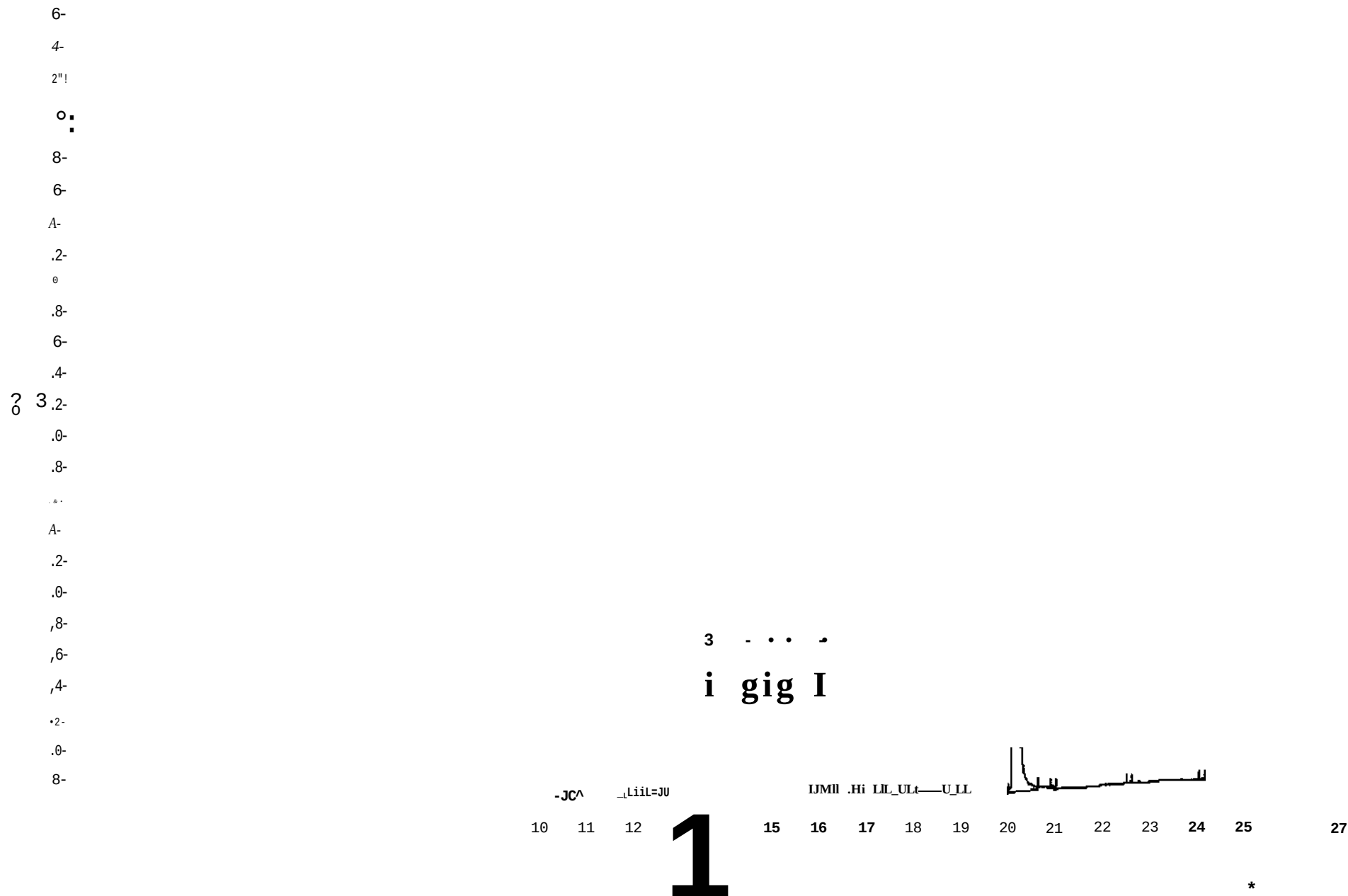
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Deoachlorobiphenyl C20.923)

Column diameter: 0.32

/chen/hpl,i/8082r0917.b/E2980187.D



Friend Inc.

Data File: /chem/hpl.i/8082r0917.b/E2980187.D
Method: /chem/hpl.i/8082r0917.b/8082_PCBsec.M
Sample Info: L95433-3
Misc Info: WG33196,02-004
Analysis Date: 16-OCT-2002 18:13
Sample Matrix: SOIL
File Number: 0187

Dilution Factor	10.0000
Sample Weight	10.2286
Final Volume	10.0000
Total Solid	62.2000

Analytes (ug/Kg)

Aroclor-1016	0.00
Aroclor-1221	0.00
Aroclor-1232	0.00
Aroclor-1242	0.00
Aroclor-1254	313.10
Aroclor-1260	0.00
Aroclor-1248	0.00
Tetrachloro-m-xylene	84.88%
Decachlorobiphenyl	112.26%

Analyst: CPW
Report Date: 10/17/2002 07:45

Supervisor:
Date:


10/17/02

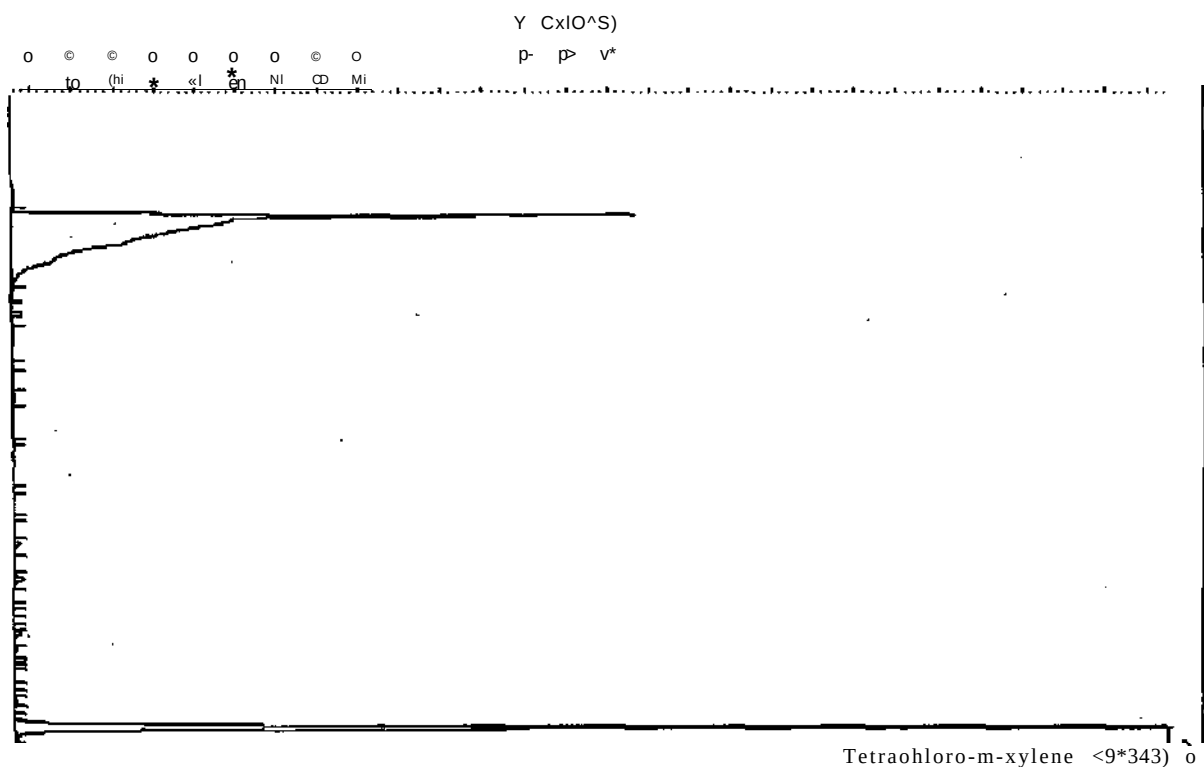
Thru-Put Systems, Inc.

Data file : \chem\hp3.i\1254FCONFIRMIIIa, b\E3956428.D
Lab Smp Id: L95433-3 Client Smp ID: L95433-3
Inj Date 16-OCT-2002 02:53
Operator CPW Inst ID: hp3.i
Smp Info L95433-3
Misc Info CONFIRMATION
Comment
Method \chem\hp3.i\1254FCONFIRMIIIa b\8082_PCBsec.M
Meth Date 16-Oct-2002 12:27 Administra Quant Type: ESTD
Cal Date 16-OCT-2002 01:19 Cal File: E3956425.D
Als bottle 1
Dil Factor 10.00000
Integrator Falcon Compound Sublist: 1254.sub
Target Version: 3.40 Sample Matrix: SOIL
Processing Host: TARGET3

Concentration Formula: $\text{Amt} * \text{DF} * ((\text{Vf} / \text{Ws}) * \text{Uf}) / \text{Ts} * 1000$

Name	Value	Description
DF	10.000	Dilution Factor
Vf	10.000	Final volume
Ws	10.229	Weight of sample extracted (g)
Uf	0.100	Unit Correction Factor
Ts	62.200	Total Solid

CONCENTRATIONS									
			ON-COL		FINAL				
RT	EXP RT	DLT RT	RESPONSE	(Ug/L)	(ug/Kg)	TARGET	RANGE	RATIO	
.....									
S 1	Tetrachloro-m-xylene				CAS »:				
9.343	9.337	0.006	904557	59.3919	933.51				
25 Aroclor-1254					CAS #: 11097-69-1				
14.217	14.213	0.004	10896	16.8486	264.82	80.00-	120.00	100.00	
IS.293	15.297	-0.004	4811	7.19550	113.10	83.82-	123.82	44.15	
15.540	15.537	0.003	14342	13.9927	219.94	136.90-	176.90	131.63	
16.090	16.087	0.003	9958	11.8576	186.38	111.13-	151.13	91.39	
16.450	16.447	0.003	18163	20.1201	316.25	119.15-	159.15	166.69	
Average of Peak Concentrations -					220.10				
S 29	Decachlorobiphenyl				CAS #				
20.937	20.927	0.010	700911	64.6075	1015.49				



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- P -Aroclor-1254 <14.217>
- 5-
- E-Aroclor-1254 <15.293>
- ^ -Aroclor-1254 <15.540>
- Aroclor-1254 <16.090>
- -Aroclor-1254 <16.450>

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Decachlorobiphenyl <20.937>

Data File: /chem/hp3,i/1E54FC0NFIRHIIa.b<'E3956429.D

Page 2

Date : 16-OCT-2002 03:24

Client ID: L95433-4

Sample InfoJ L95433-4

Volume Injected CuL>J 2.0

Column phase: RTX-CLPesticides 1

Instrument: hp3.i

Operator: CPW

Column diameter: 0,32

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Thru-Put Systems, Inc.

Data file \chem\hp3.i\1254FCONFIRMIIIa.b\E3956429.D
 Lab Smp Id L95433-4 Client Smp ID: L95433-4
 Inj Date 16.-OCT-2002 03:24
 Operator CPW Inst ID: hp3.i
 Smp Info L95433-4
 Misc Info CONFIRMATION
 Comment
 Method \chem\hp3.i\1254FCONFIRMIIIa.b\8082_PCBsec.M
 Meth Date 16-Oct-2002 12:27 Administra Quant Type: ESTD
 Cal Date 16-OCT-2002 01:19 Cal File: E3956425.D
 Als bottle 1
 Dil Factor 10.00000
 Integrator: Falcon Compound Sublist: 1254.sub
 Target Version: 3.40 Sample Matrix: SOIL
 Processing Host: TARGET3

Concentration Formula: $\text{Amt} * \text{DF} * ((\text{Vf} / \text{Ws}) * \text{Uf}) / \text{Ts} * 1000$

Name	Value	Description
DF	10.000	Dilution Factor
Vf	10.000	Final volume
Ws	10.723	Weight of sample extracted (g)
Uf	0.100	Unit Correction Factor
Ts	56.900	Total Solid

CONCENTRATIONS

RT	EXP RT	DLT RT	ON-COL	FINAL	TARGET RANGE	RATIO
			RESPONSE (ug/L)	(ug/Kg)		
\$ 1 Tetrachloro-m-xylene CAS #:						
9.337	9.337	0.000	924496	60.7011	994.91	
25 Aroclor-1254 CAS #: 11097-69-1						
14.207	14.213	-0.000	20051	31.0051	508.18 80.00- 120.00	100.00
15.2&7	15.297	-0.010	6978	10.4365	171.06 83.82- 123.82	34.80
15.533	15.537	-0.004	26022	25.3883	416.12 136.90- 176.90	129.78
16.080	16.087	-0.007	16450	19.5881	321.06 111.13-151.13	82.04
16.443	16.447	-0.004	22942	25.4141	416.55 119.15- 159.15	114.42
Average of Peak Concentrations •				366.59		
5 29 Decachlorobiphenyl CAS #:						
20.923	20.927	-0.004	6145B4	56.6502	928.51	

Friend Inc.

Data File: /chem/hpl.i/8082r0917.b/E2980188.D
Method: /chem/hpl.i/8082r.0917.b/8082_PCBsec.M
Sample Info: L95433-4
Misc Info: WG33196,02-004
Analysis Date: 16-OCT-2002 18:44
Sample Matrix: SOIL
File Number: ^0188

Dilution Factor	10.0000
Sample Weight	10.7226
Final Volume	10.0000
Total Solid	56.9000

Analytes (ug/Kg)

Aroclor-1016	0.00
Aroclor-1221	0.00
Aroclor-1232	0.00
Aroclor-1242	0.00
Aroclor-1254	423.67
Aroclor-1260	0.00
Aroclor-1248	0.00
Tetrachloro-m-xylene	102.14%
Decachlorobiphenyl	141.01%

Analyst: CPW
Report Date: 10/17/2002 07:45

Supervisor:
Date:

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Tetrachloro-«-xylene (7,987)

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-Aroclor-1254 (13.663)

- -Aroclor-1254 (14.557)

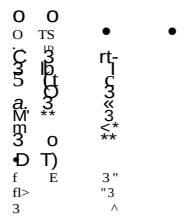
•-Aroclor-1254 (15.007)

-Aroclor-1254 (15.340)

r-Aroclor-1254 (16,020)

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Deoachlorobiphenyl (20.130)

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Lab Name: FRIEND LABORATORY, INC. Contract: _____

yb Code: 10252 Case No.: _____ SAS No.: _____ SDGNo.: AAA

Arument ID: HP1

Br Column: RTX-CLPest2 ID: 0.32 (mm)

Date(s) Analyzed: 09/17/02 09/17/02

File Numbers: 9827-9843

COMPOUND	Peak #	RT OF STANDARDS						MEAN RT	RT WINDOW	
		10 ppb	50 ppb	1100 ppb	1250 ppb	1500 ppb	11000 ppb		FROM	TO
PCB1016	r	10.19	10.20	10.20	10.20	10.21	10.21	10.20	10.10	10.30
	2*	10.71	10.71	10.71	10.71	10.71	10.71	10.71	10.61	10.81
	3*	11.89	11.89	11.90	11.90	11.90	11.90	11.90	11.80	12.00
	4	11.97	11.98	11.98	11.98	11.98	11.98	11.98	11.88	12.08
	5	12.67	12.68	12.68	12.68	12.69	12.69	12.68	12.58	12.78
PCB 1221	1*				8.79			8.79	8.69	8.89
	7				9.12			9.12	9.02	9.22
	3*				9.27			9.27	9.17	9.37
PCB 1232	1*				9.27			9.27	9.17	9.37
	2*				10.20			10.20	10.10	10.30
	3*				11.19			11.19	11.09	11.29
	4				11.47			11.47	11.37	11.57
	5				11.97			11.97	11.87	12.07
PCB 1242	r				10.20			10.20	10.10	10.30
	2*				11.19			11.19	11.09	11.29
	3*				11.47			11.47	11.37	11.57
	4				12.68			12.68	12.58	12.78
	5				13.29			13.29	13.19	13.39
fiCB 1248	1*				11.19			11.19	11.09	11.29
	2*				11.90			11.90	11.80	12.00
	3*				12.68			12.68	12.58	12.78
	4				13.21			13.21	13.11	13.31
	5				13.29			13.29	13.19	13.39
PCB 1254	1*	13.67	13.67	13.67	13.67	13.67	13.67	13.67	13.57	13.77
	2*	14.56	14.56	14.56	14.56	14.56	14.56	14.56	14.46	14.66
	3*	15.01	15.01	15.01	15.01	15.00	15.00	15.01	14.91	15.11
	4	15.34	15.35	15.35	15.35	15.35	15.35	15.35	15.25	15.45
	5	16.02	16.03	16.03	16.03	16.03	16.03	16.03	15.93	16.13
PCB 1260	1*	14.93	14.93	14.94	14.94	14.94	14.94	14.94	14.84	15.04
	2*	15.34	15.34	15.35	15.35	15.35	15.35	15.35	15.25	15.45
	3*	16.19	16.19	16.20	16.20	16.20	16.21	16.20	16.10	16.30
	4	16.75	16.75	16.76	16.76	16.76	16.77	16.76	16.66	16.86
	5	17.23	17.23	17.24	17.24	17.25	17.25	17.24	17.14	17.34
Tetrachloro-m-xylene		7.97	7.99	8.00	7.99	8.00	8.00	7.99	7.89	8.09
De each I orobi phenyl		20.11	20.12	20.13	20.13	20.13	20.13	20.13	20.03	20.23

Denotes required peaks

Retention time windows are + 0.1 minutes for all compounds.

$$\frac{10.19 + 10.20 + 10.20 + 10.20 + 10.21 + 10.21}{6} = 10.20$$

FORM VI-PCB-1

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FORM 6
PCB INITIAL CALIBRATION DATA

Lab Name-. Contract:
 Lab Code: Case No.: SAS No.: SDG No.: AAA916
 Instrument ID: HP1 Calibration Date(s): 09/17/2 09/17/2
 GC Column: RTX-CLPESTICIDES 2 ID: 0.32 (mm)
 LAB FILE ID: RF10: E2989834 RF50: E2989835 RF100: E2989836
 RF250: E2989843 RF500: E2989838

COMPOUND		RF10	RF50	RF100	RF250	RF500
Aroclor-1016		401.3	365.1	438.0	493.9	404.2
	(2)	136.5	147.3	177.8	191.1	175.4
	(3)	135.2	120.4	144.0	140.8	117.2
	(4)	140.8	136.7	181.1	189.3	184.3
	(5)	201.4	165.9	179.7	207.5	203.2
Aroclor-1221					86.2	
	(2)				64.3	
	(3)				307.9	
	(4)					
	(5)					
Aroclor-1232					283.3	
	(2)				161.5	
	(3)				221.6	
	(4)				97.5	
	(5)				57.9	
Aroclor-1242					352.7	
	(2)				515.2	
	(3)				225.6	
	(4)				162.9	
	(5)				195.6	
Aroclor-1254		316.9	313.4	305.2	308.2	343.4
	(2)	288.2	317.8	319.7	345.8	442.7
	(3)	190.1	233.8	239.2	278.8	384.7
	(4)	148.5	164.1	178.0	186.5	230.4
	(5)	253.9	263.2	271.9	294.5	392.1
Aroclor-1260		334.4	269.7	334.8	384.6	340.0
	(2)	358.5	290.3	352.0	415.1	365.1
	(3)	227.9	170.5	206.4	246.1	209.2
	(4)	234.8	173.2	208.2	246.2	210.6
	(5)	364.1	280.0	381.6	496.5	210.6
Aroclor-1248					278.0	440.9
	(2)				163.4	
	(3)				213.4	
	(4)				186.5	
	(5)				304.2	
Tetrachloro-m-xylene		3613	5109	8081	7743	8808
Decachlorobiphenyl		3029	3502	5170	5257	6283

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FORM 6
PCB INITIAL CALIBRATION DATA

Lab Name: _____ Contract: _____
 Code: _____ Case No.: _____ SAS No.: _____ SDG No.: AAA916
 Instrument ID: HP1 Calibration Date(s): 09/17/2 09/17/2
 Column: RTX-CLPESTICIDES 2 ID: 0.32 (mm)
 RF1000: E2989839

COMPOUND	RF100	CURVE	COEFFICIENTS A0	CENTS A1	%RSD OR R-2
Aroclor-1016	366.0	LINR	-18.105188	2.688e-003	0.991
Aroclor-1221	(2) 161.5	LINR	-9.4133819	6.109e-003	0.997
	(3) 100.6	LINR	-18.332671	9.78e-003	0.993
	(4) 162.6	LINR	-9.1394188	6.01e-003	0.995
	(5) 201.8	LINR	2.94297360	4.926e-003	1.000
		LINR	0.00000000	1.159e-002	1.000
Aroclor-1232	(2)	LINR	0.00000000	1.555e-002	1.000
	(3)	LINR	0.00000000	3.248e-003	1.000
	(4)	LINR			
	(5)	LINR			
		LINR	0.00000000	3.53e-003	1.000
Aroclor-1242	(2)	LINR	0.00000000	6.191e-003	1.000
	(3)	LINR	0.00000000	4.512e-003	1.000
	(4)	LINR	0.00000000	1.025e-002	1.000
	(5)	LINR	0.00000000	1.727e-002	1.000
		LINR	0.00000000	2.835e-003	1.000
Aroclor-1254	(2)	LINR	0.00000000	1.941e-003	1.000
	(3)	LINR	0.00000000	4.432e-003	1.000
	(4)	LINR	0.00000000	6.138e-003	1.000
	(5)	LINR	0.00000000	5.111e-003	1.000
	296.1	LINR	-6.4375383	3.29e-003	0.994
Aroclor-1260	(2) 434.5	LINR	16.6006465	2.262e-003	0.997
	(3) 371.6	LINR	21.3460443	2.623e-003	0.995
	(4) 190.9	LINR	4.45851132	5.219e-003	1.000
	(5) 352.0	LINR	11.6581973	2.751e-003	0.994
	329.3	LINR	-5.1814212	3.014e-003	0.998
Aroclor-1248	(2) 358.9	LINR	-3.4590831	2.769e-003	0.998
	(3) 210.0	LINR	-3.5269711	4.748e-003	0.998
	(4) 214.3	LINR	-2.0615020	4.659e-003	0.998
	(5) 480.7	LINR	11.3530028	2.078e-003	0.998
		LINR	0.00000000	3.596e-003	1.000
Tetrachloro-m-xylene	(2)	LINR	0.00000000	6.12e-003	1.000
	(3)	LINR	0.00000000	4.686e-003	1.000
	(4)	LINR	0.00000000	5.361e-003	1.000
	(5)	LINR	0.00000000	3.287e-003	1.000
		LINR			
Decachlorobiphenyl	7679	LINR	5.59456943	1.219e-004	0.991
	5238	LINR	4.64742762	1.888e-004	0.999

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Lab Name: FRIEND LABORATORY, INC. Contract: _____

Lab Code: 10252 Case No.: _____ SAS No.: _____ SDG No.: AAA

Instrument ID: HP3

GC Column: RTX-CLPest1 ID: 0.32 (mm) Date(s) Analyzed: 10/16/02

File Numbers: 6425

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COMPOUND	AMOUNT <"g)	PEAK	RT	RT WINDOW		CALIBRATION FACTOR
				FROM	TO	
PCB 1254	250 PPB	1*	14.21	14.11	14.31	646.70
		2*	15.30	15.20	15.40	668.61
		3*	15.54	15.44	15.64	1024.96
		4	16.09	15.99	16.19	839.80
		5	16.45	16.35	16.55	902.73
Tetrachloro-m-xylene	300 PPB		9.34	9.24	9.44	15230.30
Decachlorobiphenyl	300 PPB		20.93	20.83	21.03	10848.76

* Denotes required peaks

Single injections of the low standard are made to establish approximate retention times and instrument sensitivity. Five point calibrations are performed if a multipeak component is detected in a sample.

Alternate column confirmation is run if a pesticide or PCB is detected in a site sample.

$$\frac{161675}{250} = 646.70$$

7E
PCB CALIBRATION VERIFICATION SUMMARY

Lab Name: FRIEND LABORATORY, INC. Contract: _____
Lab Code: 10252 Case No.: SAS No.: SDG No.: AAA

Sample Name: 250PPB 1254
File Name: E2980181.D
Instrument ID: HP1.I
GC Column: RTX-CLPesticides 2

ID: 0.32 (mm)

Analysis Date: 10/16/02

Analysis Time: 1504

COMPOUND	PEAK	RT	RTW	SDOW	CALC	TRUE	%D
			FROM	TO	AMOUNT	AMOUNT	
Aroclor-1254	1	13.67	13.57	13.77	253.31	250.00	1.32
Aroclor-1254	2	14.57	14.46	14.66	241.89	250.00	3.24
Aroclor-1254	3	15.01	14.91	15.11	226.17	250.00	9.53
Aroclor-1254	4	15.35	15.25	15.45	316.85	250.00	26.74
Aroclor-1254	5	16.04	15.93	16.13	257.07	250.00	2.83
Tetrachloro-m-xylene	1	8.01	7.89	8.09	316.71	300.00	5.57
Decachlorobiphenyl	1	20.14	20.03	20.23	344.81	300.00	14.94

* QC LIMITS: %D of amounts in the Continuing Calibration must be less than or equal to 15%.

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7E
PCB CALIBRATION VERIFICATION SUMMARY

Lab Name: FRIEND LABORATORY, INC. Contract: _____
Lab Code: 10252 Case No.: „_____SAS No.: _____SDG No.: AAA

Sample Name: 250PPB 1254
File Name: E2980184.D
Instrument ID: HP1.I
GC Column: RTX-CLPesticides 2

ID: 0.32 (mm)
Analysis Date: 10/16/02
Analysis Time: 1639

COMPOUND	PEAK	RT	RT WINDOW		CALC AMOUNT	TRUE AMOUNT	%D
			FROM	TO			
Aroclor-1254	1	13.67	13.57	13.77	238.95	250.00	4.42
Aroclor-1254	2	14.57	14.46	14.66	224.88	250.00	10.05
Aroclor-1254	3	15.01	14.91	15.11	203.48	250.00	18.61
Aroclor-1254	4	15.35	15.25	15.45	243.99	250.00	2.40
Aroclor-1254	5	16.03	15.93	16.13	210.62	250.00	15.75
Tetra ch l o r o - m - x y l e n e	1	8.01	7.89	8.09	319.44	300.00	6.48
Decachlorobiphenyi	1	20.13	20.03	20.23	343.54	300.00	14.51 J

* QC LIMITS: %D of amounts in the Continuing Calibration must be
less than or equal to 15%.

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7E
PCB CALIBRATION VERIFICATION SUMMARY

Lab Name: FRIEND LABORATORY, INC. Contract: _____
Lab Code: 10252 Case No.: SAS No.: ____ SDG No.: AAA

Sample Name: 250PPB 1254
File Name: E2980192.D
Instrument ID: HP1.I
GC Column: RTX-CLPesticides 2

ID: 0.32 (mm)
Analysis Date: 10/16/02
Analysis Time: 2049

COMPOUND	PEAK	RT	RTW FROM	MDOW TO	CALC AMOUNT	TRUE AMOUNT	%D
Aroclor-1254	1	13.67	13.57	13.77	248.79	250.00	0.48
Aroclor-1254	2	14.57	14.46	14.66	227.10	250.00	9.16
Aroclor-1254	3	15.01	14.91	15.11	205.08	250.00	17.97
Aroclor-1254	4	15.35	15.25	15.45	246.88	250.00	1.25
Aroclor-1254	5	16.03	15.93	16.13	209.27	250.00	16.29
Tetrachloro-m-xylene	1	8.01	7.89	8.09	318.87	300.00	6.29
Decachlorobiphenyl	1	20.13	20.03	20.23	341.31	300.00	13.77

* QC LIMITS: %D of amounts in the Continuing Calibration must be less than or equal to 15%.

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$$\frac{227-250}{250} \times 100 = 9.16\%$$
 pt 2 - 1A

7E
PCB CALIBRATION VERIFICATION SUMMARY

Lab Name: FRIEND LABORATORY, INC. Contract: _____
Lab Code: 10252 Case No.: _____ SAS No.: _____ SDG No.: AAA

Sample Name: 250PPB 1254
File Name: E2980200.D
Instrument ID: HP1.I
GC Column: RTX-CLPesticides 2

ID: 0.32 (mm)
Analysis Date: 10/17/02
Analysis Time: 0100

COMPOUND	PEAK	RT	RT WINDOW		CALC AMOUNT	TRUE AMOUNT	%D
			FROM	TO			
Aroclor-1254	1	13.67	13.57	13.77	236.84	250.00	5.26
Aroclor-1254	2	14.56	14.46	14.66	222.34	250.00	11.06
Aroclor-1254	3	15.01	14.91	15.11	195.65	250.00	21.74
Aroclor-1254	4	15.35	15.25	15.45	237.80	250.00	4.88
Aroclor-1254	5	16.03	15.93	16.13	202.33	250.00	19.07
Tetrachloro-m-xylene	1	7.99	7.89	8.09	309.54	300.00	3.18
Decachlorobiphenyl	1	20.13	20.03	20.23	333.62	300.00	1121 J

* QC LIMITS: %D of amounts in the Continuing Calibration must be less than or equal to 15%.

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PCB CALIBRATION VERIFICATION SUMMARY

Lab Name: FRIEND LABORATORY, INC. Contract: _____
Lab Code: 10252 Case No.: _____ SAS No.: _____ SDG No.: AAA

Sample Name: 250PPB 1254

File Name: E3956439.D

Instrument ID: HP3.I

GC Column: RTX-CLPesticides 1

ID: 0.32 (mm)

Analysis Date: 10/16/02

Analysis Time: 0836

COMPOUND	PEAK	RT	RT WINDOW		CALC AMOUNT	TRUE AMOUNT	%D
			FROM	TO			
Aroclor-1254	1	14.21	14.11	14.31	270.48	250.00	8.19
Aroclor-1254	2	15.29	15.20	15.40	271.61	250.00	8.64
Aroclor-1254	3	15.53	15.44	15.64	267.77	250.00	7.11
Aroclor-1254	4	16.08	15.99	16.19	273.12	250.00	9.25
Aroclor-1254	5	16.44	16.35	16.55	269.63	250.00	7.85
Tetrachloro-m-xylene	1	9.33	9.24	9.44	304.58	300.00	1.53
Decachlorobiphenyl	1	20.91	20.83	21.03	305.68	300.00	1.89

* QC LIMITS: %D of amounts in the Continuing Calibration must be less than or equal to 15%.

$$\frac{271.61 - 250}{250} \times 100 = 8.64$$

8D
PCB ANALYTICAL SEQUENCE

Lab Name: Contract:
Lab Code: Case No. : SASNo.: SDG No. : AAA916
Instrument ID: HP1 Init. Calib. Date(s): 09/17/2 09/17
GC Column: RTX-CLPESTICIDES 2 ID: 0.32 (mm)

THE ANALYTICAL SEQUENCE OF PERFORMANCE EVALUATION MIXTURES/ BLANKS,
SAMPLES, AND STANDARDS IS GIVEN BELOW: .

MEAN SURROGATE RT FROM INITIAL CALIBRATION TCX: 8.00 DCB: 20.13					
EPA SAMPLE NO.	LAB SAMPLE ID	DATE ANALYZED	TIME ANALYZED	TCX RT #	DCB RT #
01	STD11660	STD11660	09/17/2	1304	7.97
02	STD21660	STD21660	09/17/2	1335	7.99
03	STD31660	STD31660	09/17/2	1406	8.00
04	STD41660	STD41660	09/17/2	1437	7.99
05	STD51660	STD51660	09/17/2	1509	8.00
06	STD61660	STD61660	09/17/2	1540	8.00
07	STD11254	STD11254	09/17/2	1643	7.98
08	STD21254	STD21254	09/17/2	1714	7.99
09	STD31254	STD31254	09/17/2	1745	8.00
10	STD41254	STD41254	09/17/2	1816	7.99
11	STD51254	STD51254	09/17/2	1848	7.98
12	STD61254	STD61254	09/17/2	1919	8.00
13	STD41248	STD41248	09/17/2	1950	7.99
14	STD41242	STD41242	09/17/2	2021	7.99
15	STD41232	STD41232	09/17/2	2052	7.99
16	STD41221	STD41221	09/17/2	2124	8.00
17	CC166001	CC166001	09/18/2	1401	8.00
18	MB82 /	MB82	09/18/2	1433	8.02
19	QC82 /	QC82	09/18/2	1507	8.02
20	L94080fLRE	L94080-1RE	09/18/2	1538	7.99
21	L94080/2	L94080-2	09/18/2	1610	7.99
22	L9408/-3RE	L94080-3RE	09/18/2	1641	7.99
23	L9408I-4	L94080-4	09/18/2	1712	7.98
24	CC16fD02	CC166002	09/18/2	1815	8.01
25	L940I1-1RE	L94081-1RE	09/18/2	1846	7.98
26	L940fe1-4RE	L94081-4RE	09/18/2	1917	7.99
27	L94#81-5RE	L94081-5RE	09/18/2	1948	8.00
28	L94C81-6RE	L94081-6RE	09/18/2	2019	7.99
29	L9f081-7R	L94081-7R	09/18/2	2051	7.98
30	L91081-1MSR	L94081-1MSR	09/18/2	2122	7.98
31	L31081-1MSDR	L94081-1MSDR	09/18/2	2153	7.97
32	CCIL66003	CC166003	09/18/2	2255	8.01
33	Cfl25401	CC125401	09/18/2	2327	7.99
34	CC125402	CC125402	09/19/2	1009	7.99
35	1*4080-1	L94080-1	09/19/2	1038	7.99
36	lfe4080-3R	L94080-3R	09/19/2	1116	7.99
37		L94081-6	09/19/2	1148	7.98

QC LIMITS

TCX = Tetrachloro-m-xylene (+/- 0.10 MINUTES)
DCB = Decachlorobiphenyl (+/- 0.10 MINUTES)

Column used to flag retention time values with an asterisk.

* Values outside of QC limits.

8D
PCB ANALYTICAL SEQUENCE

flwa

Name: _____ Contract: _____
 Code: _____ Case No.: _____ SAS No.: _____ SDG No.: AAA1014
 Instrument ID: HP1 Init. Calib. Date(s): 09/17/2 09/17/2
 GC Column: RTX-CLPESTICIDES 2 ID: 0.32 (mm)

THE ANALYTICAL SEQUENCE OF PERFORMANCE EVALUATION MIXTURES, BLRNS,
SAMPLES, AND STANDARDS IS GIVEN BELOW:

MEAN SURROGATE RT FROM INITIAL CALIBRATION						
TCX: 8.00 DCB: 20.13						
	EPA SAMPLE NO.	LAB SAMPLE ID	DATE ANALYZED	TIME ANALYZED	TCX RT '#	DCB RT #
01	1254CC01	1254CC01	10/16/2	1504	8.01	20.14
02	MB12	MB12 ^J	10/16/2	1536	7.99	20.13
03	QC12	QC12	10/16/2	1608	8.00	20.13
04	1254CC02	1254CC02 [•]	10/16/2	1639	8.01	20.13
05	L95433-1	L95433-1 ^J	10/16/2	1710	8.01	20.13
06	L95433-2	L95433-2 ^J	10/16/2	1742	7.98	20.13
07	L95433-3	L95433-3 ^J	10/16/2	1813	8.00	20.13
08	L95433-4	L95433-4 ^f	10/16/2	1844	7.99	20.13
09	L95433-5	L95433-5	10/16/2	1915	7.99	20.13
10	L95433-6	L95433-6	10/16/2	1947	7.99	20.13
11	1254CC03	1254CC03 ^J	10/16/2	2049	8.01	20.13
12	L95433-7	L95433-7	10/16/2	2121	7.99	20.13
13	L95433-8	L95433-8	10/16/2	2152	7.99	20.13
14	L95433-9	L95433-9	10/16/2	2223	7.99	20.13
15	L95433-10	L95433-10	10/16/2	2254	7.99	20.13
16	L95433-11	L95433-11	10/16/2	2326	7.99	20.13
17	L95433-12	L95433-12	10/16/2	2357	7.98	20.13
18	1254CC04	1254CC04	10/17/2	0100	7.99	20.13
19		L95346-9	10/17/2	0131	7.99	20.13
20	L95346^^	L95346-11	10/17/2	0202	7.99	20.13
21	L95420F1	L95420-1	10/17/2	0233	7.99	20.13
22	L9542G-1MS	L95420-1MS	10/17/2	0305	7.99	20.13
23	L95^0-1MSD	L95420-1MSD	10/17/2	0336	7.99	20.13
24	L9J&20-7	L95420-7	10/17/2	0407	8.00	20.13
PS		1254CC05	10/17/2	0510	8.00	20.13
26						
27						
28						
29						
30						
31						
32						
33						
34						
35						
36						
37						

QC LIMITS

TCX = Tetrachloro-m-xylene (+/- 0.10 MINUTES)
 DCB = Decachlorobiphenyl (+/- 0.10 MINUTES)

Column used to flag retention time values with an asterisk.
 * Values outside of QC limits.

PCB ANALYTICAL SEQUENCE

Lab Name: Contract:
 Lab Code: Case No. : SAS No. : SDG No. : AAA1014CONFIRM
 Instrument ID: HP3_ Init. Calib. Date(s): 10/16/2 10/16/2
 GC Column: RTX-CLPESTICIDES 1 ID: 0.32 (mm)

THE ANALYTICAL SEQUENCE OF PERFORMANCE EVALUATION MIXTURES, BLANKS, SAMPLES, AND STANDARDS IS GIVEN BELOW:

MEAN SURROGATE RT FROM INITIAL CALIBRATION						
TCX: 9.34			DCB: 20.93			
	EPA SAMPLE NO.	LAB SAMPLE ID	DATE ANALYZED	TIME ANALYZED	TCX RT #	DCB RT #
01	1254CC02	1254CC02	10/16/2	0119	9.34	20.93
02	L95433-1	L95433-1* ⁷	10/16/2	0150	9.34	20.93
03	L95433-2	L95433-2 -	10/16/2	0222	9.34	20.92
04	L95433-3	L95433-3 ^J	10/16/2	0253	9.34	20.94
05	L95433-4	L95433-4 -J	10/16/2	0324	9.34	20.92
06	L95433-5	L95433-5	10/16/2	0355	9.36	20.92
07	L95433-6	L95433-6	10/16/2	0426	9.32	20.92
08	L95433-7	L95433-7	10/16/2	0458	9.32	20.92
09	L95433-8	L95433-8	10/16/2	0529	9.32	20.92
10	L95433-9	L95433-9	10/16/2	0600	9.33	20.93
11	L95433-10	L95433-10	10/16/2	0631	9.32	20.92
12	L95433-11	L95433-11	10/16/2	0703	9.33	20.92
13	L95433-12	L95433-12	10/16/2	0734	9.32	20.92
14	1254CC03	1254CC03	10/16/2	0836	9.33	20.91
15						
16						
17						
18						
19						
20						
21						
22						
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24						
25						
26						
27						
28						
29						
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34						
35						
36						
37						

QC LIMITS

TCX = Tetrachloro-m-xylene (+/- 0.10 MINUTES)
 DCB = Decachlorobiphenyl (+/- 0.10 MINUTES)

Column used to flag retention time values with an asterisk.
 * Values outside of QC limits.

Friend Inc.

Data File: /chem/hpl.i/8082r0917.b/E2980183.D
Method: /chem/hpl.i/8082r0917.b/8082_PCBsec.M
Sample Info: QC12
Misc Info: QC12
Analysis Date: 16-OCT-2002 16:08
Sample Matrix: SOIL
File Number: 0183

Dilution Factor 1.0000
Sample Weight 10.6196
Final Volume 10.0000
Total Solid 100.0000

Analytes (ug/Kg)

Aroclor-1016	99.88%
Aroclor-1260	110.60%
Tetrachloro-m-xylene	94.69%
Decachlorobiphenyl	118.22%

Analyst: CPW
Report Date: 10/17/2002 07:45

Supervisor:
Date:



WET CHEMISTRY TOTAL SOLIDS ~~NOTEBOOK~~

Page: 87 1 of 2

Notebook : 02-066
 Start Date : 15-OCT-02 11:18
 End Date : 15-OCT-02 11:18

Aha Lysis
 Date Time

AfSt

Method

Dish* Volume
 (mis)

initial
 Weight

1st&2fid
 Weight

3rd&*th
 Weight

'SthWth
 Weight

7thS8th
 Weight

?tfi&t0tft
 Weight

Final
 Result

Rpd

Units

Start: 15-OCT-02 11:18 CLP 3.0 4 ' IWiiS.....1.2^5 O&'z" M T "Mi_* "



Start: 15-OCT-02 11:18 CLP 3.0 1——S^m—T243T—£3575" Torr

^ fconmenls

195433-J Start: 15-OCT-02 11:18 ' > ' 3.C" i To?33 T246- 6.7'. li 7Z 7*f/\$^j7?lft7f W
 Stop : 15-OCT-02 11:18 rr,f7Ji ^

L95433"J0- Start: 15-OCT-02 11:18 CLP 3.0 T5 5^2789 1.2424 4^0256 ••SSIT
 Stop : 15-OCT-02 11:18

'CV)t,i\$~il" Start: 15-OCT-02 11:13 CLP 3.0 16 \$jm....1.2515 TOV TCT Him....i....ji
 Stop : 15-OCT-02 11:18

i95433'1<! Start: 15-OCT-02 11:18 CLP 3.0 1? 5.10A3" 1.2476 4.5564 IO'
 Stop : 15-OCT-02 11:18

195433*2 Start: 15-OCT-02 11:18 CLP 3.0 5*3219 1725*8 O la" 91.4
 Stop : 15-OCT-02 11:18

Start: 15-OCT-02 11:18 CLP 3.0 8 5.9586 1.2'.07 h.ftM "ZTT
 Stop : 15-OCT-02 11:18

ty&3t\$\$. Start: 15-OCT-02 11:18 CLP 3.0 -9—vi'tm.....12*3 "am TSX
 Stop : 15-OCT-02 11:18

iWMM' ' ' Start: 15-OCT-02 11:18 CLP 3.0 10 SJ&\$7" 1.2356 §'. » " 7T
 Stop : 15-OCT-02 11:18
 Calculations: Final Results = (fnl - initial) x 1000000
 wgt wgt

mis of sample

^m^&,^C.....sc//Js
 Analyst Signature // Date

C/7——,R.&Jb> lolllb 103-
 Manager Signature ** Date

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&

ft

UET CHEMISTRY TOTAL SOLIDS t ^ ^ W

Page: 87 2 of 2

Notebook : 02-066
Start Date : 15-OCT-02 11:18
End Date : 15-OCT-02 11:18

Ksmp#	K0.	Analysis Date Time	Aast mlt	Method	Volume, &ish#	initial tats	1st&2pa Weight	3rd&4th weigh*	Sth&6th. Weight	7thS8th Weight	9th&1fltt VeJg.M;	Final Result	RptJ tnfts
WM33h6		Startil5*OCT*02 11:18 Stop l15-OCT-02 11:18	CLP 3.0		11	5.5937	17237	O S T			"56	"	*%0

mwm_start^bGT-bz' \\M_civo.....ta_CTss_um_iwm.....
Stop i15*OCT*02 flilfi

Clients

m_start:15-bcT-oi una.....ci> j.o-----13' JKW.....USV "VM\$.....
Step :15-dCl-02 11:18

Cowneffts

t\$U33H* " Starts15-OCi-Q2 l1:ia ' QP 3.0 14 5,4<#E 1.2455 5*19?V " 73.1 TM %
Stop -15-OCT-02 11:18

Ettflaftfcft

m*ln* Start:15-OCT*02 11:18 CIP 3.0 1 0\$92 172491 1.2491 ~ " J Hf
Stop :15*OCT-Q2 11:18

fenn*rt<<'> 5 t<n ^

Start:15-OCT-02 il'ilB """"CLp'Xti.....2" " gji&S'.....IJ2459. . . . 'CTt7\$'..... "" "" "" "" ""65..... * "" "" ""1
Stop :15-OCT*02 11:18

Calculations: Final Results = (fnl - initial) x 1000000
wgt ugt
mis of sample

/ Analyst Signature &^..... /<?AM; CT/^AJUB* &-&^be /°//fc/cD-
Date signature Date

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Page: ra.v.

Sur R r f. r 6 6 - ? ? r ^ ? - g'
 .Sur Cone:_____

Spike Ref. O l f e ? r S ^ f M ^ f
Spike Cone: _____ " . // //

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[illegible]

3* 3W>OA- rty

Comments:

C 284744
^v'f6

Data Validation Report

SDG#	97127-97224
Validation Report Date	April 28, 2003
Validation Guidance	USEPA Region 2 Guidelines for Data Review SW 846 Method 8082
Client Name	Cummings-Riter
Project Name	Viacom/Horseheads
Laboratory	Friend Laboratory Inc.
Method(s) Utilized	SW 846 8082
Analytical Fraction	PCBs

Samples/Matrix:

Date Sampled	Sample ID	Laboratory ID	PCBs	Matrix
SDG# 97127				
11/20/02	N-B-S-W-001	97127-1	X	Solid
11/20/02	N-B-SS-W-001	97127-2	X	Solid
11/20/02	N-C-SS-B1-001	97127-3	X	Solid
11/20/02	N-C-SS-B2-001	97127-4	X	Solid
11/20/02	N-C-SS-B3-001	97127-5	X	Solid
11/20/02	L-B-S-W-002	97127-6	X	Solid
11/20/02	L-B-SS-E-002	97127-7	X	Solid
SDG# 97224				
11/21/02	P-B-SS-W-001	97224-1	X	Solid
11/21/02	P-B-S-E-001	97224-2	X	Solid
11/21/02	P-C-SS-B-001	97224-3	X	Solid
11/21/02	P-B-SI-W-001	97224-4	X	Solid
11/21/02	P-BSUB-S-N-001	97224-5	X	Solid
11/21/02	P-BSUB-S-S-001	97224-6	X	Solid
11/21/02	P-B-SS-E-001	97224-7	X	Solid
11/21/02	P-B-S2-W-001	97224-8	X	Solid
11/21/02	L-B-SS-W-004	97224-9	X	Solid
11/21/02	L-B-S-E-004	97224-10	X	Solid

Analytical data in this report were screened to determine analytical limitations of the data based on specific quality control criteria. This screening assumes analytical results are correct as reported and merely provides an interpretation of the reported quality control results. A minimum of 10% of laboratory calculations has been verified as part of this validation. Specific findings on analytical limitations are presented in this report. Annotated Form Is or spreadsheets for samples reviewed are included after the Data Assessment Findings. Form Is for the MS/MSD samples and spreadsheets are not annotated.

SUMMARY

The sample set for Viacom/Horsehead consists of 17 solid field samples. These samples were analyzed for the parameters as provided above. The findings presented in this review of the analytical data assume that the information presented by the analytical laboratory is correct. This review is identified as a false positive/false negative review, and therefore, does not include the review of some quality control (QC) items. Those included in the review are listed below.

The polychlorinated biphenyl (PCBs) findings are based upon the assessment of the following:

False Positives/False Negatives Validation

- * • Data Completeness
- * • Holding Times
- Calibration and GC Performance
- * • Blanks
- * • Analytical Sequence Check
- * • Target Compound Identification
- Compound Quantitation and Reported Detection Limits
- * • Chromatogram Quality
- * Criteria were met for this evaluation item.

This evaluation was conducted in accordance with USEPA Region II SOP No. HW-23B (May 2002), USEPA CLP National Functional Guidelines for Organic Data Review and the analytical method. Findings from this evaluation should be considered when using the analytical data. This report presents a summary of the data qualifications based on the review of the aforementioned evaluation criteria. This is followed by annotated Form 1 s/ spreadsheets. Finally, the worksheets used to perform the evaluation are provided.

FINDINGS

Polychlorinated Biphenyls (PCBs)

1. Calibration

The 11/23/02 2:25 continuing calibration percent difference (%D) for Aroclor 1016 (28.4%) was greater than the control limit of 15%. For the following samples, qualify positive results of Aroclor 1016 as estimated "J" and nondetected results as estimated "UJ".

N-B-S-W-001

N-B-SS-W-001

N-C-SS-B1-001

N-C-SS-B3-001

The 11/26/02 5:02 continuing calibration percent difference (%D) for Aroclor 1016 (16.8%) was greater than the control limit of 15%. For the following samples, qualify positive results of Aroclor 1016 as estimated "J" and nondetected results as estimated "UJ".

P-B-SS-E-001

P-B-S2-W-001

L-B-SS-W-004

L-B-S-E-004

2. Compound Quantitation

The percent difference between columns exceeded the 25% quality control limit. For the following sample and compound, qualify PCB results as indicated in the table below. Samples were qualified based on SOP HW-23, Section 12.6.

Sample	Compound	% Difference	Qualifier
N-C-SS-B2-001	Aroclor 1254	34.6%	J

NOTES

Polychlorinated Biphenyls (PCBs)

Completeness

The USEPA Region II SOP No. HW-23B has the following sections that are not applicable to this project because it is a false positive/false negative review:

- Surrogate Recovery (Form 2)
- Laboratory Control Sample
- Matrix Spikes (Form 3)
- Contamination
- GC Apparatus and Materials
- Extraction Techniques for Sample Preparation
- Field Duplicates

Samples within this batch were received by the laboratory in several coolers. The case narrative indicates that the various cooler temperature upon receipt at the laboratory ranged was 4 and 6 C. Data are not qualified upon this basis.

Calibration

The laboratory used linear regression to calculate PCB results. The use of linear regression is permissible for SW-846 methodologies. The laboratory met the acceptance criteria specified in Section 7.5.2 of Method 8000B (r value greater than or equal to 0.99).

Data summary forms (including calibration factors) for the initial and continuing calibration is not provided for the second column except for Aroclor 1254. The second column is used only for fingerprint confirmation, therefore, the laboratory does not provide the calibration factor information. Because Aroclor 1254 was identified as a constituent of concern, the data summary information for the second column is provided for the continuing calibration. Data are not qualified on this basis.

The percent difference (%D) per peak for multi-standard Aroclors are provided. For SW 846, the laboratory used the average Aroclor concentration to determine the %D. Data are not qualified because the average value is used.

Retention Time

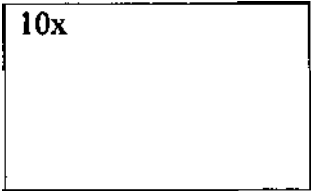
Retention time windows are not determined by the use of three standards for single standard calibration Aroclors. The center of the retention time window is defined as the retention time of the midpoint standard from the initial calibration. For the multi-standard calibration Aroclors, the center of the retention time window is the mean of the retention time generated from each standard. The retention time windows are the mean + 0.1 minutes. Data are not qualified on this basis.

Retention time windows are not provided for the second column except for Aroclor 1254. The second column is used only for fingerprint confirmation, therefore, the laboratory does not provide the retention time window information. Because Aroclor 1254 was identified as a constituent of concern, the retention time information for the second column is provided. Data are not qualified on this basis.

Compound Quantitation

Samples were analyzed and reported at a dilution due to the presence of target compounds. Dilutions for samples are presented below. Reporting limits were adjusted for percent solids and dilutions.

N-B-S-W-001,N-B-SS-W-001,N-C-SS-B1-001,N-C-SS-B2-001,
N-C-SS-B3-001, L-B-S-W-002, L-B-SS-E-002, P-B-SS-W-001,
P-B-S-E-001, P-C-SS-B-001, P-B-Sl-W-001, P-BSUB-S-N-001,
P-BSUB-S-S-001, P-B-SS-E-001, P-B-S2-W-001, L-B-SS-W-004,
L-B-S-E-004


10x

ita Reviewer



Date

YAS-/^

Glossary of Data Qualifiers

U	Not Detected.	The associated number indicates approximate sample concentration necessary to be detected.
UJ	Not Detected.	Quantitation limit may be inaccurate or imprecise.
J	Analyte Present.	Reported value may not be accurate or precise.
N	Consider Present.	Tentative identification. Special methods may be needed to confirm its presence or absence in future sampling efforts.
R	Unusable Result.	Analyte may or may not be present in the sample.
UR	Unusable Result.	Analyte may or may not be present in the sample.

^si/^r

ECT.CON INC.

^f I \ ^ ^ w
I

Environmental and Computer
Technology Consultants

*Annotated Form l's
(Spreadsheet)*



32 ITHACA STREET
TELEPHONE (607) 565-3500

WAVERLY, NY 14892-1532
FAX (607) 565-4083

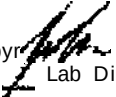
Date: 25-NOV-2002

Lab Sample ID: L97127-1

AAA Environmental
Peter Porter
6679 Moore Road
Syracuse, NY 13211

Analysis Performed	Result	Units	Detection Limit	Date Analyzed	Method	Notebook Reference
Total Solids	76.8	X		21-NOV-02 00:00	CLP 3.0	02-123-7
EPA 8082						
PCB 1016	^ol*	ug/kg	120	23-NOV-02 02:56	EPA 8082	02-117-0777
PCB 1221	U	ug/kg	250	23-NOV-02 02:56	EPA 8082	02-117-0777
PCB 1232	U	ug/kg	120	23-NOV-02 02:56	EPA 8082	02-117-0777
PCB 1242	U	ug/kg	120	23-NOV-02 02:56	EPA 8082	02-117-0777
PCB 1248	U	ug/kg	120	23-NOV-02 02:56	EPA 8082	02-117-0777
PCB 1254	U	ug/kg	120	23-NOV-02 02:56	EPA 8082	02-117-0777
PCB 1260	U	ug/kg	120	23-NOV-02 02:56	EPA 8082	02-117-0777
Extraction Information:				22-NOV-02 00:00	EPA 3550	02-090-42
Surrogate Recovery:						
Tetrachloro-m-xylene	105	%				02-117-0777
p^g^lorobi phenyl	115	%				02-117-0777

Results calculated on a dry weight basis.

Approved by 
Lab Director

Page 1 of 1
NY 10252 NJ 73168 PA 68180 EPA NY 00033

QC/^C

KEY: ND o/ U = None Detected < = less than ug/L = micrograms per liter (equivalent to parts per billion)
mg/L = milligram per liter (equivalent to parts per million) mg/kg = milligrams per kilogram (equivalent to parts per million)
= analyte was detected in the method or trip blank J = result estimated below the quantitation limit

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f R I E N n
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r • N • c

Lab Sample ID: L97127-2
AAA Environmental
Peter Porter
6679 Moore Road
Syracuse, NY 13211

32 ITHACA STREET
TELEPHONE (607) 565-3500

WAVERLY, NY 14892-1532
FAX (607) 565-4083

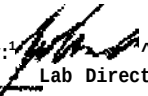
Date: 25-NOV-2002

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Analysis Performed	Result	Units	Detection Limit	Date Analyzed	Method	Notebook Reference
Total Solids	78.3			21-NOV-02 00:00	CLP 3.0	02-123-7
EPA 8082						
PCB 1016	-WIXf	ug/kg	120	23-NOV-02 03:28	EPA 8082	02-117-0778
PCB 1221	U	ug/kg	240	23-NOV-02 03:23	EPA 8082	02-117-0778
PCB 1232	U	ug/kg	120	23-NOV-02 03:28	EPA 8082	02-117-0778
PCB 1242	U	ug/kg	120	23-NOV-02 03:28	EPA 8082	02-117-0778
PCB 1248	U	ug/kg	120	23-NOV-02 03:28	EPA 8082	02-117-0778
PCB 1254	U	ug/kg	120	23-NOV-02 03:28	EPA 8082	02-117-0778
PCB 1260	U	ug/kg	120	23-NOV-02 03:28	EPA 8082	02-117-0778
Extraction Information:						
				22-NOV-02 00:00	EPA 3550	02-090-42
Surrogate Recovery:						
Tetrachloro-m-xylene	102					02-117-0778
^ ^ ^ c i c h l o r o b i p h e n y l	100					02-117-0778

'A3

Results calculated on a dry weight basis.

Approved by: 
Lab Director

Page 1 of 1
NY 10252 NJ 73168 PA 68180 EPA NY 00033

QCc3EA^

KEY: NO U = None Detected < = less than ug/L = micrograms per liter (equivalent to parts per bi
mg/L = milligram per liter (equivalent to parts per million) mg/kg = milligrams per kilogram (equivalent to parts pe|
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32 ITHACA STREET
TELEPHONE (607) 565-3500

WAVERLY, NY 14892-1532
FAX (607) 565-4083

Date:25-NOV-2002

Lab Sample ID: L97127-3

AAA Environmental
Peter Porter
6679 Moore Road
Syracuse, NY 13211

Analysis Performed	Result	Units	Detection limit	Date Analyzed	Method	Notebook Reference
Total Solids	90.5			21-NOV-02 00:00	CLP 3.0	02-123-7
EPA 8082						
PCB 1016	- tt-Uj	ug/kg	110	23-NOV-02 03:59	EPA 6082	02-117-0779
PCB 1221	u	ug/kg	210	23-NOV-02 03:59	EPA 8082	02-117-0779
PCB 1232	u	ug/kg	110	23-NOV-02 03:59	EPA 8082	02-117-0779
PCB 1242	u	ug/kg	110	23-NOV-02 03:59	EPA 8082	02-117-0779
PCS 1248	u	ug/kg	110	23-NOV-02 03:59	EPA 8082	02-117-0779
PCB 1254	u	ug/kg	110	23-NOV-02 03:59	EPA 8082	02-117-0779
PCB 1260	u	ug/kg	no	23-NOV-02 03:59	EPA 8082	02-117-0779
Extraction Information:				22-NOV-02 00:00	EPA 3550	02-090-42
Surrogate Recovery:						
Tetrachloro-m-xylene	91	%				02-117-0779
Decachlorobiphenyl	87	X				02-117-0779

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Results calculated on a dry weight basis.

Approved by: 
Lab Director

Page 1 of 1
NY 10252 NJ 73168 PA 68180 EPA NY 00033

QC tWt

KEY: ND = None Detected < = less than ug/L = micrograms per liter (equivalent to parts per billion)
mg/L = milligram per liter (equivalent to parts per million) mg/kg = milligrams per kilogram (equivalent to parts per million)
J = analyte was detected in the method or trip blank J = result estimated below the quantitation limit

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N.,- C

Lab Sample ID: L97127-5

AAA Environmental
Peter Porter
6679 Moore Road
Syracuse, NY 13211

32 ITHACA STREET
TELEPHONE (607) 565-3500

WAVERLY, NY 14892-1532
FAX (607) 565-4083

Date: 25-NOV-2002

e ••Source: !^

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- 'Siampled f^Q^
Date;- ^^fz^^M^^M^^M^^M^^ji^S^^ji^ ^

Analysis Performed	Result	Units	Detection Limit	Date Analyzed	Method	Notebook Reference
Total Solids	88.7			21-NOV-02 00:00	CLP 3.0	02-123-7
EPA 6082						
PCB 1016	*t-u3"	ug/kg	110	23-NOV-02 05:01	EPA 8082	02-117-0781
PCB 1221		ug/kg	220	23-NOV-02 05:01	EPA 8082	02-117-0781
PCB 1232		ug/kg	110	23-NOV-02 05:01	EPA 6082	02-117-0781
PCB 1242		ug/kg	110	23-NOV-02 05:01	EPA 8082	02-117-0781
PCB 1248		ug/kg	110	23-NOV-02 05:01	EPA 8082	02-117-0781
PCB 1254		ug/kg	110	23-NOV-02 05:01	EPA 8082	02-117-0781
PCB 1260		ug/kg	no	23-NOV-02 05:01	EPA 8082	02-117-0781

Extraction Information:

Surrogate Recovery:
Tetrachloro-m-xylene
Decachlorobiphenyl

95
114

22-NOV-02 00:00 EPA 3550 02-090-42
02-117-0781
02-117-0781

Results calculated on a dry weight basis.

Approved by:

Lab Director

Page 1 of 1
NY 10252 NJ 73168 PA 68180 EPA NY 00033

Wj ^ L

KEY; MD U = None Detected < = less than ug/L = micrograms per liter (equivalent to parts per billion)
mg/C = milligram per liter (equivalent to parts per million) mg/kg = milligrams per kilogram (equivalent to parts per million)
= analyte was detected in the method or trip blank J = result estimated below the quantitation limit

formation in this report is accurate to the best of our knowledge and ability. In no event shall our liability exceed the cost of our services. Your samples will be discarded after 14 days unless we are advised otherwise.

Date: 25-NOV-2002

Lab Sample ID: L97127-6

AAA Environmental
 Peter Porter
 6 67 9 Moore Road
 Syracuse, NY 13211

Samjalje^Source/;;livAcM^HORSE HEADS ;i92dag.

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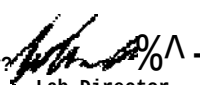
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Analysis Performed	Result	Units	Detection Limit	Date Analyzed	Method	Notebook Reference
Total Solids	76.5	%		21-NOV-02 00:00	CLP 3.0	02-123-7
EPA 8082						
PCB 1016	U	ug/kg	130	23-NOV-02 06:35	EPA 8062	02-117-0784
PCB 1221	U	ug/kg	260	23-NOV-02 06:35	EPA 8082	02-117-0784
PCB 1232	U	ug/kg	130	23-NOV-02 06:35	EPA 8082	02-117-0784
PCB 1242	U	ug/kg	130	23-NOV-02 06:35	EPA 8082	02-117-0784
PCB 1248	U	ug/kg	130	23-NOV-02 06:35	EPA 8082	02-117-0784
PCB 1254	U	ug/kg	130	23-NOV-02 06:35	EPA 8082	02-117-0784
PCB 1260	U	ug/kg	130	23-NOV-02 06:35	EPA 8082	02-117-0784

Extraction Information:

Surrogate Recovery: Tetrachloro-m-xylene	104 120	X %		22-NOV-02 00:00	EPA 3550	02-090-42
* r ~						02-11^Z84 02-1^^fe>

Results calculated on a dry weight basis.

Approved by:  %^ - ^C .
 Lab Director

Page 1 of 1
 NY 10252 NJ 73168 PA 68180 EPA NY 00033

QCj^ ^C

KEY: ND = None Detected < = less than ug/L = micrograms per liter (equivalent to parts per billion)
 mg/L = milligram per liter (equivalent to parts per million) mg/kg = milligrams per kilogram (equivalent to parts per million)
 = analyte was detected in the method or trip blank J = result estimated below the quantitation limit

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FLT

F R I E N D
LABC)RXT8RM
I • N • C

32 ITHACA STREET
TELEPHONE (607) 565-3500

WAVERLY, NY 14892-1532
FAX (607) 565-4083

Date: 25 ~ NOV - 2002

Lab Sample ID: L97127-7

AAA Environmental
Peter Porter
6679 Moore Road
Syracuse, NY 13211

Analysis Performed	Result	Units	Detection Limit	Date Analyzed	Method	Notebook Reference
Total Solids	85.5			21-NOV-02 00:00	CLP 3.0	02-123-7
<u>EPA 6082</u>						
PCS 1016		ug/kg	120	23-NOV-02 07:06	EPA 8082	02-117-0785
PCB 1221		ug/kg	230	23-NOV-02 07:06	EPA 8082	02-117-0785
PCB 1232		ug/kg	120	23-NOV-02 07:06	EPA 8082	02-117-0785
PCB 1242		ug/kg	120	23-NOV-02 07:06	EPA 8082	02-117-0785
PCB 1248		ug/kg	120	23-NOV-02 07:06	EPA 8082	02-117-0785
PCB 1254		ug/kg	120	23-NOV-02 07:06	EPA 8082	02-117-0785
PCB 1260		ug/kg	120	23-NOV-02 07:06	EPA 8082	02-117-0785

Extraction Information:

22-NOV-02 00:00 EPA 3550 02-090-42

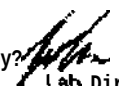
Surrogate Recovery:
tetrachloro-m-xylene
Detachlorobiphenyl

110
120

02-117-0785
02-117-0785

49

Results calculated on a dry weight basis.

Approved by: 
Lab Director

Page 1 of 1
MY 10252 NJ 73168 PA 68180 EPA NY 00033

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KEY: NO or U = None Detected < = less than ug/L = micrograms per liter (equivalent to parts per billion)
mg/L = milligram per liter (equivalent to parts per million) mg/kg = milligrams per kilogram (equivalent to parts per million)
= analyte was detected in the method or trip blank J = result estimated below the quantitation limit

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32 ITHACA STREET
TELEPHONE (607) 565-3500

WAVERLY, NY 14892-1532
PAX (607) 565-4083

Date: 04-DEC-2002

Lab Sample ID: L97224-1

AAA Environmental
Peter Porter
6679 Moore Road
Syracuse, NY 13211

/Source: . . . y.iAch# HO^HEWS||?ZOE^;|m•

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Analysis Performed	Result	Units	Detection Limit	Date Analyzed	Method	Notebook Reference
Total Solids	82.1			27-NOV-02 13:32	CLP 3.0	02-123-8
EPA 8082						
PCB 1016		ug/kg	120	26-NOV-02 01:24	EPA 8082	02-117-0815
PCB 1221		ug/kg	240	26-NOV-02 01:24	EPA 8082	02-117-0815
PCB 1232		ug/kg	120	26-NOV-02 01:24	EPA 8082	02-117-0815
PCB 1242		ug/kg	120	26-NOV-02 01:24	EPA 8082	02-117-0815
PCB 1248		ug/kg	120	26-NOV-02 01:24	EPA 8082	02-117-0815
PCB 1254		ug/kg	120	26-NOV-02 01:24	EPA 8082	02-117-0815
PCB 1260		ug/kg	120	26-NOV-02 01:24	EPA 8082	02-117-0815

Extraction Information:

25-NOV-02 00:00 EPA 3550 02-090-45

Surrogate Recovery:
Tetrachloro-m-xylene
Decachlorobiphenyl

132
164

02-1
02-1

Analysis Comment: D - Diluted.

Results calculated on a dry weight basis.

Approved by: Lab Director

Page 1 of 1
NY 10252 NJ 73168 PA 63180 EPA NY 00033

QC:

KEY: ND = None Detected < = less than ug/L = micrograms per liter (equivalent to parts per billion)
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B = analyte was detected in the method or trip blank i = result estimated below the quantitation limit

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32 ITHACA STREET
TELEPHONE (607) 565-3500

WAVERLY, NY 14892-1532
FAX (607) 565-4083

Date: 03-DEC-2002

Lab Sample ID: L97224-2

AAA Environmental
Peter Porter
6679 Moore Road
Syracuse, NY 13211

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Analysis Performed	Result	Units	Detection Limit	Date Analyzed	Method	Notebook Reference
Total Solids	76.6			27-NOV-02 13:32	CLP 3.0	02-123-8
EPA 8082						
PCB 1016		ug/kg	130	26-NOV-02 01:55	EPA 8082	02-117-0816
PCB 1221		ug/kg	250	26-NOV-02 01:55	EPA 8082	02-117-0816
PCB 1232		ug/kg	130	26-NOV-02 01:55	EPA 8082	02-117-0816
PCB 1242		ug/kg	130	26-NOV-02 01:55	EPA 8082	02-117-0816
PCB 1248		ug/kg	130	26-NOV-02 01:55	EPA 8082	02-117-0816
PCB 1254		ug/kg	130	26-NOV-02 01:55	EPA 8082	02-117-0816
PCB 1260		ug/kg	130	26-NOV-02 01:55	EPA 8082	02-117-0816

Extraction Information:

25-NOV-02 00:00 EPA 3550 02-090-45

Surrogate Recovery:
oro-m-xylene
robiphenyl

128
165

02-117-0816
02-117-0816

is Comment:D - Diluted

Results calculated on a dry weight basis.

Approved by?

Lab Director

Page 1 of 1
NY 10252 NJ 73168 PA 68180 EPA NY 00033

QCj^a £-

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*



32 ITHACA STREET
TELEPHONE (607) 565-3500

WAVERLY, NY 14892-1532
FAX (607) 565-4083

Date:03-DEC-2002

Lab Sample ID: L97224-3

AAA Environmental
Peter Porter
6679 Moore Road
Syracuse, NY 13211

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Analysis Performed	Result	Units	Detection Limit	Date Analyzed	Method	Notebook Reference
Total Solids	66.7			27-NOV-02 13:32	CLP 3.0	02-123-8
EPA 8082						
PCB 1016		ug/kg	140	26-NOV-02 02:27	EPA 8082	02-117-0817
PCB 1221		ug/kg	290	26-NOV-02 02:27	EPA 8082	02-117-0817
PCB 1232		ug/kg	140	26-NOV-02 02:27	EPA 8082	02-117-0817
PCB 1242		ug/kg	140	26-NOV-02 02:27	EPA 8082	02-117-0817
PCB 1248		ug/kg	140	26-NOV-02 02:27	EPA 8082	02-117-0817
PCB 1254		ug/kg	140	26-NOV-02 02:27	EPA 8082	02-117-0817
PCB 1260		ug/kg	140	26-NOV-02 02:27	EPA 8082	02-117-0817

Extraction Information:

25-NOV-02 00:00 EPA 3550 02-090-45

Surrogate Recovery:
Tetrachloro-m-xylene
Decachlorobiphenyl

127
160

02-117-3317

ysis Comment:D - Diluted

Results calculated on a dry weight basis.

Page 1 of 1

Approved by:

Lab Director

NY 10252 NJ 73168 PA 68180 EPA NY 00033

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KEY: ND o/u = None Detected < = less than ug/L = micrograms per liter (equivalent to parts per billion)
mg/ milligram per liter (equivalent to parts per million) mg/kg = milligrams per kilogram (equivalent to parts per million)
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32 ITHACA STREET
TELEPHONE (607) 565-3500

WAVERLY, NY 14892-1532
FAX (607) 565-4083

Date: 03-DEC-2002

Lab Sample ID: L97224-4

AAA Environmental
Peter Porter
6679 Moore Road
Syracuse, NY 13211

Sampler: ^^^^S^i^SS^^?^iMil?^.^: ^
^;sr; kg^!|:|;:: ^M^SM^y-!^
'.. '-pesp^Ep^^

Bate: - i;Rex3-cl^ve \$m WFW^^&\$&^:;%^;:

Analysis Performed	Result	Units	Detection Limit	Date Analyzed	Method	Notebook Reference
Total Solids	71.8	%		27-NOV-02 13:32	CLP 3.0	02-123-8
EPA 8032						
PCB 1016	U	ug/kg	140	26-NOV-02 02:58	EPA 8082	02-117-0818
PCB 1221	U	ug/kg	270	26-NOV-02 02:58	EPA 8082	02-117-0818
PCB 1232	U	ug/kg	140	26-NOV-02 02:58	EPA 8082	02-117-0818
PCB 1242	U	ug/kg	140	26-NOV-02 02:58	EPA 8082	02-117-0818
PCB 1248	U	ug/kg	140	26-NOV-02 02:58	EPA 8082	02-117-0818
PCB 1254	U	ug/kg	140	26-NOV-02 02:58	EPA 8082	02-117-0818
PCB 1260	U	ug/kg	140	26-NOV-02 02:58	EPA 8082	02-117-0818
Extraction Information:				25-NOV-02 00:00	EPA 3550	02-090-45
Surrogate Recovery:						
Tetrachloro-m-xylene	127	%				02-117-0818
Decachlorobiphenyl	161 D	%				02-117-0818

^^^^^^Jis Comment: D -- Diluted

Results calculated on a dry weight basis.

Approved by: 
Lab Director

Page 1 of 1
NY 10252 NJ 73168 PA 68180 EPA NY 00033

QC tufi

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mg/L = milligram per liter (equivalent to parts per million) mg/kg = milligrams per kilogram (equivalent to parts per million)
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FLI

F R I E N D
LABORATORY
I . N . C

32 ITHACA STREET
TELEPHONE (607) 565-3500

WAVERLY, NY 14892-1532
FAX (607) 565-4083

Date: 03-DEC-2002

Lab Sample ID: L97224-5

AAA Environmental
Peter Porter
6679 Moore Road
Syracuse, NY 13211

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Baigl&eG©^^

Analysis Performed	Result	Units	Detection Limit	Date Analyzed	Method	Notebook Reference
Total Solids	77.5	%		27-NOV-02 13:32	CLP 3.0	02-123-8
EPA 8082						
PCB 1016	U	ug/kg	130	26-NOV-02 03:29	EPA 8082	02-117-0819
PCB 1221	U	ug/kg	250	26-NOV-02 03:29	EPA 8082	02-117-0819
PCB 1232	u	ug/kg	130	26-NOV-02 03:29	EPA 8082	02-117-0819
PCB 1242	U	ug/kg	130	26-NOV-02 03:29	EPA 8082	02-117-0819
PCB 1248	U	ug/kg	130	26-NOV-02 03:29	EPA 8082	02-117-0819
PCB 1254	U	ug/kg	130	26-NOV-02 03:29	EPA 8082	02-117-0819
PCB 1260	U	ug/kg	130	26-NOV-02 03:29	EPA 8082	02-117-0819

Extraction Information:

25-NOV-02 00:00 EPA 3550 02-090-45

Surrogate Recovery:
Tetrachloro-m-xylene
Decachlorobiphenyl

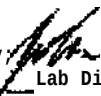
132 %
164 D X

02-11 ^11?
02-1 . ^ B

ysis Comment: D - Diluted

Results calculated on a dry weight basis.

Page 1 of 1

Approved by 
Lab Director

NY 10252 NJ 73168 PA 68180 EPA NY 00033

QC "ii" **FL**

KEY: ND Q U None Detected < = less than ug/L = micrograms per liter (equivalent to parts per billion)
mg/L - mil igram per liter {equivalent to parts per million} mg/kg = milligrams per kilogram (equivalent to parts per million)
B - analyte was detected in the method or trip blank J = result estimated below the quantitation limit

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32 ITHACA STREET
TELEPHONE (607) 565-3500

WAVERLY, NY 14892-1532
FAX (607) 565-4083

Date:03-DEC-2002

Lab Sample ID: L97224-6

AAA Environmental
Peter Porter
6679 Moore Road
Syracuse, NY 13211

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Analysis Performed	Result	Units	Detection Limit	Date Analyzed	Method	Notebook Reference
Total Solids	77.3			27-NOV-02 13:32	CLP 3.0	02-123-fl
EPA 3082						
PCB 1016		ug/kg	120	26-NOV-02 04:00	EPA 8082	02-117-0820
PCB 1221		ug/kg	250	26-NOV-02 04:00	EPA 80S2	02-117-0820
PCB 1232		ug/kg	120	26-NOV-02 04:00	EPA 80S2	02-117-0820
PCB 1242		ug/kg	120	26-NOV-02 04:00	EPA 8082	02-117-0820
PCB 1248		ug/kg	120	26-NOV-02 04:00	EPA 8082	02-117-0820
PCB 1254		ug/kg	120	26-NOV-02 04:00	EPA 8082	02-117-0820
PCB 1260		ug/kg	120	26-NOV-02 04:00	EPA 8082	02-117-0820

Extraction Information:

Surrogate Recovery:
Tetrachloro-m-xylene
Decachlorobiphenyl

122
150

25-NOV-02 00:00 EPA 3550 02-090-45
02-117-0320
02-117-0820

4v

Results calculated on a dry weight basis.

Approved by: 
Lab Director

Page 1 of 1
NY 10252 HJ 73168 PA 68180 EPA NY 00033

OX ^

ND o/ u = None Detected < = less than ug/L * micrograms per liter {equivalent to parts per billion)
mg/C = milligram per liter (equivalent to parts per million) tng/kg = milligrams per kilogram (equivalent to parts per million)
= analyte was detected in the method or trip blank = result estimated below the quantitation limit

^ ^ W B R e nation in this report is accurate to the best of our knowledge and ability. In no event shall our liability exceed the cost of services. Your samples will be discarded after 14 days unless we are advised otherwise.

I E N n
MORATORY
N • C

32 ITHACA STREET
TELEPHONE (607) 565-3500

WAVERLY, NY 14892-1532
FAX (607) 565-4083

Date: 03-DEC-2002

Lab Sample ID: L97224-7

AAA Environmental
Peter Porter
6679 Moore Road
Syracuse, NY 13211

•••••i;#ra^;||i; : iyjM^tlpRiIM B

\i\ Sampl:edf;G3n;::;
bat-e-;'-Re'ce£we'£i;I';

Analysis Performed	Result	Units	Detection Limit	Date Analyzed	Method	Notebook Reference
Total Solids	77.7			27-NOV-02 13:32	CLP 3.0	02-123-8
EPA 8082						
PCS 1016		ug/kg	130	26-NOV-02 05:34	EPA 8082	02-117-0823
PCB 1221	U	ug/kg	250	26-NOV-02 05:34	EPA 8082	02-117-0823
PCB 1232	U	ug/kg	130	26-NOV-02 05:34	EPA 8082	02-117-0823
PCB 1242	U	ug/kg	130	26-NOV-02 05:34	EPA 8082	02-117-0823
PCB 1248	U	ug/kg	130	26-NOV-02 05:34	EPA 8082	02-117-0823
PCB 1254	U	ug/kg	130	26-NOV-02 05:34	EPA 8082	02-117-0823
PCB 1260	U	ug/kg	130	26-NOV-02 05:34	EPA 8082	02-117-0823

Extraction Information:

Surrogate Recovery:
Tetrachloro-m-xylene
Decachlorobiphenyl

102
115

25-NOV-02 00:00 EPA 3550 02-090-45

02-11 ^ ^ 3
02-11

1#
4/28/06

Results calculated on a dry weight basis.

Approved by: 
Lab Director

Page 1 of 1
NY 10252 NJ 73168 PA 68180 EPA NY 00033

QC /j//L

KEY: ND = None Detected < = less than ug/L = micrograms per liter (equivalent to parts per billion)
mg/L ~ milligram per liter (equivalent to parts per million) mg/kg = milligrams per kilogram (equivalent to parts per million)
= analyte was detected in the method or trip blank J = result estimated below the quantitation limit

Information in this report is accurate to the best of our knowledge and ability. In no event shall our liability exceed the cost of our services. Your samples will be discarded after 14 days unless we are advised otherwise.



32 ITHACA STREET
TELEPHONE (607) 565-3500

WAVERLY, NY 14892-1532
FAX (607) 565-4083

Date:03-DEC-2002

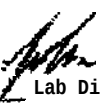
Lab Sample ID: L97224-8

AAA Environmental
Peter Porter
6679 Moore Road
Syracuse, NY 13211

Analysis Performed	Result	Units	Detection Limit	Date Analyzed	Method	Notebook Reference
Total Solids	76.6			27-NOV-02 13:32	CLP 3.0	02-123-8
EPA 8082						
PCB 1016	-Wt-Cf	ug/kg	130	26-NOV-02 06:05	EPA 8082	02-117-0824
PCB 1221		ug/kg	260	26-NOV-02 06:05	EPA 8082	02-117-0824
PCB 1232		ug/kg	130	26-NOV-02 06:05	EPA 8082	02-117-0824
PCB 1242		ug/kg	130	26-NOV-02 06:05	EPA 8082	02-117-0824
PCB 1248		ug/kg	130	26-NOV-02 06:05	EPA 8082	02-117-0824
PCB 1254		ug/kg	130	26-NOV-02 06:05	EPA 8082	02-117-0824
PCB 1260		ug/kg	130	26-NOV-02 06:05	EPA 8082	02-117-0824
Extraction Information:				25-NOV-02 00:00	EPA 3550	02-090-45
Surrogate Recovery:						
Tetrachloro-m-xylene	109					02-117-0824
DejgMKprobi phenyl	117					02-117-0824

IHfy

Results calculated on a dry weight basis.

Approved by: 
Lab Director

Page 1 of 1
NY 10252 NJ 73168 PA 68180 EPA NY 00033

QC/

KEY: ND or U = None Detected < = less than ug/L = micrograms per liter (equivalent to parts per billion)
mg/L = milligram per liter (equivalent to parts per million) mg/kg = milligrams per kilogram (equivalent to parts per million)
J = analyte was detected in the method or trip blank J = result estimated below the quantitation limit

Information in this report is accurate to the best of our knowledge and ability. In no event shall our liability exceed the cost of our services. Your samples will be discarded after 14 days unless we are advised otherwise.



32 ITHACA STREET
TELEPHONE (607) 565-3500

WAVERLY, NY 14892-1532
FAX (607) 565-4083

Date: 03-DEC-2002

Lab Sample ID: L97224-9

AAA Environmental
Peter Porter
6679 Moore Road
Syracuse, NY 13211

Salvage; "- S<3Ur cfe; ^iw^fl^^JSEM^^i^i^

Analysis Performed	Result	Units	Detection Limit	Date Analyzed	Method	Notebook Reference
Total Solids	87.8	%		27-NOV-02 13:32	CLP 3.0	02-123-8
EPA 8082						
PCB 1016	*Uf^	ug/kg	110	26-NOV-02 06:36	EPA 8082	02-117-0825
PCS 1221	U	ug/kg	210	26-NOV-02 06:36	EPA 8082	02-117-0825
PCB 1232	U	ug/kg	110	26-NOV-02 06:36	EPA 8082	02-117-0825
PCB 1242	U	ug/kg	110	26-NOV-02 06:36	EPA 8082	02-117-0825
PCB 1248	U	ug/kg	110	26-NOV-02 06:36	EPA 8082	02-117-0825
PCB 1254	U	ug/kg	110	26-NOV-02 06:36	EPA 8082	02-117-0825
PCB 1260	U	ug/kg	110	26-NOV-02 06:36	EPA 8082	02-117-0825

Extraction Information:

Surrogate Recovery:
Tetrachloro-m-xylene
Decachlorobiphenyl

115 %
131 %

25-NOV-02 00:00 EPA 3550 02-090-45

02-117-0825
02-117-0825

%

Results calculated on a dry weight basis.

#

ELX
I • N • C



32 ITHACA STREET
TELEPHONE (607) 565-3500

WAVERLY, NY 14892-1532
FAX (607) 565-4083

Date: 03-DEC-2002

Lab Sample ID: L97224-10

AAA Environmental
Peter Porter
6679 Moore Road
Syracuse, NY 13211

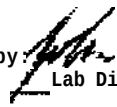
&^^peisier&gE'&oj}^*, <4etwposHE>,*p.

Da't&: '! 'ReG:e;i.we a'*i& 22*wov^02 J A\$*\$WMM?

Analysis Performed	Result	Units	Detection Limit	Date Analyzed	Method	Notebook Reference
Total Solids	87.8			27-NOV-02 13:32	CLP 3.0	02-123-8
EPA 8082						
PCB 1016	V^f	ug/kg	110	26-NOV-02 07:07	EPA 8082	02-117-0826
PCB 1221		ug/kg	220	26-NOV-02 07:07	EPA 8082	02-117-0826
PCB 1232		ug/kg	110	26-NOV-02 07:07	EPA 8082	02-117-0826
PCB 1242		ug/kg	110	26-NOV-02 07:07	EPA 8082	02-117-0826
PCB 1248		ug/kg	110	26-NOV-02 07:07	EPA 8082	02-117-0826
PCB 1254		ug/kg	110	26-NOV-02 07:07	EPA 8082	02-117-0826
PCB 1260		ug/kg	110	26-NOV-02 07:07	EPA 8082	02-117-0826
Extraction Information:				25-NOV-02 00:00	EPA 3550	02-090-45
Surrogate Recovery:						
Tetrachloro-m-xylene	106					02-117-0826
Dec^Murobi phenyl	114					02-117-0826

MB
4/25/03

Results calculated on a dry weight basis.

Approved by: 
Lab Director

Page 1 of 1
NY 10252 NJ 73168 PA 68180 EPA NY 00033

QC Z&IL

KEY: ND o/ U = None Detected < = less than ug/L = micrograms per liter (equivalent to parts per billion)
mg/L = milligram per liter (equivalent to parts per million) mg/kg = milligrams per kilogram (equivalent to parts per million)
= analyte was detected in the method or trip blank = result estimated below the quantitation limit

matlon In this report is accurate to the best of our knowledge and ability. In no event shall our liability exceed the cost fckBVTese services. Your samples will be discarded after 14 days unless we are advised, otherwise.

^sl/^r

ECT.CON INC.

^v^ I ^ ^ ^ ^
I Environmental and Computer
Technology Consultants

Support Documentation



COC



CUSTOMER

CHAIN OF CUSTODY RECORD

PAGE

1

FLI
fr J T L E N 1
LABORATORY

ONE RESEARCH CIRCLE
WAVERLY NY 14892-1532
Telephone (607) 565 3500
Fax (607) 565-4083

CLIENT: A M cv^vrifc
ADDRESS: ~ _ _

INVOICE TO:
ADDRESS:

PHONE: FAX:

^

Sample Serial # [Q ^ ^ ^ S

PROJECT NO. / NAME

COPY TO:
ADDRESS:

P.O. #

DATE & TIME OF
SAMPLE COLLECTION

SAMPLE DESCRIPTION

; NUMBER OF
CONTAINERS

ANALYSES/ TESTS REQUESTED

HI 11 ES I SAME
TESTS J * * ^ » ' NUMBER,

LAB USE ONLY

wm 10-Z.

^ - ft - S ^ - cxH

f

T ^ 5

Description: Grab NC firm posjje--dther
Matrix: DW WW MW ^ Sb Air Other

il ^ OX-

N '8 - 3S - vJ - oOl

1

"ftB5

Description: Grab yorhposjeyOther
Matrix: DW WW MW ^ oj & Air Other

l (H < 07 ^

tf O - C - S < E - & v - oOv

1

?cg ^

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E •
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Description: Grab (Xoftip6sSfe Other
Matrix: DW WW MW / Sdif Air Other

ul * > / 0 ^

N - C - SS - T ^ X - OOl

1

T ^ S ' 5

< E • , 01 Y ^

Description: Grab ydfnpg ^ ite ^ Other
Matrix: DW WW MV ^ Jil Air Other

1 REUNQUISHED BY

SAMPLER I ' _____

DATE / TIME

ACCEPTED BY

11/20/02
1600
11/21/02
8:30
[Signature]
Tono Jones

DATE / TIME

11/20/02
1600
11/21/02
8:54

4 OIB TO LABORATORY
0 ^ 1

[Signature]

SUSPECTED CONTAMINATION LEVEL

NONE SLIGHT MODERATE HIGH (please circle)

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r i W ^
\$ _

CUSTOMER E #

CHAIN OF *cms* BODY RECORD

PAGE 1

FLI

F R I JS N-B
LABORATORY

I * N * ~5

Sample Site: [kfSe**^

ONE RESEARCH CIRCLE
WAVERLY NY 14892-1532

Telephone (607) 565-3500
Fax (607) 565-4083

CLIENT: t^/JVXi^^"^^^WoICE TO:

ADDRESS: ONJ3.-xrre

ADDRESS:

PHONE: FAX:

PROJECT NO. / NAME

COPY TO:
ADDRESS:

P.O. #

DATE & TIME OF
SAMPLE COLLECTION

SAMPLE DESCRIPTION

NUMBER OF
CONTAINERS

ANALYSES / TESTS REQUESTED

1 1 < ifc NUMBER

11M*

C£^
<3ibO

|0-t-SS-(33-00|

V

1GB '5

LAB USE ONLY

Description: Grab <Srrrfros1nb Other
Matrix: DW WW MWgSo?flir Other

Description: Grab Composite Other
Matrix: DW WW MW Soil Air Other

Description: Grab Composite Other
Matrix: DW WW MW Soil Air Other

Description: Grab Composite Other
Matrix: DW WW MW Soil Air Other

'!- / , > « , * ; *

RELINQUISHED BY
SAMPLER

DATE / TIME

ACCEPTED BY

DATE / TIME ^

NOTES TO LABORATORY,

11/20/02

1600

11/21/02

8:50

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11/20/02

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SM-

SUSPECTED CONTAMINATION LEVEL

NONE SLIGHT MODERATE HIGH (please circle)

CUSTOMER

CHAIN OF

ODY RECORD

PAGE

TT7T T
JP JLiX
y R I E M
LABORATOR?

ONE RESEARCH ^IRCLE
WAVERLY NY 14892-1532
Telephone (607) 565 3500
Fax (607) 565-4083

CUENT: A A A GMVEfto^^eMT-A^ INVOICE TO:
ADDRESS: (QtJSjrrg ADDRESS:

PHONE: FAX:

PROJECT NO. / NAME

COPY TO:
ADDRESS:

Sampled fa^tM^

P.O. #

DATES-TIME OF"
SAMPLECOLLECTION

SAMPLE DESCRIPTION

NUMBER OF
CONTAINERS.

ANALYSES/ TESTS REQUESTED

I ' ' * - NUMBER

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?c6'3

UB USE .ONLY

i w

Description: GrabCComposite Other
Matrix: DW WW MW Soil Air Other

t ^ - ^ - S ' O O

'cu

T^S'5

7

Description: Gra6 _Compost Other
Matrix: DW WW MW fiEEXir Other

Description: Grab Composite Other
Matrix: DW WW MW Soil Air Other

Description: Grab Composite Other
Matrix: DW WW MW Soil Air Other

, REUNQUISHED BY t,

SAMPLER 1* _____

/JLSctffeci^&fe

DATE /TIME;

ACCEPTED BY

DATE/TIME;

NOTES TO LABORATORY

SUSPECTED CONTAMINATION LEVEL

NONE SLIGHT MODERATE HIGH (please circle)

CUSTOMED

CHAIN OF CUSTODY RECORD

PAGE

T7T T
J^ J^ X
F.R I E H D
^ABQRATORY

ONE RESEARCH^CIRCLE'
WAVERLY NY 14892-1532
Telephone (607) 565 3500
Fax (607) 565-4083

CLIENT: /4/\^ E^VTRx^^AE/^WoiCE TO:
ADDRESS: ADDRESS:
(5MSn-*e^
PHONE: FAX:

Sample Sitei ^ p s g ^ p ^ s

£ PROJECT NO. / NAME

COPY TO:
ADDRESS:

P.O.#

c -o t- l o
C L . « U

<DATE ajIME OF
SAMPLE COLLECTION.

SAMPLE DESCRIPTION

.. NUMBER OF'
CONTAINERS,

ANALYSES / TESTS REQUIRED UHSST Eij F " ' g 'f. ^^WUMIJR

£-ft-SS~v^-00S"

*

fcB'5

Description: Grab dgmposit^ Other
Matrix: DW WW Mw75oil>A"ir Other

• <i/W07_

£-i3~SS-Z2"-003

Y£\$s

Description: Grab CgomposTfe^ Other
Matrix: DW WW MW/SotbAir Other

Description: Grab Composite Other
Matrix: DW WW MW Soil Air Other

Description: Grab Composite Other
Matrix: DW WW MW Soil Air Other

r-y'

DATE0IME

mmwrx-i-12 ACCEPTED BY. <

DATEfiIME

NOTES TO LABORATORY

SAMPLER I

Ujzo/o

IkcO

SUSPECTED CONTAMINATION LEVEL

NONE SUGHT MODERATE HIGH (please circle)

CHAIN OF CUSTODY RECORD

CUSTOMER # **1177102**

FLI
FRIEND
LABORATORY
INC.

ONE RESEARCH CIRCLE
WAVERLY NY 14892-1532
Telephone (607) 565 3500
Fax (607) 565-4083

CLIENT: AAA ENVIRONMENTAL
ADDRESS: ON SITE
PHONE: FAX:
PROJECT NO. / NAME
19208
HORSEHEADS

INVOICE TO:
ADDRESS:
COPY TO:
ADDRESS:

97224

DATE & TIME OF SAMPLE COLLECTION	SAMPLE DESCRIPTION	NUMBER OF CONTAINERS	ANALYSES / TESTS REQUESTED	SAMPLE NUMBER
11/21/02 @ 1545	P-B-SS-W-001	X	PCB'S	-1
11/21/02 @ 1635	P-B-S-E-001	X	PCB'S	-2
11/21/02 @ 1230	P-C-SS-B-001	X	PCB'S	-3
11/21/02 @ 1605	P-B-SI-W-001	X	PCB'S	-4

RELINQUISHED BY	DATE / TIME	ACCEPTED BY	DATE / TIME	NOTES TO LABORATORY
A. Schreck	11/21/02	Blaband	11/21/02	
W. Coe	11/21/02	W. Coe	11/22/02	
			245	
				SUSPECTED CONTAMINATION LEVEL NONE SLIGHT MODERATE HIGH (please circle)

t

OHE RESEARCH/CIRCLE
WAVERLY NY 14892-1532
Telephone (607) 565 3500
Fax (607) 565-4083

Sample Sitei

P.O. #

DATE & TIME OF
SAMPLE COLLECTION

SAMPLE DESCRIPTION-

$$\bullet_{-\wedge^* - S - K}) \sim 0^*$$
$$IfS^{\wedge}$$

Description: Gra6[]Bom^^te Other
Matrix: DW WW MWJsSjl Air Other

-Sj.^-S-S-o^

t?cSs

Description: Grab fCof^{https}Tt6> Other
Matrix: DW WW MW^oibAir Other

 $iMzt-C^{\wedge}$

P-6-S9-tr~oc

?c5>

Description: Grab ^oKiposltg Other
Matrix: DW WW MVTS61I Air Other

P-B-S^Λ-vd-ay

$$X^T$$

PCZTs

Description: Grab^jimpiisU^Other
Matrix: DW WW MVfgoSI Air Other

$$-|1-1-1-1-1 \quad | \quad | \quad |$$

ACCEPTED BY

RELINQUISHED BY

DATE /TIME

SAMPLER i_____ =

¥MZ

~~176~~
Tpi

Hans Jones

701* = - NOTES TO LABORATORY

SUSPECTED CONTAMINATION LEVEL

NONE SLIGHT MODERATE HIGH (please circle)

PAGE"?- [REDACTED]

CUSTOMER #

VAhuU

CHAIN OF CUSTODY RECORD

PAGE



FLI

ONE RE&ARCH CIRCLE
WAVpLY NY 14892-1532

F.R I E NHD
frABQRATORY
I • N • C

Telephone(607)5653500
Fax {607} 565-4083

Sample Site:.

P.O.U

DATE & TIME OF
SAMPLE COLLECTION

SAMPLE DESCRIPTION.

NUMBER OF
CONTAINERS

ANALYSES / TESTS REQUESTED

1

NUMBER

LAB USE ONLY

t

PCB'S

Description: Grab Composite!;Other
Matrix: DW WW M W W J r Other

l(-i\}o-2-

i^s-e-o/v

Pc&'s

PE

~Coq

Description: Grab UsmposiW Other
Matrix: DW WW MWfSStJAir Other

Description: Grab Composite Other
Matrix: DW WW MW Soil Air Other

Description: Grab Composite Other
Matrix: DW V*. M/. r i Air Other

RELINQUISHED BY

DATE /TIME

ACCEPTED BY

DATE/TIME

NOTES TO LABORATORY

SAMPLER

^ - ^ 4 ^ "

11/21/02

MID^A'ynJiD

11/22/02
126
11/22/02
245

SUSPECTED CONTAMINATION LEVEL

NONE SLIGHT MODERATE HIGH (please circle)



Laboratory Case Narrative





F R I P . N D
LABORATORY
1 • N • C

Laboratory Validation and Usability Assessment

Project: **AAA Environmental**
Viacom/Horseheads 19208
Sampled November 20 & 21, 2002

The data reported in this package have been reviewed for compliance with QC acceptance limits as specified in the method cited for each analysis.

These statistical limits are typically based on historical laboratory data for a given sample matrix, and will not exceed any default limits specified by the method. CLP acceptance limits are also considered.

The following Quality Control operations are considered in the validation of reported results:

Holding times, surrogate recovery, spiked sample recovery, duplicates/spiked duplicate precision, tuning criteria, internal standard variation, continuing calibration variation, reference (check) sample recovery, and instrument, method, trip and field blanks. The appropriate frequency for each operation is also considered.

Every effort has been made to report data that is compliant with the EPA methodology cited for each analysis. In cases where the laboratory was unable to meet all method requirements prior to sample expiry, either due to the nature of the sample or other technical difficulty, results are reported with qualification with the understanding that qualified results may not be suitable for compliance purposes. The internal technical review is based on the USEPA Contract Laboratory Program *National Functional Guidelines for Organic Review* (EPA 540/R-94/012, February 1994) and *National Functional Guidelines for Inorganic Review* (EPA 540/R-94/013, February 1994).

Validation

Nineteen samples were received on November 21 & 22, 2002, with ice. The temperature, as received, was 4°C and 6°C

PCB

The site samples were analyzed by EPA method 8082 for PCBs with a two-microliter injection volume.

RTX-CLPesticides 1 and RTX-CLPesticides 2 capillary columns, 0.32 mm ID, with purge packed inlets and electronic pressure control are used on an Hewlett-Packard 5890 series II with dual ECD and an HP 7673 autosampler with simultaneous injection.

Data is collected with HP Chemstation software and processed by Thruput with Target software. If a peak is detected within the retention time window of a target compound, second-column confirmation is performed. Column RTX-CLPesticides 2 was used for the primary analysis. Column RTX-CLPesticides 1 was used to confirm only the fingerprint, not the quantitation. Form 10B's are provided in order to verify pattern recognition.

PCB 1254 was detected in site sample N-C-SS-B2-001. Second-column analysis confirmed the presence of this target. No PCBs were detected in the associated method blank.

Surrogate recoveries were within limits.

Site sample K-B-SS-W-005 was spiked in duplicate. Spike recoveries were within acceptance limits.

Precision, as indicated by RPD, was within acceptance limits.

Two blank spikes were associated with the site samples. Blank spike recoveries were within acceptance limits.

No analytical difficulties were encountered.

Usability Assessment

All reported data were found to be valid and usable within the EPA National Functional Validation guidelines except those that were qualified in this Laboratory Validation.

Laboratory validation and
Usability assessment conducted by: C ^ M J ^ ^ L ^ A ^ J ^ ,

Date: March 31, 2003

Elizabeth A. Keator
Quality Assurance



Worksheets



STANDARD OPERATING PROCEDURE

EPA Region II
846 Method 8082

Date: May, 2002
SOP HW-23B, Rev.1.0

W-G-S-UJ-00 1

?7/»7«/

7-d-^fr-^0'C*/ ?7*>*W

YES NO N/A

u-fc-j&a-*****

PACKAGE COMPLETENESS AND DELIVERABLES

CASE NUMBER: '___' _____ SDG# 7 ' ' ^7 / 7 7 D-^Y

LABi^Vf^d Uttwfrki/frv IE>d- SITE:.

1.0 Data Completeness and Deliverables

1.1 Has all the data been submitted in CLP deliverable format?

u _____

1.2 Have any missing deliverables been received and added to the data package?

J_L

ACTION: Call lab for explanation/resubmittal of any missing deliverables. If lab cannot provide them, note the effect on review of the data in the reviewer narrative.

2.0 Cover Letter, SDG Narrative

2.1 Is a laboratory narrative or cover letter present?

^

2.2 Are the case number and/or SDG number contained in the narrative or cover letter?

***£**

3.0 Data Validation Checklist

3.1 Does this data package contain:

Water data? _____

Waste data? _____

J

Soil/solid data?

_ ^/

YES NO N/A

POLYCHLORINATED BI PHENYLS

1 - 0 Traffic Reports and Laboratory Narrative

- 1.1 Are traffic report and chain-of-custody forms present for all samples?

s£

ACTION: If no, contact lab for replacement of missing or illegible copies.

- 1.2 Do the traffic reports, chain-of-custody forms or SDG narrative indicate any problems with sample receipt, condition of the samples, analytical problems or special circumstances affecting the quality of the data?

_V

ACTION: If any sample analyzed as a soil, other than TCLP, contains 50%-90% water, all data should be qualified as estimated, "J." If a soil sample, other than TCLP, contains more than 90% water, non detects shall be qualified as unusable, "R."

o-

ACTION: if samples were not iced or if the ice was melted upon arrival at the laboratory and the temperature of the cooler was elevated (> 10° C), flag all positive results "J" and all non-detects "UJ" .

2 .0 Holding Times

- 2.1 Have any PCB technical holding times, determined from date of collection to date of extraction, been exceeded?

[i/>

Water and waste samples for PCB analysis must be extracted within 1 days of the date of collection. Extracts must be analyzed within 40 days of the date of extraction. Soils and solid samples must be extracted within 14 days of collection and analyzed within 40 days of extraction.

*f"/^7
CdUeM

ACTION: If technical holding times are exceeded, flag all positive results as estimated, "J," and sample quantitation limits "UJ" and document in the narrative that holding times were exceeded. If analyses were done more than 14 days beyond holding time, either on the first analysis or upon re-analysis, the reviewer must use

STANDARD OPERATING PROCEDURE

PA Region II
46 Method 8082

Date: May, 2002
SOP HW-23B, Rev.1.0

YES NO N/A

professional judgement to determine the reliability of the data and the effects of additional storage on the sample results. At a minimum, all the data should at least be qualified "J", but the reviewer may determine that non-detects are unusable, "R."

3.0 Surrogate Recovery (Form II) JJA fir p*H- fpAL - /JUiV

3.1 Were the recoveries of tetrachloro-m-xylene (TCMX) and decachlorobiphenyl (DCB) presented on CLP Surrogate Recovery Summary forms (Form II), or equivalent, for each of the following matrices?

a. Water/Waste

J_L _____ ^

b. Soil/Solid

J_L _____ s*S

3.2 Are all the PCB samples listed on the appropriate surrogate recovery form for each of the following matrices?

a. Water

J_L _____

b. Waste

f1 _____

c. Soil/Solid

L_L _____ -4*J

ACTION: Call lab for explanation/resubmittals.
If missing deliverables are unavailable,
document the effect in the data assessment.

3.3 Did the laboratory provide their developed in-house Surrogate recoveries?

J_J _____ /

ACTION: If no, use 70 -130% recovery to qualify in section 3.4 below.

3.4 Were surrogate recoveries of TCMX or DCB outside of the laboratory-established upper (UCL) or lower (LCL) control limits for any sample or blank? _____ J_L _____ ^

ACTION: Circle all outliers in red.

ACTION: No qualification is done if surrogates are diluted out. If recovery for both surrogates is

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YES NO N/A

below the LCL, but above 10%, flag all results for that sample "J". If recovery is < 10% for either surrogate, qualify positive results "J" and flag non-detects "R". If recovery is above the UCL for both surrogates qualify positive values "J".

Note: DCB is used when PCBs are determined as Aroclors. DCB is the internal standard when determining PCB congeners and TCMX the surrogate.

3.5 Were surrogate retention times (RT) within the windows established during the initial 5-point analysis?

J_L _____

ACTION: If the RT limits are not met, the analysis may be qualified unusable (R) for that sample on the basis of professional judgement. However, flag positive hits as estimate (J) if confirmed by GC/MS analysis.

3.6 Are there any transcription/calculation errors between raw data and Form II?

i_L _____

ACTION: If large errors exist, call lab for explanation/resubmittal. Make any necessary corrections and document the effect in data assessments.

4.0 Laboratory Control Sample /J fi sp*^ y V « - " / a*^ ~* ^

4.1 Are raw data and percent recoveries present for all Laboratory Control samples as required by Method 8000B (section 8.5) and Method 8082 (section 8.4.2)?

f1

Verify that QC check samples were extracted and analyzed by the same procedures used for the actual samples.

ACTION: If any Laboratory Control Sample data are missing, call the lab for explanation /resubmittals. Make note in the data assessment.

NOTE: For aqueous samples, an additional QC check sample must be prepared and analyzed when any analyte in a matrix spike fails the required acceptance criteria (see section 5.3 below). The additional QC check sample must contain each analyte that failed in the MS analysis.

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YES NO N/A

Note: When the results for matrix spike analysis indicates a problem due to sample matrix effects, the LCS results are used to verify the laboratory can perform the analysis in a clean sample.

4.2 Were Laboratory Control Samples analyzed at the required concentration for all analytes of interest as specified in Method 8000B (sec.8.5)?

J_L ____

ACTION: If Laboratory Control Samples were not analyzed at the required concentration or the required frequency, make note in the data assessment and use professional judgement to determined the affect on the data.

4.3 Were the LCS recoveries within the laboratory's in-house per cent recoveries (if not available, use 70 - 130%) J_L ____

4.4 If no, were Laboratory Control Samples re-analyzed?

±S

Note: Corrective action must be taken when one or more of the analytes of interest fail the QC acceptance criteria (Method 8000B, section 8.7.4)

ACTION: If QC check samples were not re-analyzed, or a general system problem is indicated by repeated failure to meet the QC acceptance criteria specified in the method, make note in the data assessment and use professional judgement to determine the effect on the data.

5.0 Matrix Spikes (Form III)u_hjL. j?u+ / A - "'''*'

5.1 Are all data for one matrix spike and matrix duplicate (unspiked) pair (MS/Dup) or matrix spike/matrix spike duplicate (MS/MSD) present and complete for each matrix Method 8082(section 8.4.1)?

NOTE: For soil and waste samples showing detectable amounts of organics, the lab may substitute replicate samples in place of the matrix spike • (see Method 8000B-40, section 8.5.3)).

5.2 Have MS/Dup or MS/MSD results been summarized on modified CLP Form III?

ACTION: If any data are missing take action as specified in section 3.2 above.

5.3 Were matrix spikes analyzed at the required frequency

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YES NO N/A

for each of the following matrices? (One MS/Dup, MS/MSD must be performed for every 20 samples of similar matrix or concentration level. Laboratories analyzing one to ten samples per month are required to analyze at least one MS per month (Method 8000B-39 (section 8.5)) .

- a. Water
- b. Waste
- c. Soil/Solid

*S

ACTION: If any MS/Dup or MS/MSD data are missing, take the action specified in 3.2 above.

- 5.4 Were the 70 - 130% recoveries used to compare the matrix spike recoveries, or did the lab use the optional QC acceptance criteria discussed in Method 8000B-40(section 8.5.3.1)?

List the criteria used and make note in data assessment.

Criteria used _____:

- 5.5 Was the matrix spike prepared at the proper spike concentration? (Method 8000B, section 8.5.1-8.5.2)

For aqueous organic extractable, the spike concentration should be prepared according options in: Method 8000B-40, (section 8.5.1 and 8.5.2).

ACTION: No action is taken based on MS or replicate data alone. However, using informed professional judgement, the data reviewer may use the matrix spike or laboratory replicate results in conjunction with other QC criteria and determine the need for some qualification of the data. In some instances it may be determined that only the replicate or spiked samples are affected. Alternatively, the data may suggest that the laboratory is having a systematic problem with one or more analytes, thereby affecting all associated samples.

6.0 Blanks (Form IV)

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YES NO N/A

6.1 Was reagent blank data reported on CLP equivalent Method Blank Summary form(s) (Form IV)?

^ _

6.2 Frequency of Analysis: Has a reagent blank been analyzed for every 20 (or less) samples of similar matrix or concentration or each extraction batch?

SA _

ACTION: If any blank data are missing, take action as specified above (section 3.2) . If blank data is not available, reject (R) all associated positive data. However, using professional judgement, the data reviewer may substitute field blank data for missing method blank data.

6.3 Chromatography: review the blank raw data - chromatograms, quant reports or data system printouts.

Is the chromatographic performance (baseline stability) for each instrument acceptable for PCBs?



ACTION: Use professional judgement to determine the effect on the data.

7.0 Contamination

NOTE: "Water blanks", "distilled water blanks" and "drilling water blanks" are validated like any other sample and are not used to qualify the data. Do not confuse them with the other QC blanks discussed below.

7.1 Do any method/instrument/reagent/cleanup blanks have positive results for PCBs? When applied as described below, the contaminant concentration in these blanks are multiplied by the sample Dilution Factor and corrected for % moisture when necessary.

_ I v ^ _

7.2 Do any field/rinse blanks have positive PCB results? AW ^W - - V ; - t f + ^ t j * ^ / * * * -

_ L 1

ACTION: Prepare a list of the samples associated with each of the contaminated blanks. (Attach a separate sheet.)

NOTE: All field blank results associated to a particular group of samples (may exceed one per case or one per day) may be used to qualify data.

YES NO N/A

Blanks may not be qualified because of contamination in another blank. Field blanks must be qualified for surrogate, or calibration QC problems.

ACTION: Follow the directions in the table below to qualify sample results due to contamination. Use the largest value from all the associated blanks.

Sample conc > EDL but < 5 x blank	Sample conc < EDL & is < 5 x blank value	Sample conc > EDL & > 5 x blank value
Flag sample result with a "U"	Report EDL & qualify "U"	No qualification is needed

NOTE: If gross blank contamination exists, all data in the associated samples should be qualified as unusable (R).

7.3 Are there field/rinse/equipment blanks associated with every sample? ^ A^ (V furvft* ^>p*t-if/

ACTION: For low level samples, note in data assessment that there is no associated field/rinse/equipment blank. Exception: samples taken from a drinking water tap do not have associated field blanks.

8.0 GC Apparatus and Materials AJ A~ -/v ££-* f~ / '&'****'

8.1 Was the proper gas chromatographic capillary column used for the analysis of PCBs?

Action: Check raw data, instrument logs, or contact the lab to determine what type of columns were used. (Method 8082, section 4.2)

f 1

8.2 Indicate the specific type of narrow bore or wide bore (.53 mm ID, fused silica GC columns, such as DB-608 and DB-1701 or equivalent).

column 1:

column 2:

ACTION: Note any changes to the suggested materials in section 8.1 above in the data assessment. Also note the impact (positive or negative) such changes have on the analytical results.

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YES NO N/A

9.0 Calibration and GC Performance

9.1 Are the following Gas Chromatograms and Data Systems Printouts for both columns present for all samples, blanks, MS, replicates?

a. Samples

b. All blanks

c. Matrix spike samples

d. 5 pt. initial calibration standards

e. calibration verification standards

f. Laboratory Control samples (LCS)

ACTION: If no, take action specified in 3.2 above.

9.2 Are data summary forms (containing calibration factors or response factors) for the initial 5 pt. calibration and daily calibration verification standards present and complete for each column and each analytical sequence?

Note: Calibration Aroclor mixtures other than 1016/1260 may be used (as per approved project QA plan)

NOTE: If internal standard calibration procedure is used (Method 8000B-15(section 7.4.2.2)), then response factors must be used for %RSD calculations and compound quantitation. If, external standard calibration procedures are used (Method 8000B-16 (section 7.4.2.1)), then calibration factors must be used. The internal standard approach is highly recommended for PCB -congener analysis.

ACTION: If any data are missing or it cannot be determined how the laboratory calculated calibration factors or response factors, contact the lab for explanation/resubmittals. Make necessary corrections and note any problems in the data assessment.

9.3 Are there any transcription/calculation errors between raw data and data summary forms?

ACTION: If large errors exist, call lab for

YES NO N/A

explanation/resubmittal, make necessary corrections and document the effect in data assessments.

- 9.4 Are standard retention time (RT) windows for each PCB peak of interest presented on modified CLP summary forms?

☒ 1 1

ACTION: If any data are missing, or it cannot be determined how RT windows were calculated, call the lab for explanation/resubmittals. Note any problems in the data assessment.

NOTE: Retention time windows for all PCBs are established using retention times from three calibration standards analyzed during the entire analytical sequence (Method 8000B, section 7.6).

Best results are obtained using retention times which span the entire sequence; i.e., using the calibration verification/continuing calibration standards analyzed every 12 hours.

- 9.5 Were RT windows on the confirmation column established using three standards as described above?

*one for value for multi-std.
center value for single-std.
± 0.1.
AL.*

☒ 1 1

NOTE: RT windows for the confirmation column should be established using a 3 pt. calibration, preferably spanning the entire analytical sequence as described in 9.4 above. If RT windows on one column are tighter than the other, this may result in false negatives when attempting to identify compounds in the samples.

ACTION: Note potential problems, if any, in the data assessment.

- 9.6 Do all standard retention times in each level of the initial 5 pt. calibrations for PCBs fall within the windows established during the initial calibration sequence?

☒ 1 1

ACTION i: If no, all samples in the entire analytical sequence are potentially affected. Check to see if three standard spanning the entire sequence were used to obtained RT windows. If the lab used three standards from the 5 pt., RT windows may be too tight. If so, RT windows should be recalculated as per Method 8081B-15 (section 7.4.6).

ii. Alternatively, check to see if the chromatograms contain peaks

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YES NO N/A

within an expanded window surrounding the expected retention times.

If no peaks are found and the surrogates are visible, non-detects are valid. If peaks are present but cannot be discerned through pattern recognition or by using revised RT windows, qualify all positive results and non-detects as unusable, "R".

- 9.7 Has the linearity criteria for the initial calibration standards been satisfied for both columns? (% RSD must be < 20.0% for all analytes) .

y_0 . $f^{\wedge}$

✓

ACTION: If no, qualify all associated positive results generated during the entire analytical sequence "J" and all non-detects "UJ". When RSD > 90%, flag all non-detect results for that analyte "R" (unusable).

- 9.8 Does the calibration verification/continuing Calibration standard contain the PCB peaks of interest, analyzed on each working day, prior to sample analyses (Method 8082, sections 7.6.2)?

✓

- 9.9- Has a calibration verification/continuing calibration standard been analyzed after every 10 samples and at the end of each analytical sequence (Method 8082, section 7.6.2)

✓

ACTION: If no, take action as specified in section 3.2 above.

$jJL^{\circ}l[$ $tkJh^{\wedge}$
 $\wedge$ $\vee$ $*$ $\wedge$ $\wedge$

- 9.10 Has the percent difference (%D) exceeded $\pm 15\%$ for any PCB analyte in any calibration verification/Continuing calibration standard?

NA _____

- 9.11 Has a new 5 pt. initial calibration curve been generated for those PCB analytes which failed in the calibration verification/continuing calibration standard (8000B, section 7.7.3), and all samples which followed the out-of-control calibration verification/standard continuing calibration Standard?

J_i .

ACTION: If the %D for any analyte exceeded the $\pm 15\%$ criterion and the instrument was not recalibrated for those analytes, qualify positive results for all associated samples (those which followed the out-of-control standard) "J" and sample quantitation limits "UJ". If the %D was > 90%

$/\&/(*$
 $//foy/c^1- *?*$ $<f$ $4\&*tf$
 $\wedge/fc$ $2.$ $\$*$ $"^{\wedge}$ $fr>\$$
 $\vee/J$ $'$
 $.$ $..$ $-p$ y_0/U

-PCB ii -

?7i>7 i; **\ *

77M*17".?/*

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YES NO N/A

for any analyte, qualify non-detects "R", unusable.

- 9.12 Have retention time (RT) windows been properly calculated for each analyte of interest (Method 8000B, section 7.6), using RTs from the associated calibration verification/continuing standard?

*use ITC
quant from ITC.*

☒ — —

ACTION: If no, take action specified in section 3.2 above

- 9.13 Do all standard retention times for each calibration verification/continuing calibration standard fall within the windows established during the initial calibration sequence?

☒

- 9.14 Do all standard retention times for each mid-concentration standard (analyzed after every 10 samples) fall within the daily RT windows

ACTION: If the answer to either 9.13 or 9.14 above is no, check the chromatograms of all samples which followed the last in-control standard. All samples analyzed after the last in-control standard must be re-injected, if initial analysis indicated the presence of the specific analyte that exceeded the retention time criteria. If samples were not re-analyzed, document under Contract Non-compliance in the Data Assessment.

Reviewer has two options to determine how to qualify questionable sample data. First option is to determine if possible peaks are present within daily retention time window. If no possible peaks are found, non-detects are valid. If possible peaks are found (or interference), qualify positive hits as presumptively present "NJ" and non-detects are rejected "R". Second option is to use the ratio of the retention time of the analyte over the retention time of either surrogate. The passing criteria is ± 0.06 RRT units of the RRT of the standard component. Reject "R" all questionable analytes exceeding criteria, and "NJ" all other positive hits.

For any multi-response analytes, retention time windows should be used but analyst and reviewer should rely primarily on pattern recognition or use option 2 specified in paragraph above.

- 9.15 Are there any transcription/calculation errors

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YES NO N/A

between raw data and data summary forms?

u/

ACTION: If large errors exists, call lab for explanation/resubmittal, make any necessary corrections and document the effect in data assessments under "Conclusions".

10.0 Analytical Sequence Check (Form VIII-PEST)

10.1 Have all samples been listed on CLP Form VIII or equivalent, and are separate forms present for each column?

ACTION: If no, take action specified in 3.2 above.

10.2 Was the proper analytical sequence followed for each initial calibration and subsequent analyses?

14

ACTION: If no, use professional judgement to determine the severity of the effect on the data and qualify it accordingly. Generally, the effect is negligible unless the sequence was grossly altered or the calibration was also out of limits.

10.3 Were the TCMX/DCB surrogate RTs for the samples within the mean surrogate RT from the initial calibration?

✓

Action: If no, see "Action" in section 9.14 above

11.0 Extraction Techniques for Sample Preparation

ijj^ J^/

for -ilJ^ -w^x

Method 8081B permits a variety of extraction techniques to be used for sample preparation. Which extraction procedure was used?

1. Aqueous samples:

1. Separatory funnel (Method 3510)
2. Continuous liquid-liquid extraction (Method 3520)
3. Solid phase extraction (Method 3535)
4. Other

2. Solid samples:

1. Soxhlet (Method 3540)

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YES NO N/A

2. Automated Soxhlet (Method 3541)		y
3. Pressurized fluid (Method 3545)		
4. Microwave extraction (Method 3546)		
5. Ultrasonic extraction (Method 3550)	J_L	*s
6. Supercritical fluid (Method 3562)	_L_L	x/
7. Other		

11-1 Extract Cleanup - Efficiency Verification (Form IX)

11.1.1 Method 8082 (section 7.2) references method 3660 (sulfur) and 3665A (sulfuric acid) to use for Cleaning extracts. Were one or both method used? J_]_

ACTION: If no, take action specified in 3.2 above. If data suggests cleanup was not performed, make note in the data assessment.

NOTE: Method 3620A, Florisil, may be used per approved project QA plan. The method does not list which analytes and surrogate(s) to use to verify column efficiency. The reviewer must check project plan to verify method used as well as the correct PCB list. If not stated or available, use the CLP listing or accept what the laboratory used.

11.2 Are all samples listed on modified CLP PCBs Florisil/Cartridge Check Form?	JUL	S

ACTION: If no, take action specified in 3.2 above.

11.3 Was GPC Cleanup (method 3640A) performed?	J_L

NOTE: GPC cleanup is not required and is optional. The reviewer should check Project Plan to verify requirement.

11.4 Were the same PCB analytes used in calibration used to check the efficiency of the cleanup procedures?	_L_L

11.5 Are percent recoveries (% R) of the PCBs and surrogate compounds used to check the efficiency of the cleanup procedures within lab's in-house QC limits (use 70-130% if not available)	J_L

70-130% for GPC calibration?

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YES NO N/A

Qualify only the analyte(s) which fail the recovery criteria as follows:

ACTION: If % R are < 80%, qualify positive results "J" and quantitation limits "UJ". Non-detects should be qualified "R" if zero %R was obtained for PCBs. Use professional judgement to qualify positive results if recoveries are greater than the upper limit.

12.0 PCB Identification

12.1 Has CLP Form X or equivalent, showing **retention time** data for positive results on the two GC columns, been completed for every sample in which a PCB was detected?

* /

ACTION: If no, take action specified in 3.2 above, or compile a list comparing the retention times for all sample hits on the two columns.

12.2 Are there any transcription/calculation errors between raw data and data summary forms (initial calibration summaries, calibration verification summaries, analytical sequence summaries, GPC and cleanup verification forms)?

J

ACTION: If large errors exist, call lab for explanation/resubmittal, make necessary corrections and note error in the data assessment.

12.3 Are retention times (RT) of sample compounds within the established RT windows for both columns/analyses?

✓

ACTION: Qualify as unusable (R) all positive results which were not confirmed by second GC column analysis. Also qualify "R", unusable, all positive results not within RT windows unless associated standard compounds are similarly biased. The reviewer should use professional judgement to assign an appropriate quantitation limit.

12.4 Check chromatograms for false negatives, especially if RT windows on each column were established differently.
Were there any false negatives?

✓

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YES NO N/A

ACTION: Use professional judgement to decide if the compound should be reported. If there is reason to believe that peaks outside retention RT windows should be reported, make corrections to data summary forms (Form I) and note in data assessment.

12.5 Was GC/MS confirmation provided when sample concentration was sufficient (> 10 ug/ml) in the final extract?

ACTION: Indicate with red pencil which Form I results were confirmed by GC/MS and also note in data assessment.

12.6 Is the percent difference (%D) calculated for the positive sample results on the two GC columns $<25.0\%$?

NOTE: The method requires quantitation from one column. The second column is to confirm the presence of an analyte. It is the reviewer's responsibility to verify from the project plan what the lab was required to report. If the lab was required to report concentrations from both columns/ continue with validation for % Difference. If required/ but not reported, either contact the lab for results or calculate the concentrations from the calibration. If not required, skip this section. Document actions in Data Assessment.

ACTION. If the reviewer finds neither column shows interference for the positive hits, the data should be qualified as follows:

% Difference

0-25%
26-70%
71-100%
 $>100\%$ *
100-200% (Interference detected)**
 $>50\%$ (PCBs value is $<CRQL$)

Qualifier

none
"J"
"NJ"
"R"
"NJ"
"U"

When the reported PCBs value is $<CRQL$ and the %D is $>50\%$, raise the value to the CRQL and qualify with "U" (non-detect).

* Check the chromatogram. If pattern is confirmed qualify "J". If pattern is mixed, has interference, or the PCB cannot be positively determined due to weathering, qualify "JN".

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YES NO N/A

If PCB can not be confirmed, qualify the PCB as "R".

When the reported %D is 100-200% but interference is detected in either column, qualify the data with "NJ".

13.0 Compound Quantitation and Reported Detection Limits

13.1 Are there any transcription/calculation errors in Form I results? Check at least two positive values. Were any errors found?

NOTE: Single-peak PCBs results can be checked for rough agreement between quantitative results obtained on the two GC columns. The reviewer should use professional judgement to decide whether a much larger concentration obtained on one column versus the other indicates the presence of an interfering compound. If an interference is suspected, the lower of the two values should be reported and qualified according to section 12.6 above. This necessitates a determination of an estimated concentration on the confirmation column. The narrative should indicate that the presence of interferences has led to the quantitation of the second column confirmation results.

13.2 Are the EDLs (Estimated Detection Limits) adjusted to reflect sample dilutions and, for soils, % moisture?

ACTION: If errors are large, call lab for explanation/resubmittal, make any necessary corrections and document effect in data assessments.

ACTION: When a sample is analyzed at more than one dilution, the lowest EDLs are used (unless a QC exceedance dictates the use of the higher EDL data from the diluted sample analysis). Replace concentrations that exceed the calibration range in the original analysis by crossing out the value on the original Form I and substituting it with data from the analysis of diluted sample. Specify which Form I is to be used, then draw a red "X" across the entire page of all Form I's that should not be used, including any in the summary package.

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YES NO N/A

ACTION: EDLs affected by large, off-scale peaks should be qualified as unusable, "R". If the interference is on-scale, the reviewer can provide a modified EDL flagged "UJ" for each affected compound.

14.0 Chromatogram Quality

14.1 Were baselines stable?

14.2 Were any electropositive displacement (negative peaks) or unusual peaks seen? J
I" M

ACTION: Note all system performance problems in the data assessment.

15.0 Field Duplicates *H fr M* T^0 ^ \ J**^C ' M *\JS'*

15.1 Were any field duplicates submitted for PCB analysis? J_L S -TR-

ACTION: Compare the reported results for field duplicates and calculate the relative percent difference.

ACTION: Any gross variation between field duplicate results must be addressed in the reviewer narrative. However, if large differences exist, the identity of the field duplicates is questionable. An attempt should be made to determine the proper identification of field duplicates.

4C
PESTICIDE METHOD BLANK SUMMARY

NYSDEC SAMPLE NO.

MB 42

Lab Name: FRIEND LABORATORY, INC. Contract:
Lab Code: 10252 Case No.: SAS No.: SDG No.: AAA
Lab Sample ID: MB 42 Lab File ID: 02-117-0770
Matrix: (soil/water) SOIL Extraction:(SepF/Cont/Sonc) SONC
Sulfur Cleanup: (Y/N) N Date Extracted: 11/22/02
Date Analyzed (1): 11/23/02 Date Analyzed (2):
Time Analyzed (1): 23:17 Time Analyzed (2):
Instrument ID (1): HP1 Instrument ID (2): HP3
GC Column (1): RTX-CLPESTICIDES2 ID 0.32 (mm)
GC Column (2): RTX-CLPESTICIDES1 ID 0.32 (mm)

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

	NYSDEC SAMPLE NO.	LAB SAMPLE ID	DATE ANALYZED 1	DATE ANALYZED 2
01	N-B-S-W-001	L97127-1	11/23/02	
02	N-B-SS-W-001	L97127-2	11/23/02	
03	N-C-SS-B1-001	L97127-3	11/23/02	
04	N-C-SS-B3-001	L97127-5	11/23/02	
05	L-B-S-W-002	L97127-6	11/23/02	
06	L-B-SS-E-002	L97127-7	11/23/02	
07	K-B-SS-W-005	L97127-8	11/23/02	
08	K-B-SS-W-005 MS	L97127-9, -8MS	11/23/02	
09	K-B-SS-W-005 MSD	L97127-10, -8MSD	11/23/02	
10	K-B-SS-E-003	L97127-11	11/23/02	
11	QC42	QC42	11/26/02	
12	N-C-SS-B2-001	L97127-4	11/26/02	11/26/02
13				
14				
15				
16				
17				
18				
19				
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21				
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25				
26				

COMMENTS:

00007

4C
PESTICIDE METHOD BLANK SUMMARY

NYSDEC SAMPLE NO.

MB 45

Lab Name: FRIEND LABORATORY, INC. Contract:
Lab Code: 10252 Case No.: SAS No.: SDG No.: AAA
Lab Sample ID: MB 45 Lab File ID: 02-117-0813
Matrix: (soil/water) SOIL Extraction:(SepF/Cont/Sonc) SONC
Sulfur Cleanup: (Y/N) N Date Extracted: 11/25/02
Date Analyzed (1): 11/26/02 Date Analyzed (2): _____
Time Analyzed (1) : 0022 Time Analyzed (2): _____
Instrument ID (1): HP1 Instrument ID (2): HP3
GC Column (1): RTX-CLPESTICIDES2 ID 0.32 (mm)
GC Column (2): RTX-CLPESTICIDES1 ID 0.32 (mm)

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

	NYSDEC SAMPLE NO.	LAB SAMPLE ID	DATE ANALYZED 1	DATE ANALYZED 2
01	P-B-SS-W-001	L97224-1	11/26/02	
02	P-B-S-E-001	L97224-2	11/26/02	
03	P-C-SS-B-001	L97224-3	11/26/02	
04	P-B-S1-W-001	L97224-4	11/26/02	
05	P-BSUB-S-N-001	L97224-5	11/26/02	
06	P-BSUB-S-S-001	L97224-6	11/26/02	
07	P-B-SS-E-001	L97224-7	11/26/02	
08	P-B-S2-W-001	L97224-8	11/26/02	
09	L-B-SS-W-004	L97224-9	11/26/02	
10	L-B-S-E-004	L97224-10	11/26/02	
11	QC45	QC45	11/26/02	
12				
13				
14				
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CO WMENTS:

ID
PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

MB42

Lab Name: **APABK** Contract:
 Lab Code: Case No. : SAS No. : SDG No. : AAA1121
 Matrix: (soil/water) SOIL Lab Sample ID: MB42
 Sample wt/vol: 10.9 (g/mL) G Lab File ID: E2980770
 % Moisture: 0 decanted: (Y/N) N Date Received: 11/21/2
 Extraction: (SepF/Cont/Sonc) SONC Date Extracted: 11/22/2
 Concentrated Extract Volume: 1000P (up Date Analyzed: 11/22/2
 Injection Volume: 2.0(uL) Dilution Factor: 1.0
 GPC Cleanup: (Y/N) N pH: 7.0 Sulfur Cleanup: (Y/N) N

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

12674-11-2— -Aroclor-1016
 1104-28-2— -Aroclor-1221"
 11141-16-5— -Aroclor-1232"
 53469-21-9— -Aroclor-1242"
 11097-69-1— -Aroclor-1254"
 11096-82-5— -Aroclor-1260"
 -Aroclor-1248"

9.2	0.01	U
18	0.02	U
9.2	0.01	U
9.2	0.01	U
9.2	0.01	U
9.2	0.01	U
9.2	0.01	U
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Thru-Put Systems, Inc.

Data file \chem\hpl.i\8082rll22.b\E2980770.D
Lab Smp Id MB42 Client Smp ID: MB42
Inj Date 22-NOV-2002 23:17
Operator CPW Inst ID: hpl.i
Smp Info MB42
Misc Info WG33714,02-117
Comment
Method \chem\hpl.i\8082rll22.b\8082_PCBsec.M
Meth Date 25-Nov-2002 08:50 Administra Quant Type: ESTD
Cal Date 22-NOV-2002 18:04 Cal File: E2980760.D
Als bottle 1
Dil Factor 1.00000
Integrator Falcon Compound Sublist: PCB.sub
Target Version: 3.40 Sample Matrix: SOIL

Concentration Formula: $\text{Amt} * \text{DF} * ((\text{Vf} / \text{Ws}) * \text{Uf}) / \text{Ts} * 1000$

Name	Value	Description
DF	1.000	Dilution Factor
Vf	10.000	Final volume
Ws	10.890	Weight of sample extracted (g)
Uf	0.100	Unit Correction Factor
Ts	100.000	Total Solid

CONCENTRATIONS						
			ON-COL	FINAL		
RT	EXP RT	DLT RT	RESPONSE (ug/L)	(ug/Kg)	TARGET RANGE	RATIO
\$ 1	Tetrachloro-tn-xylene		CAS #:			
7.957	7.980	-0.023	4124732	481.610	442.23	
\$ 29	Decachlorobiphenyl		CAS 8:			
20.103	20.127	-0.024	2666674	455.10B	417.90	

Data File: /chem/hpl.i.-'8082rll22.b/E2980770.D

Page 2

Date : 22-HOV-2002 23:17

Client ID: MB42

Instrument; hpl.i

Sample Info: HB42

Volume Injected : 2.0

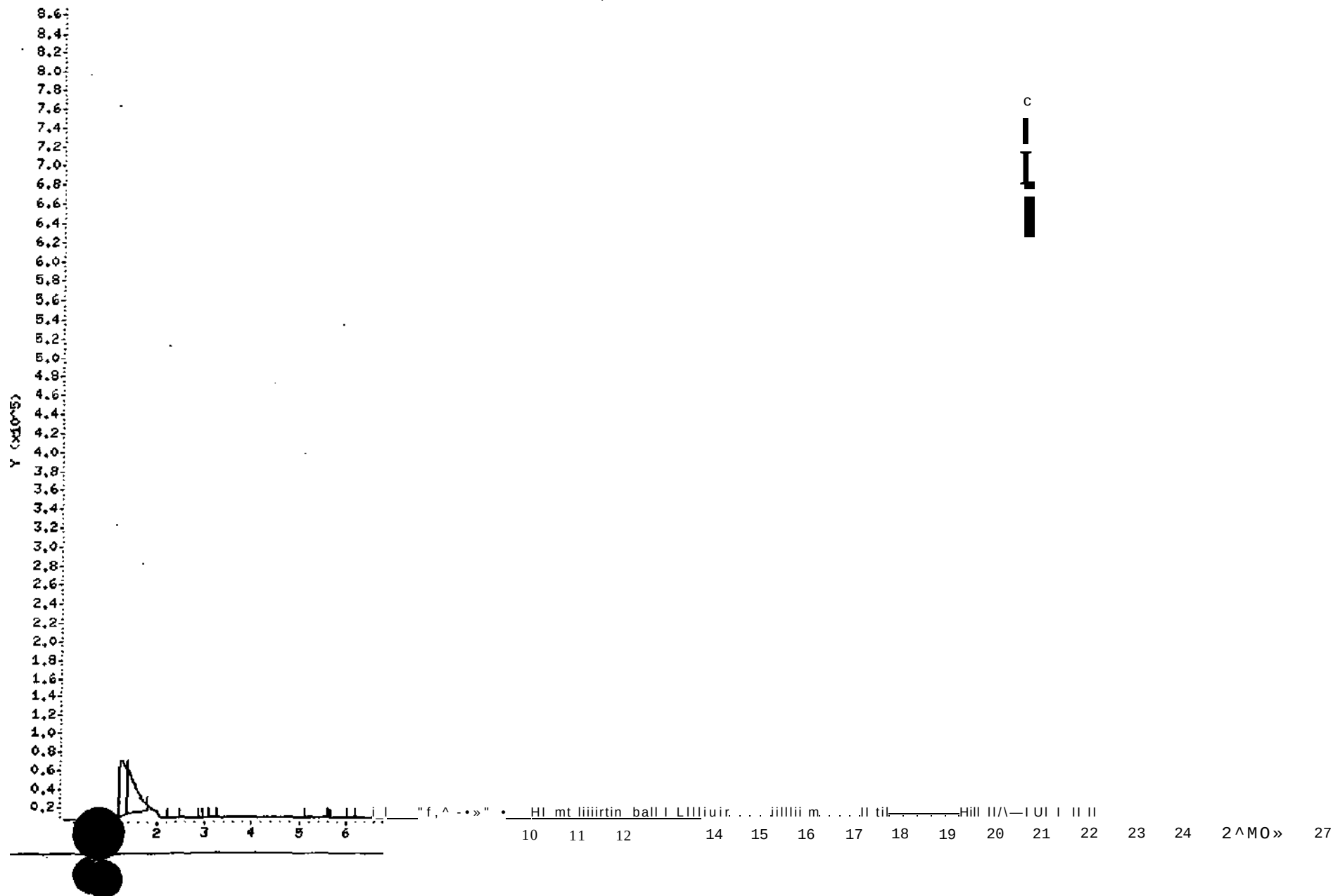
Operator: CPU

Column phase: RTX-CLPesticides 2

Column diameter: 0.32

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/chem/hpl.i/8082rll22.b/E2980770.B



Friend Inc.

Data File: /chem/hpl.i/8082rll22.b/E2980770.D
Method: /chem/hpl.i/8082rll22.b/8082_PCBsec.M
Sample Info: MB42 s
Misc Info: WG33714,02-117
Analysis Date: 22-NOV-2002 23:17
Sample Matrix: SOIL
File Number: 0770

Dilution Factor	1.0000
Sample Weight	10.8904
Final Volume	10.0000
Total Solid	100.0000

Analytes (ug/Kg)

Aroclor-1016	0.00
Aroclor-1221	0.00
Aroclor-1232	0.00
Aroclor-1242	0.00
Aroclor-1254	0.00
Aroclor-1260	0.00
Aroclor-1248	0.00
Tetrachloro-m-xylene	96.32%
Decachlorobiphenyl	91.02%

Analyst: CPW
Report Date: 11/25/2002 09:06

Supervisor:
Date:

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ID
PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

MB45

4 * ab Name: Contract: Code: Case No. : SAS No. : SDG No.: AAA1121

Matrix: (soil/water) SOIL Lab Sample ID: MB45

Sample wt/vol: 10.8 (g/mL) G Lab File ID: E2980813

% Moisture: 0 decanted: (Y/N) N Date Received: 11/22/2

Extraction: (SepF/Cont/Sonc) SONC Date Extracted: 11/25/2

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 11/26/2

Injection Volume: 2.0 (uL) Dilution Factor: 1.0

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

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

12674-11-2	Aroclor-1016	H>3	0.01	U
1104-28-2	Aroclor-1221		0.02/	U
11141-16-5	Aroclor-1232		0.01	U
53469-21-9	Aroclor-1242	^ -3	0.01	U
11097-69-1	Aroclor-1254	<?.3	0.01	U
11096-82-5	Aroclor-1260	H.3	0/01	U
	Aroclor-1248	^ .3	W. U1	U

3/31/03

Thru-Put Systems, Inc.

Data file \chem\hpl.i\8082rll22.b\E2980813.D
 Lab Smp Id MB45 Client Smp ID: MB45
 Inj Date 26-NOV-2002 00:22
 Operator CPW Inst ID: hpl.i
 Smp Info MB45
 Misc Info
 Comment
 Method \chem\hpl.i\8082rll22.b\8082_PCBsec.M
 Meth Date 26-NOV-2002 07:58 Administra Quant Type: ESTD
 Cal Date 22-NOV-2002 18:04 Cal File: E2980760.D
 Als bottle 1
 Dil Factor 1.00000
 Integrator Falcon Compound Sublist: PCB.sub
 Target Version: 3.4 0 Sample Matrix: SOIL
 Processing Host: TARGET3

Concentration Formula: $\text{Amt} * \text{DF} * ((\text{Vf} / \text{Ws}) * \text{Uf}) / \text{Ts} * 1000$

Name	Value	Description
DF	1.000	Dilution Factor
Vf	10.000	Final volume
Ws	10.791	Weight of sample extracted (g)
Uf	0.100	Unit Correction Factor
Ts	100.000	Total Solid

CONCENTRATIONS						
			ON-COL	FINAL		
RT	EXP RT	DLT RT	RESPONSE (ug/L)	(ug/Kg)	TARGET RANGE	RATIO
\$ 1	Tetrachloro-m-xylene		CAS «:			
7.943	7.980	-0.037	4391838	513.275	475.64	
S 29	Decachlorobiphenyl		CAS fl:			
20.090	20.127	-0.037	367B835	630.346	584.13	

Data File: /chem/hpl.i/S0S2rll22.b/E2980813.D

Date : S&-H0V-2002 00:22

Client ID: MB45

Sample Info: MB45

Volume Injected ; 2.0

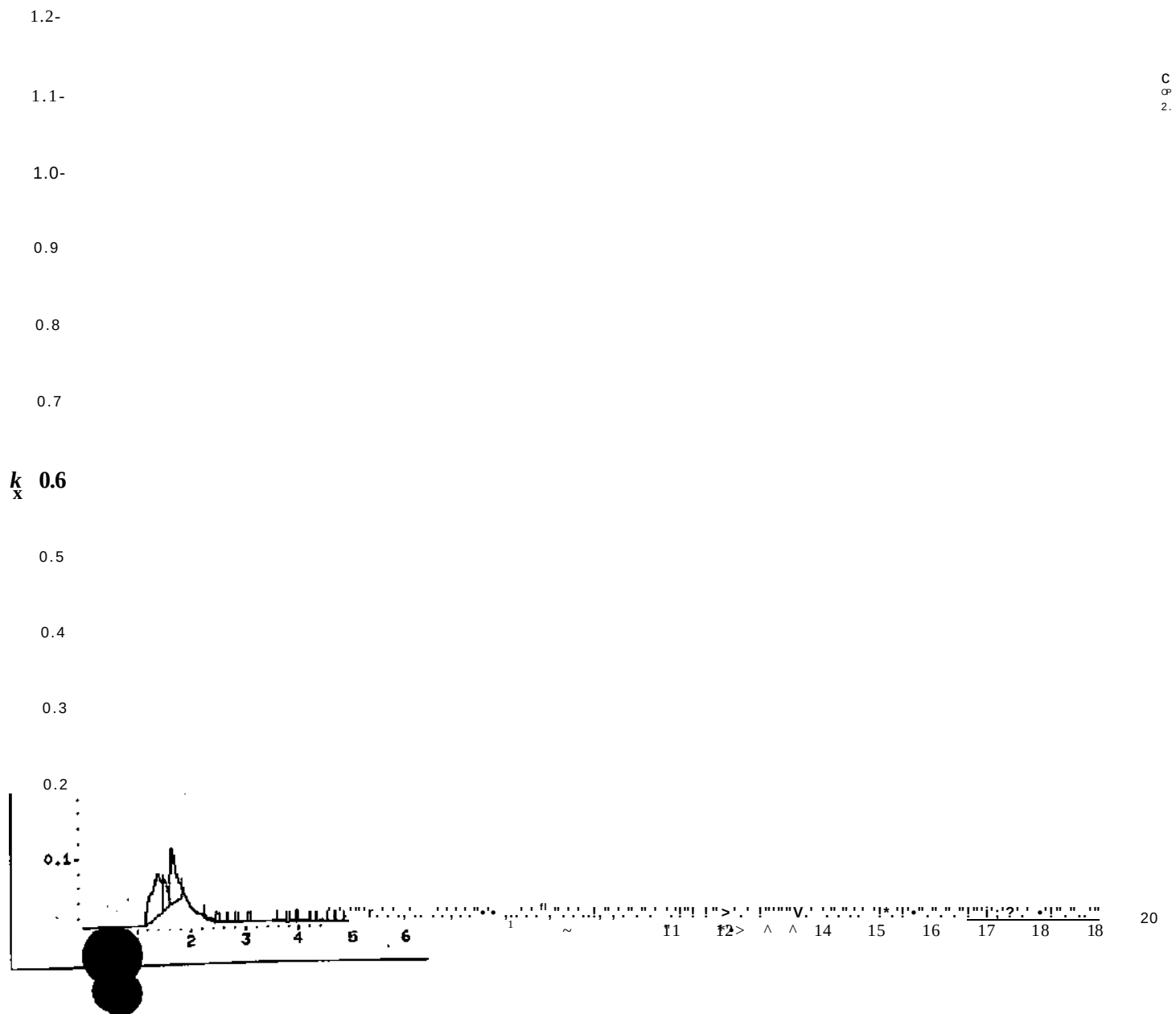
Column phase: RTX-CLPesticides 2

Instrument; hpl.i

Operator; CPU

Column diameter; 0.32

/chem/hpl.i/8032rll22.b/E2980813.D



Friend Inc.

Data File: /chem/hpl.i/8082rl122.b/E2980813.D
Method: /chem/hpl.i/8082rl122.b/8082_PCBsec.M
Sample Info: MB45
Misc Info:
Analysis Date: 26-NOV-20Q2 00:22
Sample Matrix SOIL
File Number: 0813

Dilution Factor	1.0000
Sample Weight	10.7912
Final Volume	10.0000
Total Solid	100.0000

Analytes (ug/Kg)

Aroclor-1016	0.00
Aroclor-1221	0.00.
Aroclor-1232	0.00
Aroclor-1242	0.00
Aroclor-1254	0.00
Aroclor-1260	0.00
Aroclor-1248	0.00
Tetrachloro-m-xylene	0.00
Decachlorobiphenyl	102.66%
	126.07%

Analyst: CPW
Report Date: 11/26/2002 08:05

Supervisor:
Date:

pl/12/02	RTX-CLPEST 1 UG/L ON COLUMN IDL						UG/L IN WATER	CRDL (UG/L)
Instruments	Run #1	Run #2	Run #3	Average	SD	SD'6.95	IDL	
PCB 1016	99.14	100.48	98.05	99.22	1.21	8.44	0.08437	1.0
PCB 1221	200.36	193.87	196.82	197.02	3.25	22.5824	0.22582	2.0
PCB 1232	97.97	96.72	99.17	97.95	1.22	8.51	0.08506	1.0
PCB1242	99.14	100.08	101.34	100.19	1.10	7.67	0.07673	1.0
PCB 1248	101.82	101.01	99.76	100.86	1.04	7.22	0.0722	1.0
PCB 1254	99.63	100.10	99.13	99.62	0.48708	3.39	0.03	1.0
PCB 1260	100.74	100.76	101.10	100.87	0.19949	1.39	0.01	1.0

10/22/02	RTX-CLPEST 2 UG/L ON COLUMN IDL						UG/L IN WATER	CRDL (UG/L)
Instruments	Run #1	Run #2	Run #3	Average	SD	SD'6.95	IDL	
PCB 1016	8.72	6.71	6.44	7.29	1.24513	8.65	0.08654	1.0
PCB 1221	17.30	21.26	23.39	20.65	3.08802	21.46	0.21462	2.0
PCB 1232	16.48	13.15	14.83	14.82	1.66496	11.57	0.11571	1.0
PCB 1 242	10.01	10.71	11.10	10.61	0.56	3.86	0.04	1.0
PCB 1248	13.05	12.31	10.92	12.09	1.08241	7.52	0.07523	1.0
PCB 1254	14.63	15.76	15.48	15.29	0.59	4.08657	0.04	1.0
PCB 1260	20.45	21.22	20.65	20.77	0.39707	2.76	0.03	1.0

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ID
PESTICIDE ORGANICS. ANALYSIS DATA SHEET

EPA SAMPLE NO.

L97127-1

Lab Name: Contract: L97127-1

Lab Code -. Case No. : SAS No. : SDG No.: AAA1121

Matrix: (soil/water) SOIL Lab Sample ID: L97127-1

Sample wt/vol: 10.5 (g/mL) G Lab File ID: E2980777

% Moisture: ^ 2 3 . ^ decanted: (Y/N) N Date Received: 11/21/2

Extraction: (SepF/Cont/Sonc) SONC Date Extracted: 11/22/2

Concentrated Extract Volume: 10000 (UL) Date Analyzed: 11/23/2

Injection Volume: 2.0(uL) Dilution Factor: 10.0

GPC Cleanup: (Y/N) N pH: 7. Sulfur Cleanup: (Y/N) N

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

12674-11-2—— -Aroclor- 1016
1104-28-2—— -Aroclor- 1221"
11141-16-5—— -Aroclor- 1232"
53469-21-9—— -Aroclor- 1242"
11097-69-1—— -Aroclor- 1254"
11096-82-5—— -Aroclor- 1260"
 -Aroclor- 1248"

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Z.SO	0.2E	U
fZ-O	0.12	u
l-2-O	0./2	u
(Z.O	0/12	u
(Z O	0/. 12	u
l-Z.O	9,12"	u
QF&-		
3/31 'CL3		

Thru-Put Systems, Inc.

Data file : \chem\hpl.i\8082rll22.b\E2980777.D
Lab Smp Id: L97127-1 Client Smp ID: L97127-1
Inj Date 23-NOV-2002 02:56
Operator CPW Inst ID: hpl.i
Smp Info L97127-1
Misc Info : WG33714,02-117
Comment
Method \chem\hpl.i\8082rll22.b\8082_PCBsec.M
Meth Date : 25-Nov-2002 08:50 Administra Quant Type: ESTD
Cal Date 22-NOV-2002 18:04 Cal File: E2980760.D
Als bottle 1
Dil Factor 10.00000
Integrator: Falcon Compound Sublist: PCB.sub
Target Version: 3.40 Sample Matrix: SOIL

Concentration Formula: $\text{Amt} * \text{DF} * ((\text{Vf} / \text{Ws}) * \text{Uf}) / \text{Ts} * 1000$

Name	Value	Description
DF	10.000	Dilution Factor
Vf	10.000	Final volume
Ws	10.462	Weight of sample extracted (g)
Uf	0.100	Unit Correction Factor
Ts	76.800	Total Solid

		CONCENTRATIONS					
		ON-COL	FINAL				
RT	EXP RT	DLT RT	RESPONSE (ug/L)	(ug/Kg)	TARGET RANGE	RATIO	
S 1 Tetrachloro-m-xylene CAS tt:							
7.963	7.980	-0.017	505480	52.5475	654.01		
S 29 Decachlorobiphenyl CAS tt:							
20.107	20.127	-0.020	371036	57.6579	717.61		

J)sg^mLle: /chem/hpl.i/S082rll22.b/E2980777.D
 I>^^K3-H0V-20C2 02:56
 Cl^^E ID; L97127-1
 Sample Info; L97127-1
 Volume Injected (uL): 2.0
 Column phase: RTX-CLPestieides 2

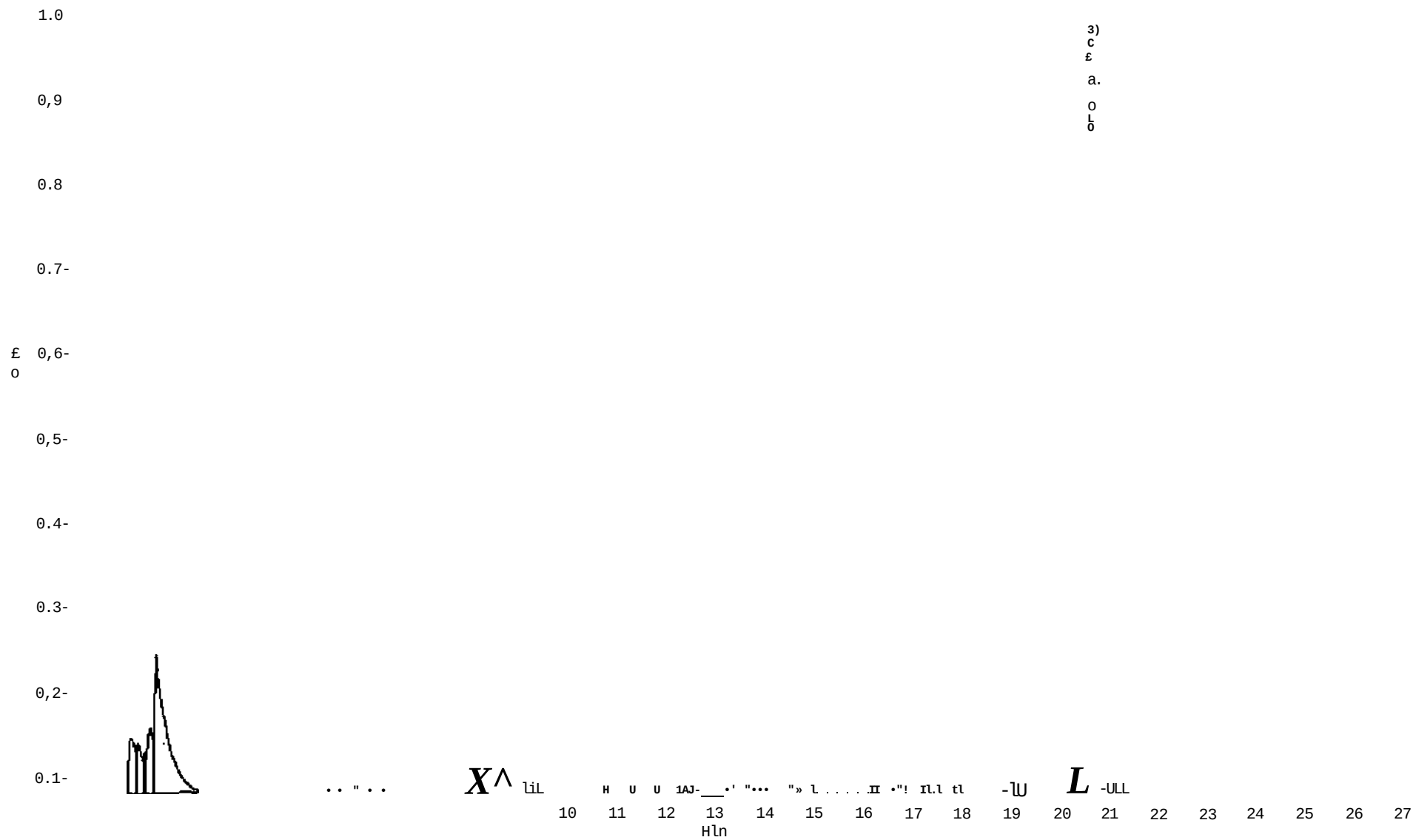


Instrument: hpl.i
 Operator: CPU
 Column diameter: 0.32

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/chem/hpl.i/8082rll22.b/E2980777.D



Thru-Put Systems, Inc.

Data file : \chem\hpl.i\8082rll22.b\E2980778.D
Lab Smp Id: L97127-2 Client Smp ID: L97127-2
Inj Date 23-NOV-2002 03:28
Operator CPW Inst ID: hpl.i
Smp Info L97127-2
Misc Info : WG33714,02-117
Comment
Method \chem\hpl.i\8082rll22.b\8082_PCBsec.M
Meth Date : 25-Nov-2002 08:50 Administra Quant Type: ESTD
Cal Date 22-NOV-2002 18:04 Cal File: E2980760.D
Als bottle 1
Dil Factor 10.00000
Integrator: Falcon Compound Sublist: PCB.sub
Target Version: 3.40 Sample Matrix: SOIL

Concentration Formula: $\text{Amt} * \text{DF} * ((\text{Vf} / \text{Ws}) * \text{Uf}) / \text{Ts} * 1000$

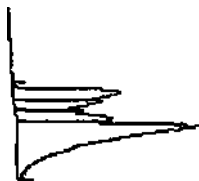
Name	Value	Description
DF	10.000	Dilution Factor
Vf	10.000	Final volume
Ws	10.549	Weight of sample extracted
Uf	0.100	Unit Correction Factor
Ts	78.300	Total Solid

CONCENTRATIONS

RT	EXP RT	DLT RT	ON-COL	FINAL	TARGET RANGE	RATIO
			RESPONSE (ug/L)	(ug/Kg)		
S	l	Tetrachloro-m-xylene		CAS ft:		
7.970	7.980	-0.010	4913B6	50.8767	615.96	
5	29	Decachlorobiphenyl		CAS #:		
20.110	20.127	-0.017	326694	49.9605	605.11	

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Tetrachloro-m-xylene <7.970)

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Deoachlorobiphenyl <20,110>^T



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« • Thru-Put Systems, Inc

Data file : \chem\hpl.i\8082rll22.b\E2980779.D
 Lab Smp Id: L97127-3 Client Smp ID: L97127-3
 Inj Date : 23-NOV-2002 03:59
 Operator CPW Inst ID: hpl.i
 Smp Info : L97127-3
 Misc Info : WG33714,02-117
 Comment :
 Method : \chem\hpl.i\8082rll22.b\8082_PCBsec.M
 Meth Date : 25-NOV-2002 08:50 Administra Quant Type: ESTD
 Cal Date : 22-NOV-2002 18:04 Cal File: E2980760.D
 Als bottle: 1
 Dil Factor: 10.00000
 Integrator: Falcon
 Target Version: 3.40
 Compound Sublist: PCB.sub
 Sample Matrix: SOIL

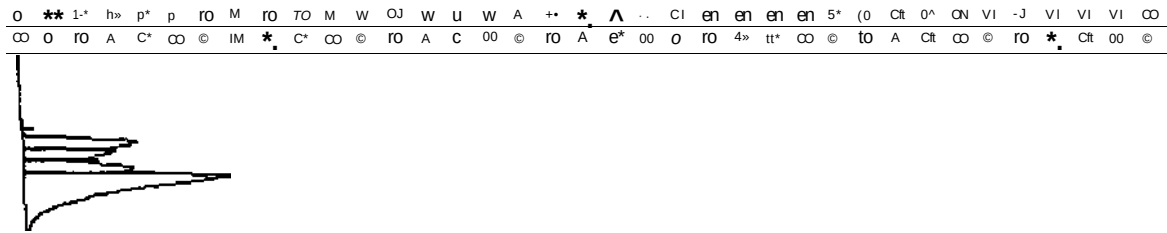
Concentration Formula: $Amt * DF * ((Vf / Ws) * Uf) / Ts * 1000$

Name	Value	Description
DF	10.000	Dilution Factor
Vf	10.000	Final volume
Ws	10.339	Weight of sample extracted (g)
Uf	0.100	Unit Correction Factor
Ts	90.500	Total Solid

CONCENTRATIONS

RT	EXP RT	DLT RT	ON-COL	FINAL	TARGET RANGE	RATIO
			RESPONSE (ug/L)	(ug/Kg)		
S 1						CAS <;
7.973	7.980	-0.007	4443B9	45.3052	4B4.20	
S 29						CAS #:
20.110	20.127	-0.017	289439	43.5305	465.24	

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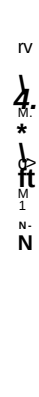
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Friend Inc.

Data File: /chem/hpl.i/8082rll22.b/E2980779.D

Method: /chem/hpl.i/8082rll22.b/8082_PCBsec.M

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Sample Info: L97127-3

Misc Info: WG33714,02-117

Analysis Date: 23-NOV-2002 03:59

Sample Matrix: SOIL

File Number: 0779

Dilution Factor 10.0000

Sample Weight 10.3388

Final Volume 10.0000

Total Solid 90.5000

Analytes (ug/Kg)

Aroclor-1016	0.00
Aroclor-1221	0.00
Aroclor-1232	0.00
Aroclor-1242	0.00
Aroclor-1254	0.00
Aroclor-1260	0.00
Aroclor-1248	0.00
Tetrachloro-m-xylene	90.61%
Decachlorobiphenyl	87.06%

Analyst: CPW

Report Date: 11/25/2002 09:06

Supervisor: _____ ^ / % X / .

Date: _____ / AV&fcL

ID
PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO

L97127-4

Lab Name: Contract: L97127-4

Lab Code: Case No.: SAS No.: SDG No.: AAA1121

Matrix: (soil/water) SOIL Lab Sample ID: L97127-4

Sample wt/vol: 10.4 (g/mL) G Lab File ID: E2980837

% Moisture: -& il. *? decanted: (Y/N) N Date Received: 11/21/2

Extraction: (SepF/Cont/Sonc) SONC Date Extracted: 11/22/2

Concentrated Extract Volume: jOOOQ (up Date Analyzed: 11/26/2

Injection Volume: 2.0(uL) Dilution Factor: 10.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
12674-11-2	-Aroclor-1016	110 ~~0.11~~	
1104-28-2	-Aroclor-1221"	220 0.22	
11141-16-5	-Aroclor-1232"	110 0.11	
53469-21-9	-Aroclor-1242"	110 ~~0.11~~	
11097-69-1	-Aroclor-1254"	483.59	
11096-82-5	-Aroclor-1260"	110 ~~0.11~~	
	-Aroclor-1248"	110 ~~0.11~~	
		QAR	
		3/31/03	

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Data file      \chem\hpl.i\8082rll22.b\E2980837.D.
Lab Smp Id    L97127-4                      Client Smp ID: L97127-4
Inj Date      26-NOV-2002 14:08
Operator
Smp Info      CPW                          Inst ID: hpl.i
Misc Info     L97127-4
Comment       1*033714_02-117
Method        \chem\hpl.i\8082rll22.b\8082_PCBsec.M
Meth Date     27-Nov-2002 08:38 Administra Quant Type: ESTD
Cal Date      22-NOV-2002 18:04           Cal File: E2980760.D
Als bottle    1
Dil Factor    10.00000
Integrator:   Falcon                      Compound Sublist: PCB.sub
Target Version: 3.40                      Sample Matrix: SOIL
Processing Host: TARGET3

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Name	Value	Description
DF	10.000	Dilution Factor
Vf	10.000	Final volume
Ws	10.358	Weight of sample extracted (g)
Uf	0.100	Unit Correction Factor
Ts	88.100	Total Solid

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	RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS		TARGET RANGE	RATIO	"	\	**	4 I*	V *	%
					ON-COL (Ug/L)	PINAL (ug/Kg)								
S 1 Tetrachloro-m-xylene	7.960	7.957	0.003	574648	60.7474	CAS #-. 665.68								
S 29 Decachlorobiphenyl	20.100	20.110	-0.010	467013	74.2744	CAS #** 813.91								
25 Aroclor-1254	13.263'	13.260	0.003	38380	77.5375	CAS #: 11097-69-1 B49.67	80.00-	120.00	100.00(H)					
	13.650	13.650	0.000	28973	65.2265	714.77	70.58-	110.58	75.49					
	14.917	14.920	-0.003	16487	39.7550	435.64	50.45-	90.45	42.96					
	15.327	15.333	-0.006	13324	21.2843	233.24	62.38-	102.38	34.72					
	16.000	16.020	-0.020	10537	16.8498	184.64	115.83-	155.83	27.45					I* n fl
Average of Peak Concentrations =					483.59					*	-v^U*			

[illegible]
$$\mathbf{0} \wedge \mathbf{3} \quad \wedge^{\mathbf{V}}$$

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Data File: \chem\hpl.i\8082rll22.b\E2980837.D
Report Date: 27-Nov-2002 09:03

^P^C Flag Legend

H - Operator selected an alternate compound hit.



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Friend Inc.

Data File: /chem/hpl.i/8082rll22.b/E2980837.D
Method: /chem/hpl.i/8082rll22.b/8082_PCBsec
Sample Info: L97127-4
Misc Info: WG33714/02-117
Analysis Date: 26-NOV-2002 14:08
Sample Matrix: SOIL
File Number: 0837

Dilution Factor	10.0000
Sample Weight	10.3582
Final Volume	10.0000
Total Solid	88.1000

Analytes (ug/Kg)

Aroclor-1016	0.00
Aroclor-1221	0.00
Aroclor-1232	0.00
Aroclor-1242	0.00
Aroclor-1254	483.59
Aroclor-1260	0.00
Aroclor-1248	0.00
Tetrachloro-m-xylene	121.49%
Decachlorobiphenyl	148.55%

Analyst: CPW
Report Date: 11/27/2002 09:03

Supervisor:
Date: '

/

Thru-Put Systems, Inc.

Data file \chem\hp3.i\1254FCONFIRMVa.b\E3956869.D
Lab Smp Id L97127-4 Client Smp ID: L97127-4
Inj Date 26-NOV-2002 11:25
Operator CPW Inst ID: hp3.i
Smp Info L97127-4
Misc Info CONFIRMATION
Comment
Method \chem\hp3.i\1254FCONFIRMVa.b\8082_PCBsec.M
Meth Date 26-Nov-2002 14:20 Administra Quant Type: ESTD
Cal Date 26-NOV-2002 10:54 Cal File: E3956868.D
Als bottle 1
Dil Factor 10.00000
Integrator Falcon
Target Version: 3.40
Processing Host: TARGET3
Compound Sublist: 1254.sub
Sample Matrix: SOIL

Concentration Formula: $\text{Amt} * \text{DF} * ((\text{Vf} / \text{Ws}) * \text{Uf}) / \text{Ts} * 1000$

Name	Value	Description
DF	10.000	Dilution Factor
Vf	10.000	Final volume
Ws	10.358	Weight of sample extracted (g)
Uf	0.100	Unit Correction Factor
Ts	88.100	Total Solid

			CONCENTRATIONS					
RT	EXP RT	DLT RT	RESPONSE	ON-COL (ug/L)	FINAL (ug/Kg)	TARGET	RANGE	RATIO
<<*			=====	= „ » „ M	- - - - -			== . . .
\$ 1	Tetrachloro-m-xylene				CAS tt:			
8,577	6.597	-0.020	1529743	45.3757	497.24			
25 Aroclor-1254					CAS #: 11097-69-1			
14.493	14.490	0.003	18051	19.4757	213.42	80.00-	120.00	100.00(M
14.737	14.730	0.007	67245	45.9409	503.43	138.90-	178.90	372.53
15.100	15.093	0.007	33022	47.1000	516.13	58.39-	98.39	182.94
15.280	15.273	0.007	17986	16.9191	185.40	98.45-	138.45	99.64
15.647	15.640	0.007	40031	34.5198	378.28	106.65-	146.65	221.77
Average of Peak Concentrations •					359.33			
\$ 29	Decachlorobiphenyl				CAS »-			
20.100	20.097	0.003	995859	63.4277	695.05			

Data File: \chem\hp3.i\12 54CONFIRMVa.b\E3 95 686 9.D
Report Date: 02-Dec-2002 08:39

^^QC Flag Legend

M - Compound response manually integrated.

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Fraxend Inc.

Data File: /chem/hp3.i/1254FC0NFIRMVa.b/E3956869.D
Method: /chem/hp3.i/1254FC0NFIRMVa.b/8082_PCBsec.M
Sample Info: L97127-4
Misc Info: CONFIRMATION
Analysis Date: 26-NOV-2002 11:25
Sample Matrix: SOIL
File Number: 6869

Dilution Factor	10.0000
Sample Weight	10.3582
Final Volume	10.0000
Total Solid	88.1000

Analytes (ug/Kg)

Aroclor-1254	359.33
Tetrachloro-m-xylene	90.75%
Decachlorobiphenyl	126.86%

Analyst: CPW
Report Date: 12/02/2002 08:39

Supervisor:
Date:



Tetrachloro-m-xylene (7.957>)

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Decachlorobiphenyl C20.107>

OC033

Friend Inc.

Data File: /chem/hpl.i/8082rll22.b/E2980781.D
Method: /chem/hpl.i/8082rll22.b/8082_PCBsec.M
Sample Info: L97127-5
Misc Info: WG33714,02-117
Analysis Date: 23-NOV-2002 05:01
Sample Matrix: SOIL
File Number: 0781

Dilution Factor	10.0000
Sample Weight	10.1284
Final Volume	10.0000
Total Solid	88.7000

Analytes (ug/Kg)

Aroclor-1016	0.00
Aroclor-1221	0.00
Aroclor-1232	0.00
Aroclor-1242	0.00
Aroclor-1254	0.00
Aroclor-1260	0.00
Aroclor-1248	0.00
Tetrachloro-m-xylene	95.26%
Decachlorobiphenyl	114.37%

Analyst: CPW
Report Date: 11/25/2002 09:07

Supervisor: /
Date:

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PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

L97127-6

Name:

Contract:

Code:

Case No. :

SAS No. :

SDG No.: AAA1121

Matrix: (soil/water) SOIL

Lab Sample ID: L97127-6

Sample wt/vol: 10.2 (g/mL) G

Lab File ID: E2980784

% Moisture: -QrZ^S decanted: (Y/N) N
(Hxf^ 3151103

Date Received: 11/21/2

Extraction: (SepF/Cont/Sonc) SONC

Date Extracted: 11/22/2

Concentrated Extract Volume: /QbOO (uL)

Date Analyzed: 11/23/2

Injection Volume: 2.0(uL)

Dilution Factor: 10.0

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

Sulfur Cleanup: (Y/N) N

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

CAS NO.

COMPOUND

Q

12674-11-2	-Aroclor- 1016
1104-28-2	-Aroclor- 1221"
11141-16-5	-Aroclor- 1232"
53469-21-9	-Aroclor- 1242"
11097-69-1	-Aroclor- 1254'
11096-82-5	-Aroclor- 1260"
	-Aroclor- 1248"

130	0.13	U
260	0.26	U
130	0.13	U
130	0.13	U
130	119.81	4
130	0.13	U
130	0.13	U
ear		
3/31/03		

Thru-Put Systems, Inc.

Data file : \chem\hpl.i\8082rll22.b\E2980784.D
Lab Smp Id: L97127-6 Client Smp ID: L97127-6
Inj Date : 23-NOV-2002 06:35
Operator : CPW Inst ID: hpl.i
Smp Info : L97127-6
Misc Info : WG33714,02-117
Comment :
Method : \chem\hpl.i\8082rll22.b\8082_PCBsec.M
Meth Date : 25-Nov-2002 08:50 Administra Quant Type: ESTD
Cal Date : 22-NOV-2002 18:04 Cal File: E2980760.D
Als bottle: 1
Dil Factor: 10.00000
Integrator: Falcon Compound Sublist: PCB.sub
Target Version: 3.40 Sample Matrix: SOIL

Concentration Formula: $\text{Amt} * \text{DF} * ((\text{Vf} / \text{Ws}) * \text{Uf}) / \text{Ts} * 1000$

Name	Value	Description
DF	10.000	Dilution Factor
Vf	10.000	Final volume
Ws	10.191	Weight of sample extracted
Uf	0.100	Unit Correction Factor
Ts	76.500	Total Solid

		CONCENTRATIONS					
		ON-COL	FINAL				
RT	EXP RT DLT RT	RESPONSE (ug/L)	fug/Kg)	TARGET	RANGE	RATIO	
S 1 Tetrachloro-m-xylene CAS #:							
7.957	7.980 -0.023	499139	51.7958	664.40			
S 29 Decachlorobiphenyl CAS «:							
20.103	20.127 -0.024	383378	59.7944	767.00			
25 Aroclor-1254 CAS tt:11097-69-1							
13.260	13.263 -0.003	5458		80.00-	120.00	100.00(M)	
13.647	13.657 -0.010	4441		56.30-	96.30	81.37	
14.917	14.927 -0.010	3508		44.43-	84.43	64.27	
15.330	15.347 -0.017	371B		63.85-	103.85	68.12	
16.013	16.043 -0.030	6299	9 34027	119 ei	73.96-	113.96	115.41
Average of Peak Concentrations •				119	BL		

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lag Legend

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M - Compound response manually integrated.

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Pa^^Hle: /chem/hpl. i/S0S2rll22.ti/E2930784.D
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 late : 23-NOV-2002 06:35
 (nt IB; L97127-6
 le Info; L97127-6
 Volume Injected (ul_>: 2,0
 Column phase: RTX-CLFesticides 2



Instrument; hpl.i

Operator* CPU

Column diameter* 0,32

/chem/hpl.i/8082r!122.b/E29S0734.D

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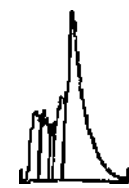
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Thru-Put Systems, Inc

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Data file ; \chem\hpl.i\8082rll22.b\E2980785.D
Lab Smp Id; L97127-7 Client Smp ID: L97127-7
Inj Date 23-NOV-2002 07:06
Operator CPW Inst ID: hpl.i
Smp Info L97127-7
Misc Info WG33714,02-117
Comment
Method \chem\hpl.i\8082rll22.b\8082_PCBsec.M
Meth Date 25-Nov-2002 08:50 Administra Quant Type: ESTD
Cal Date 22-NOV-2002 18:04 Cal File: E2980760.D
Als bottle 1
Dil Factor 10.00000
Integrator: Falcon Compound Sublist: PCB.sub
Target Version: 3.40 Sample Matrix: SOIL

Concentration Formula: $\text{Amt} * \text{DF} * f(\text{Vf} / \text{Ws}) * \text{Uf} / \text{Ts} * 1000$

Name	Value	Description
DF	10.000	Dilution Factor
Vf	10.000	Final volume
Ws	10.099	Weight of sample extracted fgj
Uf	0.100	Unit Correction Factor
Ts	85.500	Total Solid

		CONCENTRATIONS			
		ON-COL	FINAL		
RT	EXP RT DLT RT	RESPONSE { ug/L)	(ug/Kg)	TARGET RANGE	RATIO

\$	1	Tetrachloro-m-xylene	CAS #:
7.957	7.980	-0.023	527809 SS.1946 639.21

S	29	Decachlorobiphenyl	CAS 8:
20.103	20.127	-0.024	38556S 60.1730 696.87

D^^K-HOV-2002 07*06

CHJBWD: L97127-7

Sample Info: L97127-7

Volume Injected (uL) 2.0

Column phase: RTX-CLPesticides 2

Instrument: hpl.i

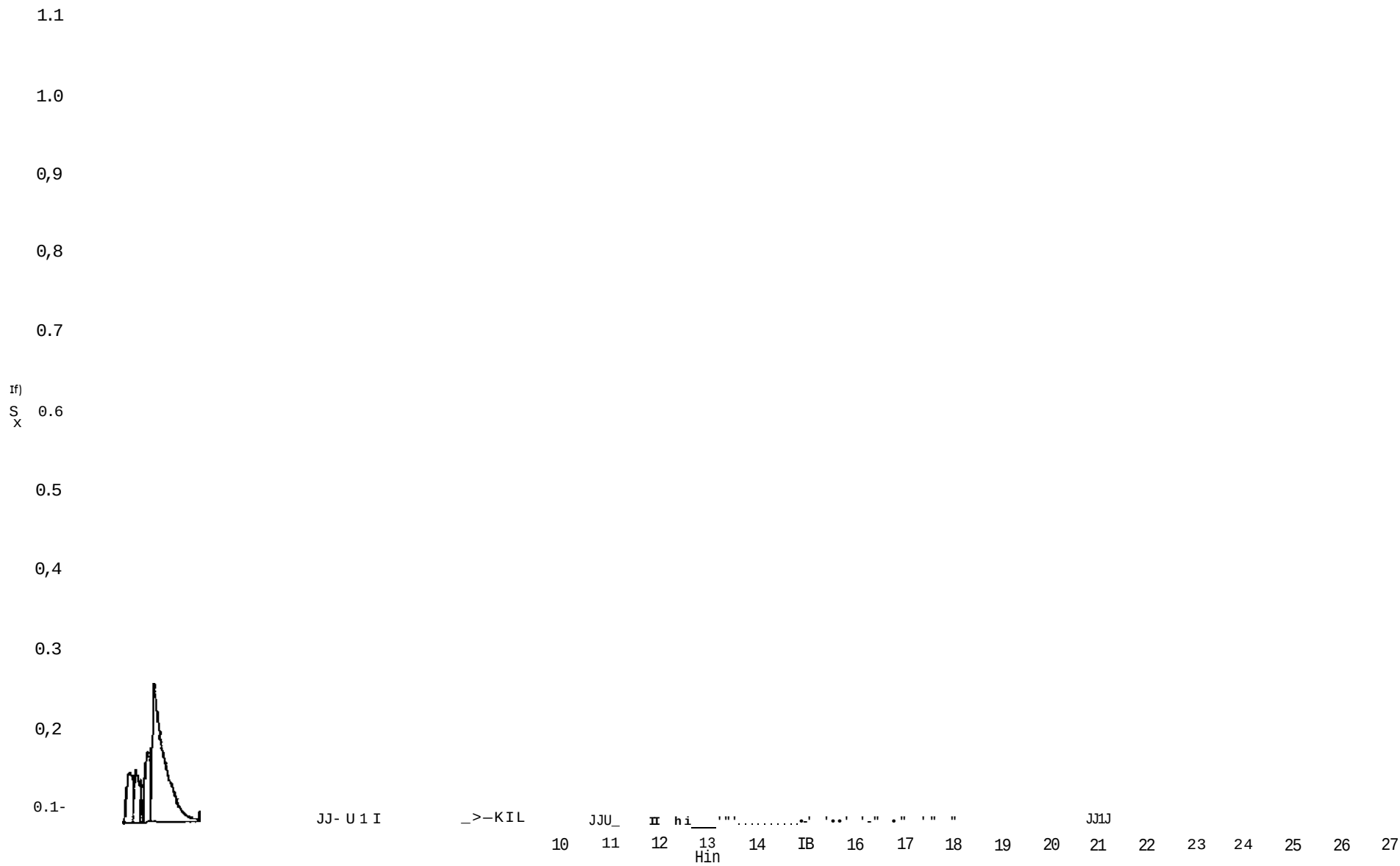
Operator: CPU

Column diameter; 0.32

Page

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/chem/hpl,i/8082rll22.b/E2980785.D



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Thru-Put Systems, Inc

Data file : \chem\hpl.i\8082rll22.b\E2980815.D
Lab Smp Id: L97224-1 Client Smp ID: L97224-1
Inj Date 26-NOV-2002 01:24
Operator CPW Inst ID: hpl.i
Smp Info : L97224-1
Misc Info : WG33733,02-117
Comment
Method \chem\hpl.i\8082rll22.b\8082_PCBsec.M
Meth Date : 26-Nov-2002 14:11 Administra Quant Type: ESTD
Cal Date 22-NOV-2002 18:04 Cal File: E2980760.D
Als bottle: 1
Dil Factor 10.00000
Integrator Falcon
Target Version: 3.40
Processing Host: TARGET3
Compound Sublist: PCB.sub
Sample Matrix: SOIL

Concentration Formula: $\text{Amt} * \text{DF} * ((\text{Vf} / \text{Ws}) * \text{Uf}) / \text{Ts} * 1000$

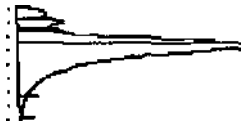
Name	Value	Description
DF	10.000	Dilution Factor
Vf	10.000	Final volume
Ws	10.052	Weight of sample extracted
Uf	0.100	Unit Correction Factor
Ts	82.100	Total Solid

		CONCENTRATIONS							
		ON-COL	FINAL						
RT	EXP RT	DLT RT	RESPONSE (ug/L)	(ug/Kg)	TARGET	RANGE	RATIO		
S 1 TeCrachloro-m-xylene CAS ft:									
7.947	7.957	-0.010	619665	66.0S41	800.77				
S 29 Decachlorobiphenyl CAS #:									
20.097	20.110	-0.013	512086	82.07B0	994.5B	(RM)			

QC Flag Legend

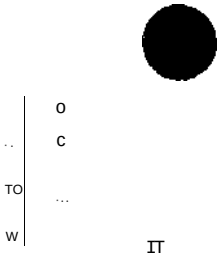
R - Spike/Surrogate failed recovery limits.
M - Compound response manually integrated.

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Tetrachloro-m-xylene <?,947)



Decachlorobiphenyl <20,097>^I

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Thru-Put Systems, Inc.

Data file \chem\hpl.i\8082rll22,b\E2980816.D
Lab Smp Id L97224-2 Client Smp ID: L97224-2
Inj Date 26-NOV-2002 01:55
Operator CPW Inst ID: hpl.i
Smp Info L97224-2
Misc Info WG33733,02-117
Comment
Method \chem\hpl.i\8082rll22.b\8082_PCBsec.M
Meth Date 26-Nov-2002 14:11 Administra Quant Type: ESTD
Cal Date 22-NOV-2002 18:04 Cal File: E2980760.D
Als bottle 1
Dil Factor 10.00000
Integrator Falcon Compound Sublist: PCB.sub
Target Version: 3.40 Sample Matrix: SOIL
Processing Host: TARGET3

Concentration Formula: $\text{Amt} * \text{DF} * ((\text{Vf} / \text{Ws}) * \text{Uf}) / \text{Ts} * 1000$

Name	Value	Description
DF	10.000	Dilution Factor
Vf	10.000	Final volume
Ws	10.315	Weight of sample extracted
Uf	0.100	Unit Correction Factor
Ts	76.600	Total Solid

CONCENTRATIONS

RT	EXP RT	DLT RT	ON-COL.	FINAL	RESPONSE (ug/L)	(ug/Kg)	TARGET RANGE	RATIO
S	1	Tetrachloro-m-xylene		CAS ft:				
7.947	7.957	-0.010	600621	63.8265	807.77			
S	29	Decachlorobiphenyl		CAS ft:				
20.097	20.110	-0.013	51359B	32.3397	1042.07	(RM)		

QC Flag Legend

R - Spike/Surrogate failed recovery limits.
M - Compound response manually integrated.

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File: /chem/hpl.i/8082rll22.b/E2<>30816.D
11-26-NOV-2002 01:55
CITWE ID: L97224-2
Sample Info: L97224-2
Volume Injected : 2.0
Column phase: RTX-CLPesticides 2

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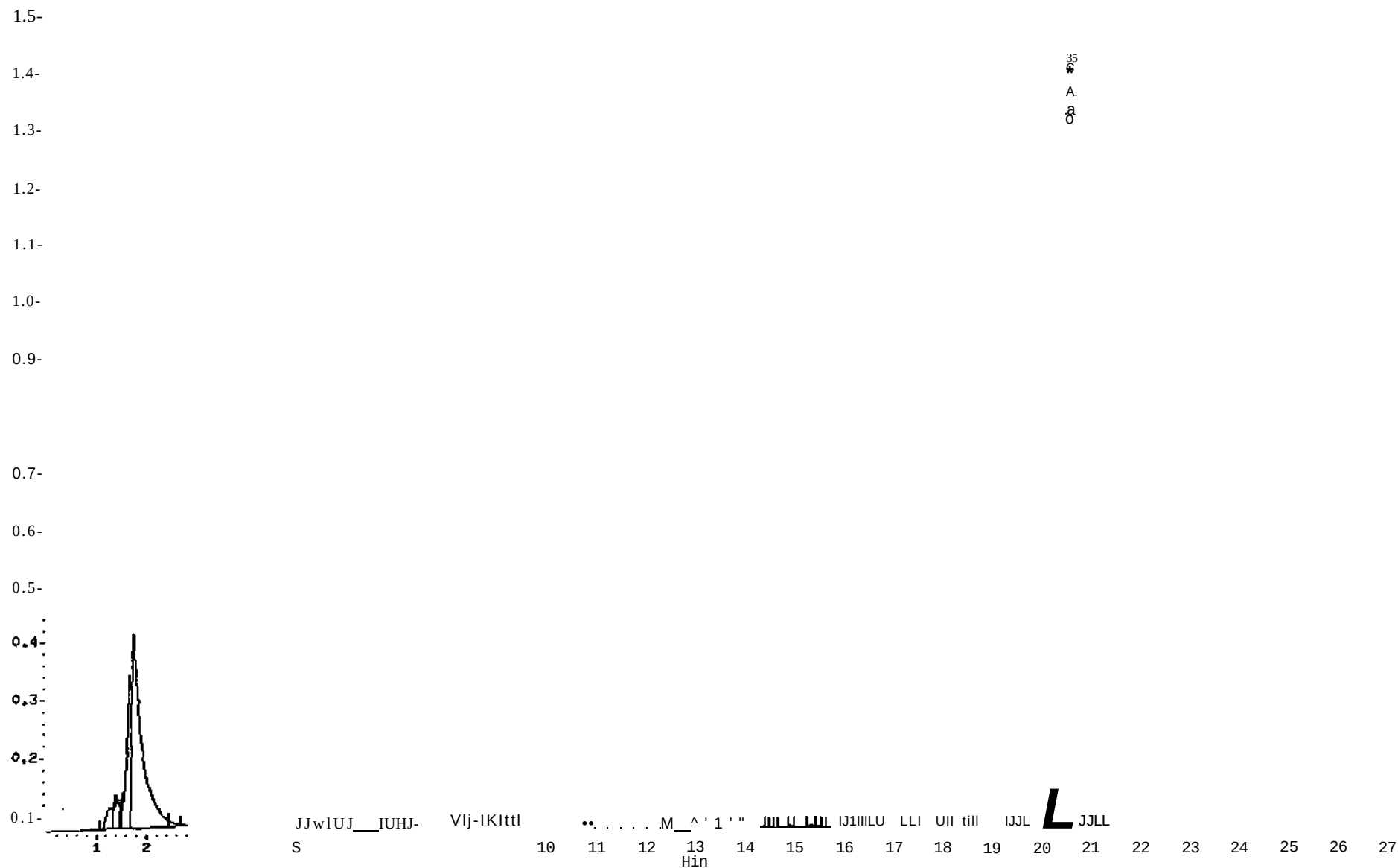
Instrument: hpl.i

Operator: CPW

Column diameter; 0.3'j

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/chem/hpl.i/8082rll22.b/E2980316.D



Thru-Put Systems, Inc.

Data file : \chem\hpl.i\8082rll22.b\E2980817.D
Lab Smp Id: L97224-3 Client Smp ID: L97224-3
Inj Date : 26-NOV-2002 02:27
Operator CPW Inst ID: hpl.i
Smp Info L97224-3
Misc Info : WG33733/02-117
Comment
Method \chem\hpl.i\8082rll22.b\8082_PCBsec.M
Meth Date 26-Nov-2002 14:11 Administra Quant Type: ESTD
Cal Date 22-NOV-2002 18:04 Cal File: E2980760.D
Als bottle 1
Dil Factor 10.00000
Integrator: Falcon Compound Sublist: PCB.sub
Target Version: 3.40 Sample Matrix: SOIL
Processing Host: TARGET3

Concentration Formula: $\text{Amt} * \text{DF} * ((\text{Vf} / \text{Ws}) * \text{Uf}) / \text{Ts} * 1000$

Name	Value	Description
DF	10.000	Dilution Factor
Vf	10.000	Final volume
Ws	10.362	Weight of sample extracted
Uf	0.100	Unit Correction Factor
Ts	66.700	Total Solid

		CONCENTRATIONS					
		ON-COL	FINAL				
RT	EXP RT	DLT RT	RESPONSE (ug/L)	(ug/Kg)	TARGET RANGE	RATIO	
CAS tt:							
\$ 1	Tetrachloro-m-xylene						
7.947	7.957	-0.010	599045	63.6396	920.79		
CAS »:							
S 29	Decachlorobiphenyl						
20.093	20.110	-0.017	500796	80.1233	1159.29	(RM)	

QC Flag Legend

R - Spike/Surrogate failed recovery limits.
M - Compound response manually integrated.

|i 1e: /chem/hpl.i/8032rll22.b/E2980817.D

^2S-H0V-200E 02:27

e l m ID: L97224-3

Sample Info: L97224-3

Volume Injected : 2.0

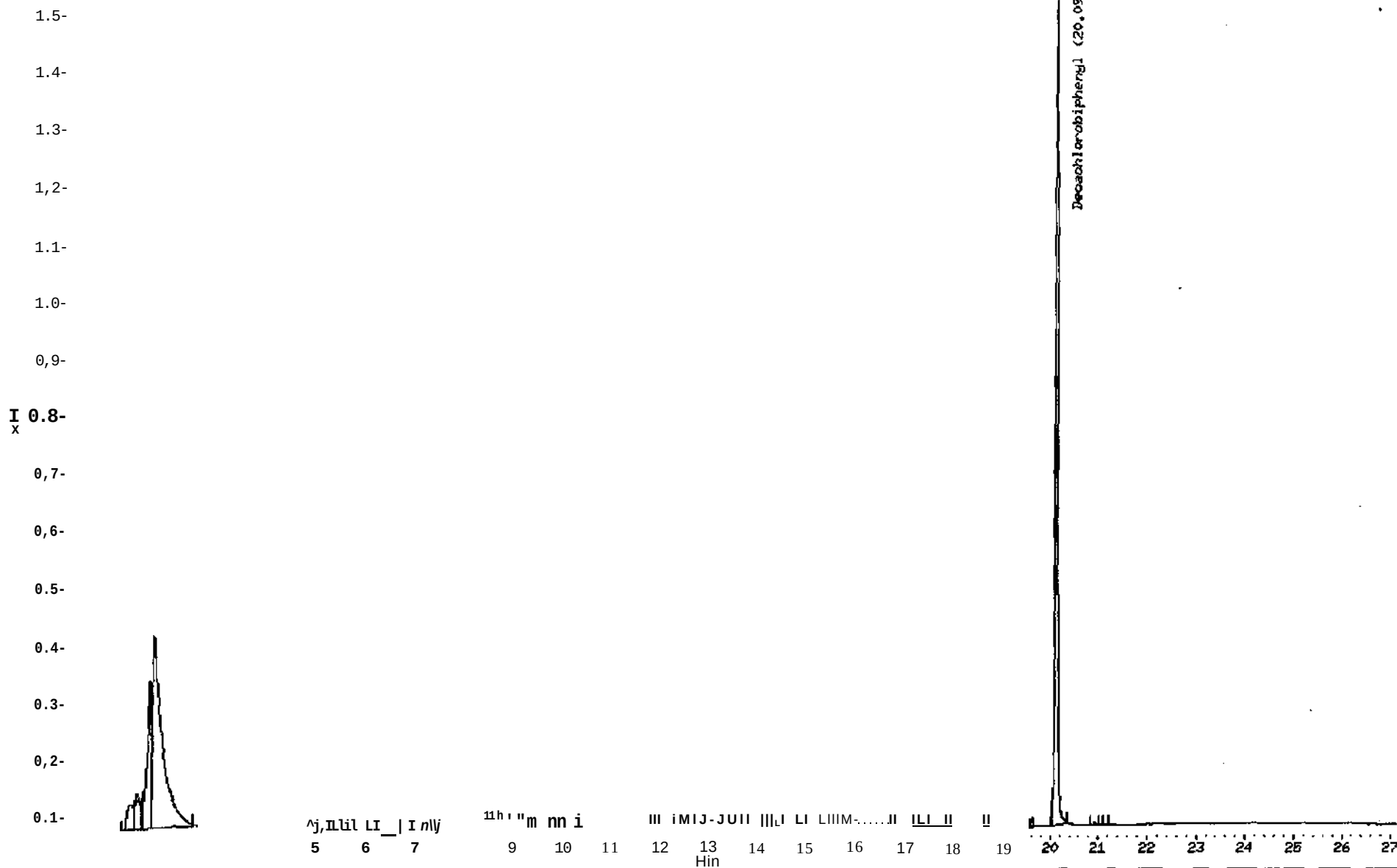
Column phase: RTS-CLPesticides 2

Instrument: hpl.i

Operator: CPW

Column diameter: 0.32

/ohem/hpl.i/8082rll22.b/E2980817.D



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Thru-Put Systems, Inc

Data file : \chem\hpl.i\8082rll22.b\E2980818.D
Lab Smp Id: L97224-4 Client Smp ID: L97224-4
Inj Date 26-NOV-2002 02:58
Operator CPW Inst ID: hpl.i
Smp Info L97224-4
Misc Info : WG33733,02-117
Comment
Method \chem\hpl.i\8082rll22.b\8082_PCBsec.M
Meth Date 26-Nov-2002 14:11 Administra Quant Type: ESTD
Cal Date 22-NOV-2002 18:04 Cal File: E2980760.D
Als bottle 1
Dil Factor 10.00000
Integrator: Falcon Compound Sublist: PCB.sub
Target Version: 3.40 Sample Matrix: SOIL
Processing Host: TARGET3

Concentration Formula: $\text{Amt} * \text{DF} * ((\text{Vf} / \text{Ws}) * \text{Uf}) / \text{Ts} * 1000$

Name	Value	Description
DF	10.000	Dilution Factor -
Vf	10.000	Final volume
Ws	10.274	Weight of sample extracted
Uf	0.100	Unit Correction Factor
Ts	71.800	Total Solid

		CONCENTRATIONS					
		ON-COL	FINAL				
RT	EXP RT	DLT RT	RESPONSE (ug/L)	(ug/Kg)	TARGET RANGE	RATIO	
S	1	Tetrachloro-m-xylene	CAS #:				
7.947	7.957	-0.010	599193	63.6572	862.95		
S	29	Decachlorobiphenyl	CAS #				
20.097	20.110	-0.013	503140	80.5291	1091.67	(RM)	

QC Flag Legend

R - Spike/Surrogate failed recovery limits.
M - Compound response manually integrated.

File: /chem/hpl,i/S082r1122.b/E2980818.D
 26-NOV-2002 02:58
 crWTC- ID: L97224-4
 Sample Infot L97224-4
 Volume Injected : 2,0
 Column phase: RTX-CLPesticides 2

Instrument: hpl.i

Operator! CPU

Column diameter: 0,32

/chem/hpl.i/8082r1122.b/E2930818.D

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Thru-Put Systems, Inc

Data file : \chem\hpl.i\8082rll22.b\E2980819.D
Lab Smp Id: L97224-5 Client Smp ID: L97224-5
Inj Date : 26-NOV-2002 03:29
Operator CPW Inst ID: hpl.i
Smp Info L97224-5
Misc Info WG33733,02-117
Comment
Method \chem\hpl.i\8082rll22.b\8082_PCBsec.M
Meth Date 26-Nov-2002 14:11 Administra Quant Type: ESTD
Cal Date 22-NOV-2002 18:04 Cal File: E2980760.D
Als bottle 1
Dil Factor 10.00000
Integrator: Falcon Compound Sublist: PCB.sub
Target Version: 3.40 Sample Matrix: SOIL
Processing Host: TARGET3

Concentration Formula: $\text{Amt} * \text{DF} * ((\text{Vf} / \text{Ws}) * \text{Uf}) / \text{Ts} * 1000$

Name	Value	Description
DF	10.000	Dilution Factor
Vf	10.000	Final volume
WS	10.240	Weight of sample extracted
uf	0.100	Unit Correction Factor
Ts	77.500	Total Solid

		CONCENTRATIONS					
		ON-COL	FINAL				
RT	EXP RT	DLT RT	RESPONSE (Ug/L)	(ug/Kg)	TARGET RANGE	RATIO	
S l Tetrachloro-m-xylene CAS n							
7.947	7.957	-0.010	620463	56.1787	333.91		
\$ 29 Decachlorobiphenyl CAS #:							
20.093	20.110	-0.017	512575	82.1626	1035.32	(RM)	

QC Flag Legend

R - Spike/Surrogate failed recovery limits.
M - Compound response manually integrated.

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Da^^We: /chert/hpl, i/30S2rll22, b/ES^S0S1?, I'
oi^^He-NOV-2002 03*29
Cli^^lD; L97224-5
Sample Info: L97224-5
Volume Injected : 2.0
Column phase: RTX-CLPssticides 2



Instrument; hpl.i

Operator: CPU

Column diameter: 0.32

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1.4-

1*3-

1.2-:

1.1-

1.0-

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0.7-

0,6-

0.5-

0,4-

0.3^

0.2-

0.1-

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20 21 22 23 24 25 26 27

Thru-Put Systems, Inc.

Data file : \chem\hpl.i\8082rll22.b\E2980820.D
Lab Smp Id: L97224-6 Client Smp ID: L97224-6
Inj Date 26-NOV-2002 04:00
Operator CPW Inst ID: hpl.i
Smp Info L97224-6
Misc Info : WG33733,02-117
Comment
Method \chem\hpl.i\8082rll22.b\8082_PCBsec.M
Meth Date . 26-Nov-2002 14:11 Administra Quant Type: ESTD
Cal Date 22-NOV-2002 18:04 Cal File: E2980760.D
Als bottle 1
Dil Factor 10.00000
Integrator: Falcon Compound Sublist: PCB.sub
Target Version: 3.40 Sample Matrix: SOIL
Processing Host: TARGET3

Concentration Formula: $\text{Amt} * \text{DF} * ((\text{Vf} / \text{Ws}) * \text{Uf}) / \text{Ts} * 1000$

Name	Value	Description
DF	10.000	Dilution Factor
Vf	10.000	Final volume
Ws	10.473	Weight of sample extracted <g>
Uf	0.100	Unit Correction Factor
Ts	77.300	Total Solid

		CONCENTRATIONS				
		ON-COL	FINAL			
RT	EXP RT	DLT RT	RESPONSE (ug/L)	(ug/Kg)	TARGET RANGE	RATIO
\$ 1	Tetrachloro-m-xylene		CAS #:			
7.947	7.957	-0-010	577220	61.0523	754.13	
\$ 29	Decachlorobiphenyl		CAS tt:			
20.097	20.110	-0-013	472154	75.1644	928.45	(RM)

QC Flag Legend

R - Spike/Surrogate failed recovery limits.
M - Compound response manually integrated.

^^^ file chem/hpl.i/8032rll22.b/E2930320.D

^^ B : 26-NQV-2002 04;00

^ K n t ID: L97224-6

Sample Info; L97224-6

Volume Injected : 2.0

Column phase: RTX-CLPesticides 2

Instrument: hpl.i

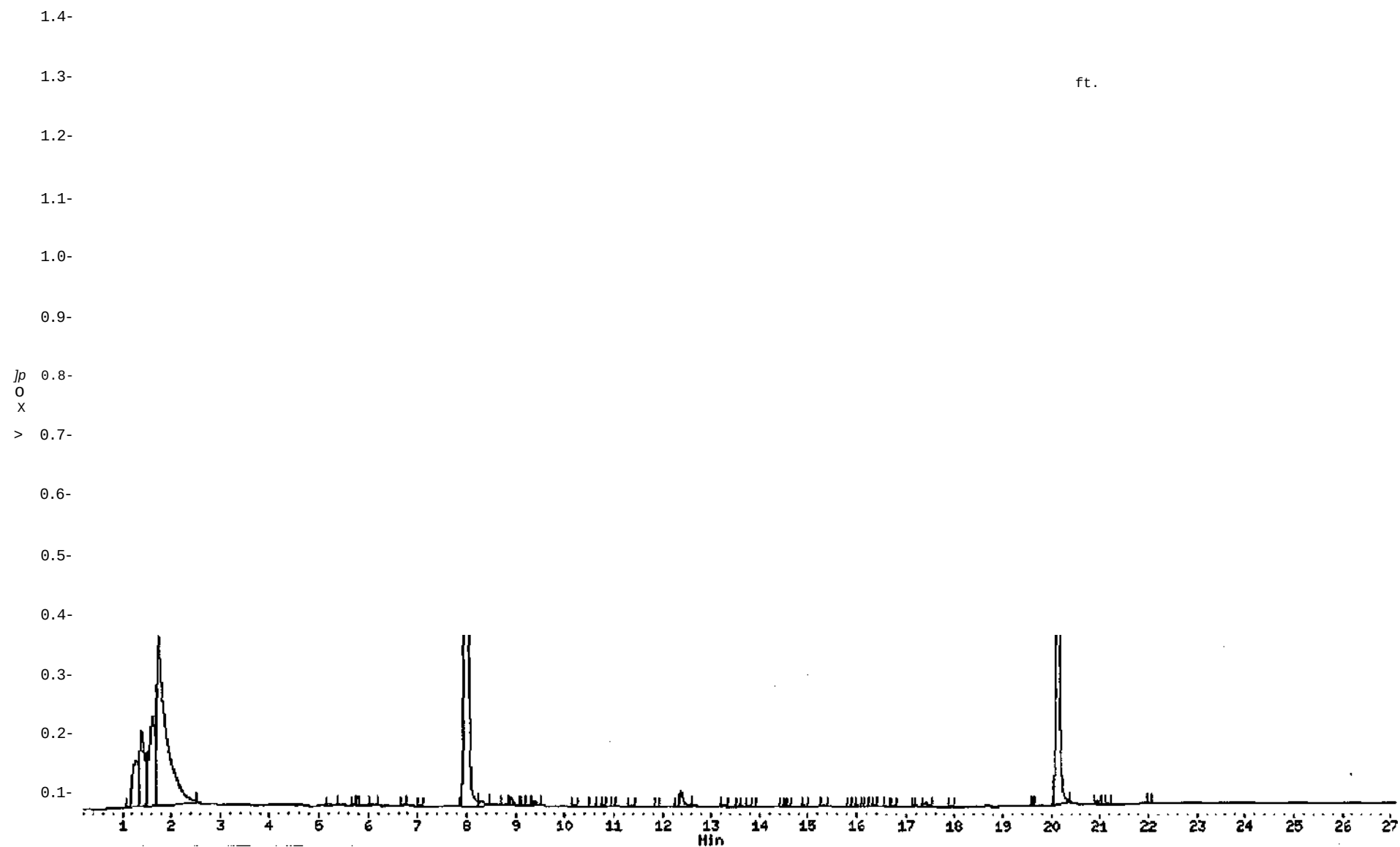
Operator: CPU

Column diameter; 0.32

Page*1

A;hem/hpl.i/S0S2rll22,b,'E2930320.D

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Thru-Put Systems, Inc.

Data file \chem\hpl.i\8082rll22.b\E2980823.D
Lab Smp Id L97224-7 Client Smp ID: L97224-7
Inj Date 26-NOV-2002 05:34
Operator CPW Inst ID: hpl.i
Smp Info L97224-7
Misc Info WG33733,02-117
Comment
Method \chem\hpl.i\8082rll22.b\8082_PCBsec.M
Meth Date 26-Nov-2002 14:11 Administra Quant Type: ESTD
Cal Date 22-NOV-2002 18:04 Cal File: E2980760.D
Als bottle 1
Dil Factor 10.00000
Integrator Falcon Compound Sublist: PCB.sub
Target Version: 3.40 Sample Matrix: SOIL
Processing Host: TARGET3

Concentration Formula: $\text{Amt} * \text{DF} * ((\text{Vf} / \text{Ws}) * \text{Uf}) / \text{Ts} * 1000$

Name	Value	Description
DF	10.000	Dilution Factor
Vf	10.000	Final volume
Ws	10.243	Weight of sample extracted (g)
Uf	0.100	Unit Correction Factor
Ts	77.700	Total Solid

CONCENTRATIONS

RT	EXP RT	DLT RT	ON-COL	FINAL	RESPONSE (ug/L)	(ug/Kg)	TARGET RANGE	RATIO
\$	1	Tetrachloro-m-xylene		CAS #:				
7.957	7.957	0.000	491138	50.8473	638.91			
S	29	Decachlorobiphenyl		CAS #:				
20.100	20.110	-0.010	369468	57.3896	721.12			

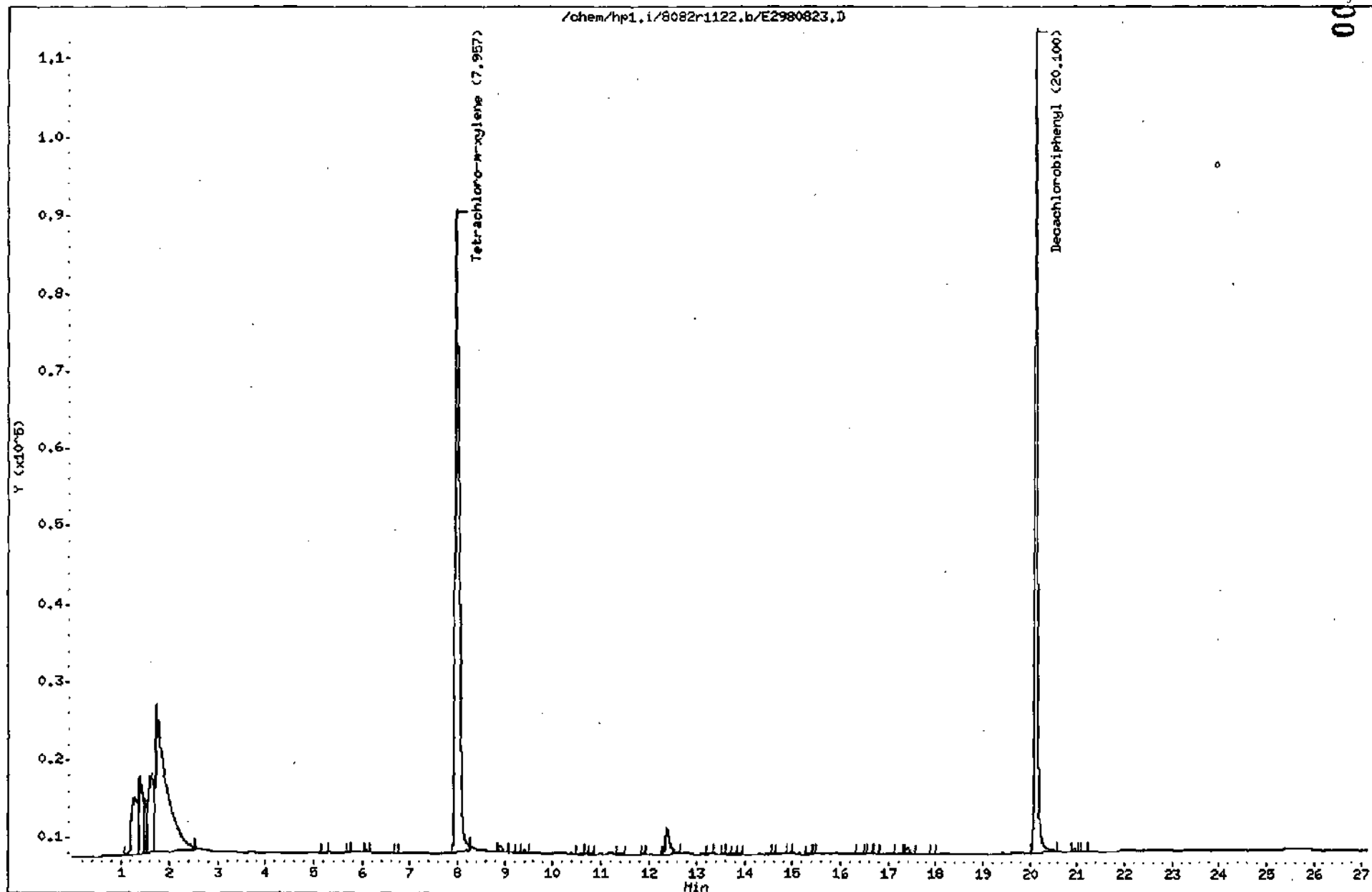
D ^ n \$; /chem/hpl.i/8082rll22.b/E2\$80323.D
Da^^M&-H0V-2002 05:34
Client ID: L97224-7
Sample Info; L97224-7
Volume Injected ; 2.0
Column phase; RTX-CLPesticides 2

Instrument; hpl.i

Operator; CPU
Column diameter; 0.32

Page 2

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Thru-Put Systems ,• Inc.

Data file : \chem\hpl.i\8082rll22.b\E2980824.D
Lab Smp Id: L97224-8 Client Smp ID: L97224-8
Inj Date : 26-NOV-2002 06:05
Operator CPW Inst ID: hpl.i
Smp Info L97224-8
Misc Info : WG33733,02-117
Comment
Method \chem\hpl.i\8082rll22.b\8082_PCBsec.M
Meth Date : 26-Nov-2002 14:11 Administra Quant Type: ESTD
Cal Date 22-NOV-2002 18:04 Cal File: E2980760.D
Als bottle 1
Dil Factor 10.00000
Integrator Falcon
Target Version: 3.40 Compound Sublist: PCB.sub
Processing Host: TARGET3 Sample Matrix: SOIL

Concentration Formula: $\text{Amt} * \text{DF} * ((\text{Vf} / \text{Ws}) * \text{Uf}) / \text{Ts} * 1000$

Name	Value	Description
DF	10.000	Dilution Factor
Vf	10.000	Final volume
Ws	10.151	Weight of sample extracted (g)
Uf	0.100	Unit Correction Factor
Ts	76.600	Total Solid

CONCENTRATIONS

RT	EXP RT	DLT RT	ON-COL RESPONSE < ug/L)	FINAL (ug/Kg)	TARGET RANGE	RATIO
S 1	Tetrachloro-m-xylene					
7.957	7.957	0.000	521475	54.4437	CAS ft: 700.18	
S 29	Decachlorobiphenyl					
20.100	20.110	-0.010	374953	58.3357	CAS It: 750.23	

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Y Cx10-^5>																																					
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	04	(51	H	ro	ro	ro	co	W	in	0J	o	.0.	en	cn	oi	cn	o	0J	(51	co	?	-si	en	co	co	co	00	00	o	J*	cn	vEI	?	0	0	0
-vl				^J		OJ	G1						en	W	Oi	Ni																					

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Becachlorobiphenyl <20.100)^l

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Thru-Put Systems, Inc.

Data file : \chem\hpl.i\8082rll22.b\E2980825.D
Lab Smp Id: L97224-9 Client Smp ID:, L97224-9
Inj Date : 26-NOV-2002 06:36
Operator CPW Inst ID: hpl.i
Smp Info L97224-9
Misc Info WG33733,02-117
Comment
Method \chem\hpl.i\8082rll22.b\8082_PCBsec.M
Meth Date 26-NOV-2002 14:11 Administra Quant Type: ESTD
Cal Date 22-NOV-2002 18:04 Cal File: E2980760.D
Als bottle 1
Dil Factor 10.00000
Integrator: Falcon Compound Sublist: PCB.sub
Target Version: 3.40 Sample Matrix: SOIL
Processing Host: TARGET3

Concentration Formula: $\text{Amt} * \text{DF} * ((\text{Vf} / \text{Ws}) * \text{Uf}) / \text{Ts} * 1000$

Name	Value	Description
DF	10.000	Dilution Factor
Vf	10.000	Final- volume
Ws	10.751	Weight of sample extracted
Uf	0.100	Unit Correction Factor
Ts	87.800	Total Solid

CONCENTRATIONS

RT	EXP RT	DLT RT	ON-COL	FINAL '	RESPONSE { ug/L)	(ug/Kg)	TARGET RANGE	RATIO
S	1	Tetrachloro-m-xylene		CAS #:				
7.957	7.957	0.000	545B46	57.3329	607.40			
5	29	Decachlorobiphenyl		CAS #:				
20.100	20.110	-0.010	417175	65.6458	695.47			

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D ; ^ B e : /chem/hpl,i/8082rll22.b/E2580825.D
Data Path: /chem/hpl,i/8082rll22.b/E2580825.D
Client ID: L97224-9
Sample Info: L97224-9
Volume Injected <u>J 2.0
Column phase: RTX-CLPesticid@s 2



Instrument; hpl.i

Operator: CPU

Column diameter: 0,32

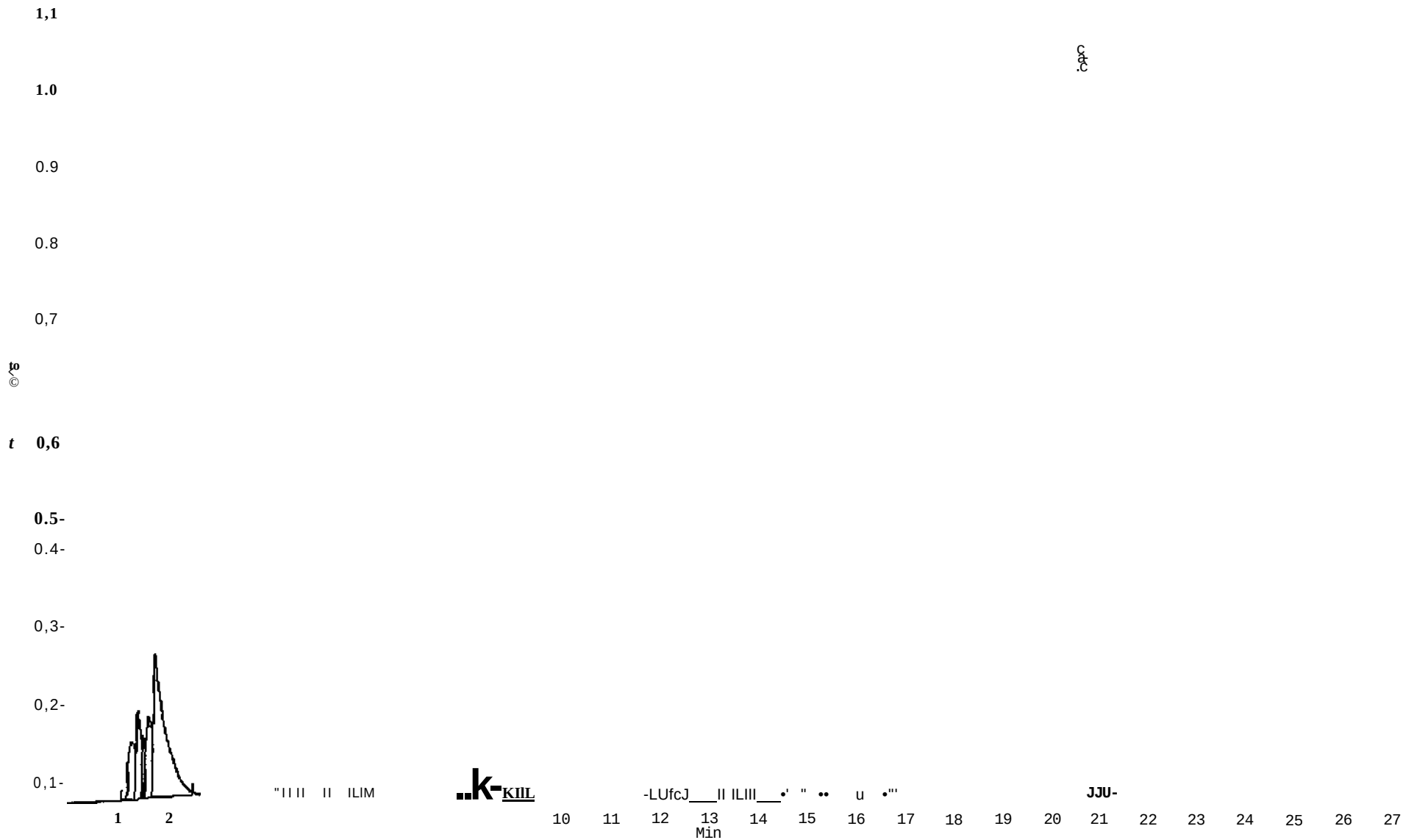
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chem/hpl.i/80S2rll22,b/E2980825,D



Report Date: 26-Nov-2002 15:25 °

Thru-Put Systems, Inc.

Data file : \chem\hpl.i\8082rll22.b\E2980826.D
Lab Smp Id: L97224-10 Client Smp ID: L97224-10
Inj Date : 26-NOV-2002 07:07
Operator CPW Inst ID: hpl.i
Smp Info L97224-10
Misc Info WG33733,02-117
Comment
Method \chem\hpl.i\8082rll22.b\8082_PCBsec.M
Meth Date 26-Nov-2002 14:11 Administra Quant Type: ESTD
Cal Date 22-NOV-2002 18:04 Cal File: E2980760.D
Als bottle 1
Dil Factor 10.00000
Integrator Falcon Compound Sublist: PCB.sub
Target Version: 3.40 Sample Matrix: SOIL
Processing Host: TARGET3

Concentration Formula: $\text{Amt} * \text{DF} * ((\text{Vf} / \text{Ws}) * \text{Uf}) / \text{Ts} * 1000$

Name	Value	Description
DF	10.000	Dilution Factor
Vf	10.000	Final volume
Ws	10.432	Weight of sample extracted (g;
Uf	0.100	Unit Correction Factor
Ts	87.800	Total Solid

CONCENTRATIONS

RT	EXP RT	DLT RT	RESPONSE	ON-COL { ug/L)	FINAL (ug/Kg)	TARGET RANGE	RATIO
S 1							
7.953	7.957	-0.004	509053	52.9711	578.34		
S 29							
20.097	20.110	-0.013	367728	57.0B49	623.25		

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Data^^fe/chem/hpl.i/8082rll22.b/E2930826.D
Oate^^B^0V-2002 07:07
Clien^K L97224-10
Sample Info: L97224-10
Volume Injected <u>: 2.0
Column phase: RTX-CLPestisides 2



Instrument: hpl.i

Operator: CPU

Column diameter: 0.32

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•chem/hpl.i/8082rll22.b/E2930826.D

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0.9-

0.8-

0.7-

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0,4-

Friend Inc.

Data File: /chem/hpl.i/8082rll22.b/E2980826.D
Method: /chem/hpl.i/8082rll22.b/8082_PCBsec.M
Sample Info: L97224-10
Misc Info: WG33733,02-117
Analysis Date: 26-NOV-2002 07:07
Sample Matrix: SOIL
File Number: 0826

Dilution Factor: 10.0000
Sample Weight: 10.4319
Final Volume: 10.0000
Total Solid : 87.8000

Analytes (ug/Kg)

Aroclor-1016	0.00
Aroclor-1221	0.00
Aroclor-1232	0.00
Aroclor-1242	0.00
Aroclor-1254	0.00
Aroclor-1260	0.00
Aroclor-1248	0.00
Tetrachloro-m-xylene	105.94%
Decachlorobiphenyl	114.17%

Analyst: CPW
Report Date: 11/26/2002 15:25

Supervisor:
Date:

6D

Lab Name: FRIEND LABORATORY, INC.

Contract:

Lab Code: 10252 Case No.: _____ SAS No.: _____ SDG No.: AAA

Instrument ID: HP1

GC Column: RTX-CLPest2 ID: 0.32 (mm)

Date(s) Analyzed: 11/22/02 11/22/02

File Numbers: 0753 - 0769

COMPOUND	Peak #	RT OF STANDARDS						MEAN RT	RT WINDOW	
		10ppb	50 ppb	1100 ppb	250 ppb	500 ppb	1000 ppb		FROM	TO
PCB 1016	r	10.19	10.19	10.18	10.18	10.18	10.18	10.18	10.08	10.28
	2*	10.71	10.70	10.70	10.70	10.70	10.70	10.70	10.60	10.80
	3*	11.90	11.89	11.88	11.88	11.88	11.88	11.89	11.79	11.99
	4	11.97	11.97	11.97	11.97	11.96	11.96	11.97	11.87	12.07
	5	12.68	12.67	12.67	12.67	12.67	12.67	12.67	12.57	12.77
PCB 1221	1*				8.76			8.76	8.66	8.86
	2*				9.10			9.10	9.00	9.20
	3*				9.24			9.24	9.14	9.34
PCB 1232	r				10.18			10.18	10.08	10.28
	2*				10.70			10.70	10.60	10.80
	3*				11.17			11.17	11.07	11.27
	4				11.88			11.88	11.78	11.98
	5				12.42			12.42	12.32	12.52
PCB 1242	1*				10.18			10.18	10.08	10.28
	2*				11.45			11.45	11.35	11.55
	3*				11.87			11.87	11.77	11.97
	4				11.96			11.96	11.86	12.06
	5				12.42			12.42	12.32	12.52
PCB 1248	1*				11.16			11.16	11.06	11.26
	2*				11.87			11.87	11.77	11.97
	3*				11.96			11.96	11.86	12.06
	4				12.66			12.66	12.56	12.76
	5				13.27			13.27	13.17	13.37
PCB 1254	1*	13.26	13.26	13.26	13.26	13.26	13.26	13.26	13.16	13.36
	2*	13.66	13.65	13.65	13.65	13.65	13.65	13.65	13.55	13.75
	3*	14.93	14.92	14.93	14.92	14.92	14.92	14.92	14.82	15.02
	4	15.35	15.34	15.34	15.34	15.34	15.33	15.34	15.24	15.44
	5	16.04	16.03	16.03	16.03	16.02	16.02	16.03	15.93	16.13
PCB 1260	1*	14.94	14.93	14.93	14.93	14.93	14.92	14.93	14.83	15.03
	2*	15.36	15.35	15.35	15.34	15.34	15.34	15.35	15.25	15.45
	3*	16.21	16.20	16.20	16.19	16.19	16.19	16.20	16.10	16.30
	4	16.30	16.30	16.30	16.30	16.29	16.29	16.30	16.20	16.40
	5	16.77	16.76	16.76	16.75	16.75	16.75	16.76	16.66	16.86
Tetrachloro-m-xylene		7.98	7.97	7.96	7.96	7.96	7.96	7.96	7.86	8.06
Decachlorobi phenyl		20.13	20.12	20.11	20.11	20.11	20.11	20.12	20.02	20.22

* Denotes required peaks

Retention time windows are + 0.1 minutes for all compounds.

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FORM 6
PCB INITIAL CALIBRATION DATA

Lab Name: _____ Contract: _____
 Lab Code: _____ Case No. : _____ SAS No. : _____ SDG No. : AAA1121
 Instrument ID: HP1 Calibration Date(s): 11/22/2 11/22/2
 GC Column: RTX-CLPESTICIDES 2 ID: 0.32 (mm)
 LAB FILE ID: RF10: E2980760 RF50: E2980761 RF100: E2980762
 RF250: E2980769 RF500: E2980764

COMPOUND		RF10	RF50	RF100	RF250	RF500
Aroclor-1016		578.2	531.5	710.9	516.9	423.4
	(2)	240.3	252.9	343.6	247.4	217.8
	(3)	522.7	334.3	325.0	222.9	196.1
	(4)	320.7	280.9	346.7	244.3	226.6
	(5)	560.0	421.9	380.8	343.1	328.0
Aroclor-1221					139.6	
	(2)				93.4	
	(3)				345.0	
	(4)					
	(5)					
Aroclor-1232					215.4	
	(2)				81.3	
	(3)				294.0	
	(4)				76.1	
	(5)				90.4	
Aroclor-1242					399.2	
	(2)				338.1	
	(3)				180.8	
	(4)				201.5	
	(5)				220.4	
Aroclor-1254		468.0	523.6	548.9	554.3	455.2
	(2)	357.1	412.9	424.9	423.8	391.3
	(3)	301.5	351.8	353.4	337.4	317.7
	(4)	392.4	421.9	431.5	399.9	393.9
	(5)	439.7	567.5	566.3	567.0	588.0
Aroclor-1260		672.6	574.1	701.3	610.0	550.3
	(2)	632.5	544.0	712.4	634.8	581.6
	(3)	471.3	410.9	544.2	468.2	428.0
	(4)	427.4	377.9	448.2	366.3	340.7
	(5)	394.9	344.5	496.5	437.6	420.5
Aroclor-1248					435.5	
	(2)				276.3	
	(3)				283.7	
	(4)				409.5	
	(5)				518.7	
Tetrachloro-m-xylene Decachlorobiphenyl		10763	9638	9680	9265	8179
		10481	7311	7654	6357	5747

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Lab Name: FRIEND LABORATORY, INC.

Contract:

Lab Code: 10252 Case No.: _____ SAS No.: _____ SDG No.: AAA

Instrument ID: HP3

GC Column: RTX-CLPest1 ID: 0.32 (mm)

Date(s) Analyzed: 11/26/02

File Numbers: 6868

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COMPOUND	AMOUNT (ng)	PEAK	RT	RT WINDOW FROM L TO		CALIBRATION FACTOR
PCB 1254	250 PPB	1*	14.49	14.39	14.59	926.85
		2*	14.73	14.63	14.83	1463.73
		3*	15.09	14.99	15.19	701.10
		4	15.27	15.17	15.37	1063.11
		5	15.64	15.54	15.74	1159.66
Tetrachloro-m-xylene	300 PPB		8.60	8.50	8.70	33712.85
Decachlorobiphenyl	300 PPB		20.10	20.00	20.20	15700.69

* Denotes required peaks

Single injections of the low standard are made to establish approximate retention times and instrument sensitivity. Five point calibrations are performed if a multipeak component is detected in a sample.

Alternate column confirmation is run if a pesticide or PCB is detected in a site sample.

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7/10 Aug
 100-252 / 252 K10* --d

7E
PCB CALIBRATION VERIFICATION SUMMARY

Lab Name: FRIEND LABORATORY, INC. Contract: _____
Lab Code: 10252 Case No.: _____ SAS No.: _____ SDG No.: AAA

Sample Name: 250PPB 1660
File Name: E2980776.D
Instrument ID: HP1.1
GC Column: RTX-CLPesticides 2

ID: 0.32 (mm)

Analysis Date: 11/23/02

Analysis Time: 0225

COMPOUND	PEAK	RT	RT WINDOW FROM J TO		CALC AMOUNT	TRUE AMOUNT	%D
Aroclor-1016	1	10.18	10.08	10.28	345.60	250.00	38.24
Aroclor-1016	2	10.69	10.60	10.80	294.90	250.00	17.96
Aroclor-1016	3	11.88	11.79	11.99	337.54	250.00	35.02
Aroclor-1016	4	11.96	11.87	12.07	349.59	250.00	39.84
Aroclor-1016	5	12.67	12.57	12.77	277.93	250.00	11.17
Aroclor-1260	1	14.92	14.83	15.03	271.52	250.00	8.61
Aroclor-1260	2	15.33	15.25	15.45	270.51	250.00	8.20
Aroclor-1260	3	16.19	16.10	16.30	260.89	250.00	4.36
Aroclor-1260	4	16.29	16.20	16.40	171.87	250.00	31.25
Aroclor-1260	5	16.75	16.66	16.86	312.51	250.00	25.00
Tetrachloro-m-xylene	1	7.95	7.86	8.06	356.61	300.00	18.87
Decachlorobiphenyl	1	20.11	20.02	20.22	372.91	300.00	24.30

QC LIMITS: %D of amounts in the Continuing Calibration must be less than or equal to 15%

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$$\left| \frac{321 - 250}{250} \right| \times 100 = 28.4$$

7E
PCB CALIBRATION VERIFICATION SUMMARY

Lab Name: FRIEND LABORATORY, INC. Contract: _____

Lab Code: 10252 Case No.: _____ SAS No.: _____ SDG No.: AAA

Sample Name: 250PPB 1660

File Name: E2980783.D

Instrument ID: HP1.I

GC Column: RTX-CLPesticides 2

ID: 0.32 (mm)

Analysis Date: 11/23/02

Analysis Time: 0604

COMPOUND	PEAK	RT	RT WINDOW		CALC AMOUNT	TRUE AMOUNT	%D
			FROM	TO			
Aroclor-1016	1	10.18	10.08	10.28	316.95	250.00	26.78
Aroclor-1016	2	10.69	10.60	10.80	253.38	250.00	1.35
Aroclor-1016	3	11.87	11.79	11.99	288.97	250.00	15.59
Aroclor-1016	4	11.96	11.87	12.07	294.39	250.00	17.76
Aroclor-1016	5	12.66	12.57	12.77	277.51	250.00	11.00
Aroclor-1260	1	14.92	14.83	15.03	247.89	250.00	0.84
Aroclor-1260	2	15.33	15.25	15.45	253.55	250.00	1.42
Aroclor-1260	3	16.19	16.10	16.30	281.37	250.00	12.55
Aroclor-1260	4	16.29	16.20	16.40	268.95	250.00	7.58
Aroclor-1260	5	16.75	16.66	16.86	274.74	250.00	9.90
Tetrachloro-m-xylene	1	7.95	7.86	8.06	317.72	300.00	5.91
Decachlorobiphenyl	1	20.10	20.02	20.22	312.69	300.00	4.23

* QC LIMITS: %D of amounts in the Continuing Calibration must be less than or equal to 15%.

$$\frac{1016 \text{ Aug}}{286-250} / \frac{250}{250} = H. \%$$

$$\frac{1260 \text{ Aug.}}{265-250} / \frac{250}{250} = H. \%$$

00097

7E
PCB CALIBRATION VERIFICATION SUMMARY

Lab Name: FRIEND LABORATORY, INC. Contract: _____
Lab Code: 10252 Case No.: _____ SAS No.: _____ SDG No.: AAA

Sample Name: 250PPB 1660
File Name: E2980791.D
Instrument ID: HP1.I
GC Column: RTX-CLPesticides 2

ID: 0.32 (mm)

Analysis Date: 11/23/02

Analysis Time: 1014

COMPOUND	PEAK	RT	RT WINDOW FROM TO		CALC AMOUNT	TRUE AMOUNT	%D
Aroclor-1016	1	10.17	10.08	10.28	316.17	250.00	26.47
Aroclor-1016	2	10.69	10.60	10.80	249.67	250.00	0.13
Aroclor-1016	3	11.87	11.79	11.99	278.81	250.00	11.52
Aroclor-1016	4	11.96	11.87	12.07	282.20	250.00	12.88
Aroclor-1016	5	12.66	12.57	12.77	243.57	250.00	2.57
Aroclor-1260	1	14.92	14.83	15.03	265.44	250.00	6.18
Aroclor-1260	2	15.33	15.25	15.45	271.74	250.00	8.70
Aroclor-1260	3	16.19	16.10	16.30	302.15	250.00	20.86
Aroclor-1260	4	16.29	16.20	16.40	276.82	250.00	10.73
Aroclor-1260	5	16.75	16.66	16.86	290.17	250.00	16.07
Tetrachloro-m-xylene	1	7.95	7.86	8.06	323.83	300.00	7.94
Decachlorobi phenyl	1	20.10	20.02	20.22	335.68	300.00	11.89

* QC LIMITS: %D of amounts in the Continuing Calibration must be less than or equal to 15%.

/ r _____/y/ * ^ */*.>/

O0C93



7E
PCB CALIBRATION VERIFICATION SUMMARY

Lab Name: FRIEND LABORATORY, INC. Contract: _____
Lab Code: 10252 Case No.: ____-____ SAS No.: _____ SDG No.: AAA

Sample Name: 250PPB 1660
File Name: E2980812.D
Instrument ID: HP1.I
GC Column: RTX-CLPesticides 2

ID: 0.32 (mm)
Analysis Date: 11/25/02
Analysis Time: 2351

COMPOUND	PEAK	RT	RTW	S/DOW	CALC AMOUNT	TRUE AMOUNT	%D
Aroclor-1016	1	10.17	10.08	10.28	327.19	250.00	30.88
Aroclor-1016	2	10.69	10.60	10.80	264.97	250.00	5.99
Aroclor-1016	3	11.87	11.79	11.99	293.96	250.00	17.58
Aroclor-1016	4	11.95	11.87	12.07	298.05	250.00	19.22
Aroclor-1016	5	12.66	12.57	12.77	246.81	250.00	1.28
Aroclor-1260	1	14.92	14.83	15.03	254.63	250.00	1.85
Aroclor-1260	2	15.33	15.25	15.45	267.02	250.00	6.81
Aroclor-1260	3	16.18	16.10	16.30	291.47	250.00	16.59
Aroclor-1260	4	16.28	16.20	16.40	270.70	250.00	8.28
Aroclor-1260	5	16.74	16.66	16.86	291.67	250.00	16.67
Tetrachloro-m-xylene	1	7.95	7.86	8.06	334.83	300.00	11.61
Decachlorobiphenyl	1	20.10	20.02	20.22	324.02	300.00	8.01

* QC LIMITS: %D of amounts in the Continuing Calibration must be less than or equal to 15%.

146 Ag.
$$\left| \frac{286 - 250}{250} \right|_{At < c}$$

10

1260 Ag.
$$\left| \frac{275 - 250}{250} \right|_{M < \leftarrow 10}$$



7E
PCB CALIBRATION VERIFICATION SUMMARY

Lab Name: FRIEND LABORATORY, INC. Contract: _____
Lab Code: 10252 Case No.: _____ SAS No.: _____ SDG No.: AAA

Sample Name: 250PPB 1660
File Name: E2980822.D
Instrument ID: HP1.I
GC Column: RTX-CLPesticides 2

ID: 0.32 (mm)

Analysis Date: 11/26/02

Analysis Time: 0502

COMPOUND	PEAK	RT	RTW FROM	MDOW TO	CALC AMOUNT	TRUE AMOUNT	%D
Aroclor-1016	1	10.17	10.08	10.28	346.82	250.00	38.73
Aroclor-1016	2	10.68	10.60	10.80	286.96	250.00	14.78
Aroclor-1016	3	11.87	11.79	11.99	303.07	250.00	21.23
Aroclor-1016	4	11.95	11.87	12.07	292.65	250.00	17.06
Aroclor-1016	5	12.66	12.57	12.77	230.93	250.00	7.63
Aroclor-1260	1	14.91	14.83	15.03	283.71	250.00	13.48
Aroclor-1260	2	15.33	15.25	15.45	281.20	250.00	12.48
Aroclor-1260	3	16.18	16.10	16.30	255.62	250.00	2.25
Aroclor-1260	4	16.28	16.20	16.40	174.75	250.00	30.10
Aroclor-1260	5	16.74	16.66	16.86	315.16	250.00	26.06
Tetrachloro-m-xylene	1	7.94	7.86	8.06	371.47	300.00	23.82
Decachlorobiphenyl	1	20.10	20.02	20.22	442.31	300.00	47.44

* QC LIMITS: %D of amounts in the Continuing Calibration must be
less than or equal to 15%.

/c/o A-Λ.

fcC+e J**L,

00100

7E
PCB CALIBRATION VERIFICATION SUMMARY

Lab Name: FRIEND LABORATORY, INC. Contract: _____
Lab Code: 10252 Case No.: _____ SAS No.: _____ SDG No.: AAA

Sample Name: 250PPB 1660
File Name: E2980828.D
Instrument ID: HP1.I
GC Column: RTX-CLPesticides 2

ID: 0.32 (mm)

Analysis Date: 11/26/02

Analysis Time: 0809

COMPOUND	PEAK	RT	RT WINDOW		CALC AMOUNT	TRUE AMOUNT	%D
			FROM	TO			
Aroclor-1016	1	10.17	10.08	10.28	361.03	250.00	44.41
Aroclor-1016	2	10.69	10.60	10.80	291.16	250.00	16.46
Aroclor-1016	3	11.87	11.79	11.99	266.69	250.00	6.68
Aroclor-1016	4	11.95	11.87	12.07	287.34	250.00	14.94
Aroclor-1016	5	12.66	12.57	12.77	231.97	250.00	7.21
Aroclor-1260	1	14.92	14.83	15.03	268.69	250.00	7.48
Aroclor-1260	2	15.33	15.25	15.45	260.97	250.00	4.39
Aroclor-1260	3	16.18	16.10	16.30	234.06	250.00	6.38
Aroclor-1260	4	16.28	16.20	16.40	156.55	250.00	37.38
Aroclor-1260	5	16.74	16.66	16.86	285.27	250.00	14.11
Tetrachloro-m-xylene	1	7.95	7.86	8.06	374.89	300.00	24.96
Decachlorobiphenyl	1	20.10	20.02	20.22	376.89	300.00	25.63

* QC LIMITS: %D of amounts in the Continuing Calibration must be less than or equal to 15%.

jctc

-1E&

1260 kg..

$$\frac{271 - 250}{250} \times 100 = 8.4\%$$
 J, 0

00101

7E
PCB CALIBRATION VERIFICATION SUMMARY

Lab Name: FRIEND LABORATORY, INC. Contract: _____
Lab Code: 10252 Case No.: _____ SAS No.: _____ SDG No.: AAA

Sample Name: 250PPB 1660

File Name: E2980833.D

Instrument ID: HP1.I

GC Column: RTX-CLPesticides 2

ID: 0.32 (mm)

Analysis Date: 11/26/02

Analysis Time: 1205

COMPOUND	PEAK	RT	RT WINDOW		CALC AMOUNT	TRUE AMOUNT	%D
			FROM	TO			
Aroclor-1016	1	10.19	10.08	10.28	307.90	250.00	23.16
Aroclor-1016	2	10.70	10.60	10.80	250.51	250.00	0.20
Aroclor-1016	3	11.88	11.79	11.99	269.83	250.00	7.93
Aroclor-1016	4	11.97	11.87	12.07	277.44	250.00	10.98
Aroclor-1016	5	12.67	12.57	12.77	234.70	250.00	6.12
Aroclor-1260	1	14.93	14.83	15.03	242.77	250.00	2.89
Aroclor-1260	2	15.34	15.25	15.45	254.33	250.00	1.73
Aroclor-1260	3	16.19	16.10	16.30	279.42	250.00	11.77 A
Aroclor-1260	4	16.30	16.20	16.40	252.52	250.00	1.01 \
Aroclor-1260	5	16.75	16.66	16.86	278.37	250.00	11.35
Tetrachloro-m-xylene	1	7.96	7.86	8.06	322.79	300.00	7.60
Decachlorobiphenyl	1	20.11	20.02	20.22	314.56	300.00	4.85

" QC LIMITS: %D of amounts in the Continuing Calibration must be
less than or equal to 15%.

00102

7E
PCB CALIBRATION VERIFICATION SUMMARY

Lab Name: FRIEND LABORATORY, INC. Contract: _____

Lab Code: 10252 Case No.: _____ SAS No.: _____ SDG No.: AAA

Sample Name: 250PPB 1660

File Name: E2980836.D

Instrument ID: HP1.1

GC Column: RTX-CLPesticides 2

ID: 0.32 (mm)

Analysis Date: 11/26/02

Analysis Time: 1336

COMPOUND	PEAK	RT	RT WINDOW FROM TO		CALC AMOUNT	TRUE AMOUNT	%D
Aroclor-1016	1	10.18	10.08	10.28	320.69	250.00	28.28
Aroclor-1016	2	10.69	10.60	10.80	239.68	250.00	4.13
Aroclor-1016	3	11.88	11.79	11.99	223.47	250.00	10.61
Aroclor-1016	4	11.96	11.87	12.07	250.68	250.00	0.27
Aroclor-1016	5	12.66	12.57	12.77	217.05	250.00	13.18
Aroclor-1260	1	14.92	14.83	15.03	228.49	250.00	8.60
Aroclor-1260	2	15.33	15.25	15.45	231.29	250.00	7.48
Aroclor-1260	3	16.19	16.10	16.30	265.54	250.00	6.22
Aroclor-1260	4	16.29	16.20	16.40	235.58	250.00	5.77
Aroclor-1260	5	16.74	16.66	16.86	260.94	250.00	4.38
Tetrachloro-m-xylene	1	7.96	7.86	8.06	322.30	300.00	7.43
Decachlorobiphenyl	1	20.10	20.02	20.22	301.80	300.00	0.60

* QC LIMITS: %D of amounts in the Continuing Calibration must be less than or equal to 15%.

1260 Aug.
 $\frac{214-250}{250} \times 100 = -14.4\%$

7E
PCB CALIBRATION VERIFICATION SUMMARY

Lab Name: FRIEND LABORATORY, INC. Contract: _____
Lab Code: 10252 Case No.: _____ SAS No.: _____ SDG No.: AAA

Sample Name: 250PPB 1660
File Name: E2980842.D
Instrument ID: HP1.I
GC Column: RTX-CLPesticides 2

ID: 0.32 (mm)
Analysis Date: 11/26/02
Analysis Time: 1647

COMPOUND	PEAK	RT	RT WINDOW		CALC AMOUNT	TRUE AMOUNT	%D
Aroclor-1016	1	10.18	10.08	10.28	313.98	250.00	25.59
Aroclor-1016	2	10.70	10.60	10.80	236.39	250.00	5.44
Aroclor-1016	3	11.88	11.79	11.99	226.99	250.00	9.20
Aroclor-1016	4	11.96	11.87	12.07	247.00	250.00	1.20
Aroclor-1016	5	12.67	12.57	12.77	210.41	250.00	15.84
Aroclor-1260	1	14.92	14.83	15.03	222.06	250.00	11.18
Aroclor-1260	2	15.33	15.25	15.45	221.32	250.00	11.47
Aroclor-1260	3	16.19	16.10	16.30	251.38	250.00	0.55
Aroclor-1260	4	16.29	16.20	16.40	217.11	250.00	13.16
Aroclor-1260	5	16.74	16.66	16.86	248.95	250.00	0.42
Tetrachloro-m-xylene	1	7.96	7.86	8.06	319.12	300.00	6.37
Decachlorobi phenyl	1	20.10	20.02	20.22	279.58	300.00	6.81

* QC LIMITS: %D of amounts in the Continuing Calibration must be less than or equal to 15%.

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7E
PCB CALIBRATION VERIFICATION SUMMARY

Lab Name: FRIEND LABORATORY, INC. Contract: _____
Lab Code: 10252 Case No.: _____ SAS No.: _____ SDG No.: AAA

Sample Name: 250PPB 1254
File Name: E3956872.D
Instrument ID: JHP3.I
GC Column: RTX-CLPesticides 1

ID: 0.32 (mm)
Analysis Date: 11/26/02
Analysis Time: 1258

COMPOUND	PEAK	RT	RT WINDOW		CALC AMOUNT	TRUE AMOUNT	%D
			FROM	TO			
Aroclor-1254	1	14.48	14.39	14.59	255.60	250.00	2.24
Aroclor-1254	2	14.72	14.63	14.83	257.17	250.00	2.87
Aroclor-1254	3	15.09	14.99	15.19	264.86	250.00	5.94
Aroclor-1254	4	15.27	15.17	15.37	263.95	250.00	5.58
Aroclor-1254	5	15.63	15.54	15.74	258.72	250.00	3.49
Tetrachloro-m-xylene	1	8.58	8.50	8.70	302.96	300.00	0.99
Decachlorobiphenyl	1	20.10	20.00	20.20	307.79	300.00	2.60

* QC LIMITS: %D of amounts in the Continuing Calibration must be less than or equal to 15%.

JHP
250-250
250 / JCU > *1

8D
PCB ANALYTICAL SEQUENCE

Lab Name: Contract:
Lab Code: Case No. : SAS No. : SDG No. : AAA1121
Instrument ID: HP1 Init. Calib. Date(s): 11/22/2 11/2
GC Column: RTX-CLPESTICIDES 2 ID: 0.32 (mm)

THE ANALYTICAL SEQUENCE OF PERFORMANCE EVALUATION MIXTURES, BLANKS,
SAMPLES, AND STANDARDS IS GIVEN BELOW:

MEAN SURROGATE RT FROM INITIAL CALIBRATION TCX: 7.96 DCB: 20.11					
	EPA SAMPLE NO.	LAB SAMPLE ID	DATE ANALYZED	TIME ANALYZED	TCX RT # DCB RT #
01	1660STD1	1660STD1	11/22/2	1427	7.98 20.13
02	1660STD2	1660STD2	11/22/2	1457	7.97 20.12
03	1660STD3	1660STD3	11/22/2	1528	7.96 20.11
04	1660STD4	1660STD4	11/22/2	1559	7.96 20.11
05	1660STD5	1660STD5	11/22/2	1630	7.96 20.11
06	1660STD6	1660STD6	11/22/2	1702	7.96 20.11
07	1660STD1	1254STD1	11/22/2	1804	7.97 20.12
08	1660STD2	1254STD2	11/22/2	1835	7.96 20.11
09	1660STD3	1254STD3	11/22/2	1907	7.96 20.11
10	1660STD4	1254STD4	11/22/2	1938	7.96 20.11
11	1660STD5	1254STD5	11/22/2	2009	7.96 20.11
12	1660STD6	1254STD6	11/22/2	2041	7.95 20.11
13	1248STD	1248STD	11/22/2	2112	7.95 20.11
14	1242STD	1242STD	11/22/2	2143	7.95 20.11
15	1232STD	1232STD	11/22/2	2214	7.96 20.11
16	1221STD	1221STD	11/22/2	2246	7.96 20.11
17	MB42 <i>i</i>	MB42	11/22/2	2317	7.96 20.10
18	1660CC01 <i>J</i>	1660CC01	11/23/2	0225	7.95 20.11
19	L97127-1	L97127-1	11/23/2	0256	7.96 20.11
20	L97127-2	L97127-2	11/23/2	0328	7.97 20.11
21	L97127-3	L97127-3	11/23/2	0359	7.97 20.11
22	L97127-5 /	L97127-5	11/23/2	0501	7.96 20.11
23	1660CC02 <i>J</i>	1660CC02	11/23/2	0604	7.95 20.10
24	L97127-6	L97127-6	11/23/2	0635	7.96 20.10
25	L97127-7	L97127-7	11/23/2	0706	7.96 20.10
26	L97127-8	L97127-8	11/23/2	0738	7.96 20.10
27	L97127-8MS	L97127-8MS	11/23/2	0809	7.96 20.11
28	L97127-8MSD	L97127-8MSD	11/23/2	0840	7.96 20.10
29	L97127-11	L97127-11	11/23/2	0911	7.96 20.10
30	1660CC03 <i>*f</i>	1660CC03	11/23/2	1014	7.95 20.10
31	1660CC07 <i>-J</i>	1660CC07	11/25/2	2351	7.95 20.10
32	MB45	MB45	11/26/2	0022	7.94 20.09
33	<i>11</i>	QC45	11/26/2	0053	7.94 20.09
34	L97224-1	L97224-1	11/26/2	0124	7.95 20.10
35	L97224-2	L97224-2	11/26/2	0155	7.95 20.10
36	L97224-3	L97224-3	11/26/2	0227	7.95 20.09
37	L97224-4	L97224-4	11/26/2	0258	7.95 20.10

QC LIMITS
TCX = Tetrachloro-m-xylene {+/- 0.10 MINUTES)
DCB = Decachlorobiphenyl (+/- 0.10 MINUTES)

Column used to flag retention time values with an asterisk,
* Values outside of QC limits.

8D
PCB ANALYTICAL SEQUENCE

Lab Name: Contract: Code: Case No. : SAS No. : SDG No. : AAA1121
Instrument ID: HP1 Init. Calib. Date(s): 11/22/2 11/22/2
Column: RTX-CLPESTICIDES 2 ID: 0.32 (mm)

THE ANALYTICAL SEQUENCE OF PERFORMANCE EVALUATION MIXTURES, BLANKS,
SAMPLES, AND STANDARDS IS GIVEN BELOW:

MEAN SURROGATE RT FROM INITIAL CALIBRATION TCX: 7.96 DCB: 20.11							
EPA SAMPLE NO.	LAB SAMPLE ID	DATE ANALYZED	TIME ANALYZED	TCX RT #	DCB RT #		
01	L97224-5	L97224-5	11/26/2	0329	7.95	20.09	
02	L97224-6 /	L97224-6	11/26/2	0400	7.95	20.10	
03	1660CC08 J	1660CC08	11/26/2	0502	7.94	20.10	
04	L97224-7	L97224-7	11/26/2	0534	7.96	20.10	
05	L97224-8	L97224-8	11/26/2	0605	7.96	20.10	
06	L97224-9	L97224-9	11/26/2	0636	7.96	20.10	
07	L97224-10	L97224-10	11/26/2	0707	7.95	20.10	
08	1660CC09 *I	1660CC09	11/26/2	0809	7.95	20.10	
09	1660CC10 J	1660CC10	11/26/2	1205	7.96	20.11	
10	QC42	QC42	11/26/2	1234	7.95	20.10	
11	QC45 /	QC45	11/26/2	1305	7.95	20.10	
12	1660CC11J	1660CC11	11/26/2	1336	7.96	20.10	
13	L97127-4	L97127-4	11/26/2	1408	7.96	20.10	
14	L*?G9B4->t!5	L96984-13	11/26/2	1442	7.96	20.10	
15	L96>8<-4	L96984-4	11/26/2	1514	7.96	20.10	
16	L3S984 5 r	L96984-5	11/26/2	1545	7.96	20.10	
17	1660CC12 J	1660CC12	11/26/2	1647	7.96	20.10	
18							
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37							

QC LIMITS
TCX = Tetrachloro-m-xylene (+/- 0.10 MINUTES)
DCB - Decachlorobiphenyl (+/- 0.10 MINUTES)

Column used to flag retention time values with an asterisk
* Values outside of QC limits.

8D
PCB ANALYTICAL SEQUENCE

Lab Name: Contract:
 Lab Code: Case No. : SAS No. : SDG No. : AAA1121C0N}
 Instrument ID: HP3 Init. Calib. Date(s): 11/20/2 11/2.
 GC Column: RTX-CLPESTICIDES 1 ID: 0:32 (mm)

THE ANALYTICAL SEQUENCE OF PERFORMANCE EVALUATION MIXTURES, BLANKS,
 SAMPLES, AND STANDARDS IS GIVEN BELOW:

MEAN SURROGATE RT FROM INITIAL CALIBRATION TCX: 8.60 DCB: 20.10							
	EPA SAMPLE NO.	LAB SAMPLE ID	DATE ANALYZED	TIME ANALYZED	TCX RT #	DCB RT #	
01	1254STD	1254STD	11/26/2	1054	8.60	20.10	
02	L97127-4	L97127-4	11/26/2	1125	8.58	20.10	
03		L97260-5	11/26/2	1156	8.57	20.10	
04	1254CC01J	1254CC01	11/26/2	1258	8.58	20.10	
05							
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QC LIMITS

TCX = Tetrachloro-m-xylene (+/- 0.10 MINUTES)
 DCB = Decachlorobiphenyl (+/- 0.10 MINUTES)

Column used to flag retention time values with an asterisk.
 * Values outside of QC limits.

10B
PESTICIDE IDENTIFICATION SUMMARY
FOR MULTI COMPONENT ANALYTES

EPA SAMPLE **JU**.

L97127-4

ab Name:

Contract:

Code:

Case No. :

SAS No. :

SDG No. : AAA1121

Lab Sample ID: L97127-4

Date(s) Analyzed: 11/26/2 ji/Ztoloa*

Instrument ID (1): HP1

Instrument ID (2): Hf3

GC Column(1) : RTX-CLPESTICIDES 2 ID: 0.32 (mm) GC Column(2) : /m~CiPEsri ID: <P>3z

ANALYTE	PEAK	RT	RT WINDOW FROM TO	CONCENTRATION	MEAN CONCENTRATION	%D
Aroclor-1254 COLUMN 1	1	13.26	13.16	13.36	849.67	483.59
	2	13.65	13.55	13.75	714.77	
	3	14.92	14.82	15.02	435.64	
	4	15.33	15.23	15.43	233.24	
	5	16.00	15.92	16.12	184.64	
COLUMN 2	1		M-31	J/3-WSI		351.33
	2	H.74	Z-463	M-83	S03.Λ3.	
	3	tfi.lO	/N<?<?	/.<=>. H	5IL>- 13	
	4	LT.39	Z5-. /7	is.ni	>%5.*-tO	
	5	IS.bs	/T..5V	J&M	3 7 J Z ?	
-	1					
	2					
	3					
COLUMN 1	4					
	5					
COLUMN 2	1					
	2					
	3					
	4					
	5					
COLUMN 1	1					
	2					
	3					
	4					
	5					
COLUMN 2	1					
	2					
	3					
	4					
	5					

At least 3 peaks are required for identification of multi component analytes.

FORM X PEST-2

ooios

10B
PESTICIDE IDENTIFICATION SUMMARY
FOR MULTICOMPONENT ANALYTES

CICLA OrthoCUIJ JMW

L97127-8MS

Lab Name:

Contract:

Lab Code:

Case No. - .

SAS No. :

SDG NO. : AAA1121

Lab Sample ID: L97127-8MS

Date(s) Analyzed: 11/23/2 _____

Instrument ID (1) : HP1

Instrument ID (2):

GC Column(1) : RTX-CLPESTICIDES 2 ID: 0.32(mm) GC Column(2):

ID;

ANALYTE	PEAK	RT	RT WINDOW		CONCENTRATION	MEAN CONCENTRATION	%D
Aroclor-1016 COLUMN 1	1	10.18	10.08	10.28	442.08	419.42	
	2	10.69	10.60	10.80	336.65		
	3	11.88	11.78	11.98	359.78		
	4	11.96	11.86	12.06	418.40		
	5	12.66	12.57	12.77	540.19		
	1						
	2						
	3						
	4						
	5						
Aroclor-1260 COLUMN 1	1	14.92	14.82	15.02	521.22	455.82	4
	2	15.34	15.24	15.44	541.34		
	3	16.19	16.09	16.29	424.74		
	4	16.29	16.19	16.39	368.84		
	5	16.75	16.65	16.85	422.97		
	1						
	2						
	3						
	4						
	5						
COLUMN 1	1						
	2						
	3						
	4						
	5						
	1						
	2						
	3						
	4						
	5						
COLUMN 2	1						
	2						
	3						
	4						
	5						
	1						
	2						
	3						
	4						
	5						

At least 3 peaks are required for identification of multicomponent analytes

ft ?:/ ^ ^ ^ . , .

Page : JMSL

bctracted By: J^{3j^r.T} g M |^{Kp'R}
Date PvrtrafTted: • JTT/S—

Sur Ref.: [REDACTED]
Sur Conc.: [REDACTED]

^nalYsis:_^S^S^i
Matrix:^£LtSk-S^

Spike Ref.:JS£ [REDACTED]
Spiks Cone.:

1. D.	Customer-	Int. size	Hn. vol.	Sr. amt.	Spk amt.	Wit., by	Clean-ups
IA(MS		fenm	fOyyJ	/ < /		..	u. ?
GJLH^		/i."3o<7			U •		1
UhIXH-I	J.OA /Tw	/ri*<£/%					
• -?		/o.W<3					
"?		fc<30/9					
-•4		/i),?7?9					
—*E>		l(),7Hou					
• ~L-		lbMI*>l	-				
. -7		/o. w r					
. -*t>		/o.!5'o				•	..
-°j		/D.'75*7		il^>			
^k^-ij^	> /	/ft . w ?					
W&~*—*L		/o.W>					
		/•£>./33S"	^	Jy, '		v	
					- '		
							...
					-		
					- -		
				i, +...			

5- 3WOA-. ^

Extracts Relinquished to:

Comments:



COC

R
Dr
g

AG. ^ 7 M.

Page: *M&&L&1*

Sur.Ref.:
Sur Cone:

Spike Ref.: 06-131-34K
Spike Conc.: _____

I. D.	Customer	Int. size	Fin. vol.	Sr. amt.	Spk amt.	Wit.. by
MB42		10.9904	10ml	1ml		1.2.3
QC42		10.3376			1ml	
L97127-1	AAA ENV	10.4618				
-2		10.5489				
-3		10.3388				
-4		10.3582				
-5		10.1284				
-6		10.1907				
-7		10.0992				
-8		10.5672				
-9/MS		10.5884			1ml	
-10/MS		10.9028			1ml	
-11		10.9690				

5. $3\&Oflr + (^*$

Extracts Relinquished to: _____

Comments:

R 86755
LH 11/22/60

C.O.C.

QQZ43

ft

WET CHEMISTRY TOTAL SOLIOS

ft

Notebook : 02-123

Start Date : 21-NOV-02 13:37

End Date : 21-NOV-02 13:37

Sample ID	Analysis Date Time	Anal Init	method	Olsh8	Votiinc (mts)	initial Weight	1*tkHB(g 3rt>tft ?mmK% 7tM<th f©ffi*10tft	Pinal Result	Rfe;>in:
07127-1	Start:21-NOV-02 13:37 Stop :21-NOV-02 13:37	CLP 3.0	3	5.1421	1.2559	5.2034		76.8	X
07127-11	Start:21-NOV-02 13:37 Stop :21-NOV-02 13:37	CLP 3.0	11	5.3726	1.2634	6.0921		89.9	X
07127-2	Start:21-NOV-02 13:37 Stop :21-NOV-02 13:37	CLP 3.0	4	5.8228	1.2668	5.888		78.3	X
07127-3	Start:21-NOV-02 13:37 Stop :21-NOV-02 13:37	CLP 3.0	5	5.16	1.2629	5.9325		90.5	X
07127-4	Start:21-NOV-02 13:37 Stop :21-NOV-02 13:37	CLP 3.0	6	5.4977	1.257	6.1006		88.1	X
07127-5	Start:21-NOV-02 13:37 Stop :21-NOV-02 13:37	CLP 3.0	7	5.2953	1.2626	5.9614	5.9614 - 1.2626 = 4.6988 5.2953	88.7	X
07127-6	Start:21-NOV-02 13:37 Stop :21-NOV-02 13:37	CLP 3.0	8	5.1257	1.2693	5.1915		76.5	X
07127-7	Start:21-NOV-02 13:37 Stop :21-NOV-02 13:37	CLP 3.0	9	5.1442	1.2597	6.66		85.5	X
07127-8	Start:21-NOV-02 13:37 Stop :21-NOV-02 13:37	CLP 3.0	10	5.3922	1.266	6.5581		94.6	X
07127-9	Start:21-NOV-02 13:37 Stop :21-NOV-02 13:37	CLP 3.0	1	1.2638	1.2639	1.2628	Blank	0.991	X

Calculations: Final Results • (fnl - Initial) x 1000000
wgt wgt

mis of sample

Analyst Signature

- Date

ManagerSignature

• #

u

Date

0
1)

-J

UET CHEMISTRY TOTAL SOLIDS NOTEBOOK

Notebook : 02-123
 Start Date : 21-NOV-02 13:37
 End Date : 21-NOV-02 13:37

Analysis	Anst	Method	Dish*	mWi	Initial Weight	1stS2nd Weight	3rdMth Weight	SthA6th Weight	7th&8th Weight	«thi 10th Weight	Final Result	Rpd I -"units
S«Vte l.D.												

53*81-2 Start:21-NOV-02 13:37 CLP 3.0 5.921 1.24*2 6.3A29 •&T W

Stop :21-KOV-02 13:37

L97127-6D

mi

Calculations: Ffnal Results = (fnl - Initial) x 1000000
 wgt wgt
 mis of sample

Q A n a l y s t Signature / Date ManagerSignature ~ 0" ' Date

0

C0



ECT.CON INC.

Environmental and Computer
Technology Consultants**Data Validation Report**

SDG#	94538
Validation Report Date	April 28, 2003
Validation Guidance	USEPA Region 2 Guidelines for Data Review SW 846 Method 8082
Client Name	Cummings-Riter
Project Name	Viacom/Horseheads
Laboratory	Friend Laboratory Inc.
Method(s) Utilized	SW 846 8082
Analytical Fraction	PCBs

Samples/Matrix:

Date Sampled	Sample ID	Laboratory ID	PCBs	Matrix
9/24/02	B-B-SS-W-OOL(B)	94538-1	X	Solid
9/24/02	B-B-SS-E-001	94538-2	X	Solid
9/24/02	B-B-S-E-001	94538-5	X	Solid
9/24/02	B-B-SS-W-OOL(A)	94538-6	X	Solid
9/24/02	B-C-S-B-001	94538-7	X	Solid
9/24/02	B-B-S-W-001	94538-8	X	Solid

Analytical data in this report were screened to determine analytical limitations of the data based on specific quality control criteria. This screening assumes analytical results are correct as reported and merely provides an interpretation of the reported quality control results. A minimum of 10% of laboratory calculations has been verified as part of this validation. Specific findings on analytical limitations are presented in this report. Annotated Form Is or spreadsheets for samples reviewed are included after the Data Assessment Findings. Form Is for the MS/MSD samples and spreadsheets are not annotated.

SUMMARY

The sample set for Viacom/Horsehead consists of six solid field samples. These samples were analyzed for the parameters as provided above. The findings presented in this review of the analytical data assume that the information presented by the analytical laboratory is correct. This review is identified as a false positive/false negative review, and therefore, does not include the review of some quality control (QC) items. Those included in the review are listed below.

The polychlorinated biphenyl (PCBs) findings are based upon the assessment of the following:

False Positives/False Negatives Validation

- * • Data Completeness
 - * • Holding Times
 - * • Calibration and GC Performance
 - * • Blanks
 - * • Analytical Sequence Check
 - * • Target Compound Identification
 - Compound Quantitation and Reported Detection Limits
 - * • Chromatogram Quality
- * Criteria were met for this evaluation item.

This evaluation was conducted in accordance with USEPA Region II SOP No. HW-23B (May 2002), USEPA CLP National Functional Guidelines for Organic Data Review and the analytical method. Findings from this evaluation should be considered when using the analytical data. This report presents a summary of the data qualifications based on the review of the aforementioned evaluation criteria. This is followed by annotated Form Is/spreadsheets. Finally, the worksheets used to perform the evaluation are provided.

FINDINGS**Pol> chlorinated Biphenyls (PCBs)****1. Compound Quantitation**

The percent difference between columns exceeded the 25% quality control limit. For the following samples and compounds, qualify PCB results as indicated in the table below. Samples were qualified based on SOP HW-23, Section 12.6.

Sample	Compound	% Difference	Qualifier
B-B-SS-W-OOI(B)	Aroclor 1254	35.6%	J
B-B-SS-E-001	Aroclor 1254	36.7%	J
B-B-S-W-001	Aroclor 1254	48.6%	J

NOTES**Polychlorinated Biphenyls (PCBs)****Completeness**

The USEPA Region II SOP No. HW-23B has the following sections that are not applicable to this project because it is a false positive/false negative review:

- Surrogate Recovery (Form 2)
- Laboratory Control Sample
- Matrix Spikes (Form 3)
- Contamination
- GC Apparatus and Materials
- Extraction Techniques for Sample Preparation
- Field Duplicates

Samples within this batch were received by the laboratory over a three day period. The case narrative indicates that the various cooler temperature upon receipt at the laboratory ranged from 3 to 6 C. Data are not qualified upon this basis.

Calibration

The laboratory used linear regression to calculate PCB results. The use of linear regression is permissible for SW-846 methodologies. The laboratory met the acceptance criteria specified in Section 7.5.2 of Method 8000B (r value greater than or equal to 0.99).

Data summary forms (including calibration factors) for the initial and continuing calibration is not provided for the second column except for Aroclor 1254. The second column is used only for fingerprint confirmation, therefore, the laboratory does not provide the calibration factor information. Because Aroclor 1254 was identified as a constituent of concern, the data summary information for the second column is provided for the continuing calibration. Data are not qualified on this basis.

The percent difference (%D) per peak for multi-standard Aroclors are provided. For SW 846, the laboratory used the average Aroclor concentration to determine the %D. Data are not qualified because the average value is used.

Retention Time

Retention time windows are not determined by the use of three standards for single standard calibration Aroclors. The center of the retention time window is defined as the retention time of the midpoint standard from the initial calibration. For the multi-standard calibration Aroclors, the center of the retention time window is the mean of the retention time generated from each standard. The retention time windows are the mean + 0.1 minutes. Data are not qualified on this basis.

Retention time windows are not provided for the second column except for Aroclor 1254. The second column is used only for fingerprint confirmation, therefore, the laboratory does not provide the retention time window information. Because Aroclor 1254 was identified as a constituent of concern, the retention time information for the second column is provided. Data are not qualified on this basis.

Compound Quantitation

Samples were analyzed and reported at a dilution due to the presence of target compounds. Dilutions for samples are presented below. Reporting limits were adjusted for percent solids and dilutions.

B-B-SS-W-001(B), B-B-SS-E-001, B-B-S-E-001, B-B-SS-W-001(A), IOx
B-C-S-B-001, B-B-S-W-001_____

 AJX*^£
iSTa Reviewer /

YAr/*?
Date

Glossary of Data Qualifiers

u	Not Detected.	The associated number indicates approximate sample concentration necessary to be detected.
UJ	Not Detected.	Quantitation limit may be inaccurate or imprecise.
J	Analyte Present.	Reported value may not be accurate or precise.
N	Consider Present.	Tentative identification. Special methods may be needed to confirm its presence or absence in future sampling efforts.
R	Unusable Result.	Analyte may or may not be present in the sample.
UR	Unusable Result.	Analyte may or may not be present in the sample.



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ECT.CON INC.

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Environmental and Computer
Technology Consultants

Annotated Form l's
(Spreadsheet)

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N • C

32 ITHACA STREET
TELEPHONE (607) 565-3500

WAVERLY, NY 14892-1532
FAX (607) 565-4083

Date: 30-SEP-2002

Lab Sample ID: L94538-1

AAA Environmental
Peter Porter
6679 Moore Road
Syracuse, NY 13211

Sample Source: VIACOM/HORSEHEADS;:i92M;:.
Origin: B-8-SS-U-QQ1 : ;:; ;.
Description: COMPOSITE
Sampled On: 24-SEP-02 1^1^iqt^tT;:
Date Received: 25-SEP-02 15;2^;-';
P.O. No: N/A

Analysis Performed	Result	Units	Detection Limit	Date Analyzed	Method	Notebook Reference
Total Solids	69.2			25-SEP-02 00:00	CLP 3.0	02-066-77
EPA 8082						
PC8 1016		ug/kg	140	26-SEP-02 12:17	EPA 8082	02-004-9953
PC8 1221		ug/kg	280	26-SEP-02 12:17	EPA 8082	02-004-9953
PCB 1232		ug/kg	140	26-SEP-02 12:17	EPA 8082	02-004-9953
PCB 1242		ug/kg	140	26-SEP-02 12:17	EPA 8082	02-004-9953
PCB 1248		ug/kg	140	26-SEP-02 12:17	EPA 8082	02-004-9953
PCB 1254	260 /	ug/kg	140	26-SEP-02 12:17	EPA 8082	02-004-9953
PCB 1260	U J	ug/kg	140	26-SEP-02 12:17	EPA 8082	02-004-9953
Extraction Information:						
				25-SEP-02 00:00	EPA 3550	02-044-87
Surrogate Recovery:						
Tetrachloro-m-xylene	75					02-004-9953
Decachlorobiphenyl	83					02-004-9953

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Results calculated on a dry weight basis.

Approved by: 
Lab Director

Page 1 of 1
NY 10252 NJ 73168 PA 68180 EPA NY 00033

QCt2*£

KEY: ND of U = None Detected < = less than ug/L ^B micrograms per liter (equivalent to parts per billion)
mg/C - milligram per liter (equivalent to parts per million) mg/kg = milligrams per kilogram (equivalent to parts per milli
= analyte was detected in the method or trip blank J = result estimated below the quantitation limit _____

wm-ⁿ iation in this report is accurate to the best of our knowledge and ability. In no event shall our liability exceed the cost services. Your samples will be discarded after 14 days unless we are advised otherwise.



F R I E N D
LABORATORY
I . N . C

32 ITHACA STREET
TELEPHONE (607) 565-3500

WAVERLY, NY 14892-1532
FAX (607) 565-4083

Date: 30-SEP-2002

Lab Sample ID: L94538-2

AAA Environmental
Peter Porter
6679 Moore Road
Syracuse, NY 13211

Sample Source: VACOMHORSEHEADS 1920S
Origin: B-B-SS-E-OOI
Description: COMPOSITE
Sampled- On: 24-SEP-02 16:10 by CLIENT
Date Received: 24-SEP-02 15:25
P, O; No.: NA . .

Analysis Performed	Result	Units	Detection Limit	Date Analyzed	Method	Notebook Reference
Total Solids	87.5	%		25-SEP-02 00:00	CLP 3.0	02-066-77
EPA 8082						
PCB 1016	U	ug/kg	100	26-SEP-02 09:41	EPA 8082	02-004-9948
PCB 1221	U	ug/kg	210	26-SEP-02 09:41	EPA 8082	02-004-9948
PCB 1232	U	ug/kg	100	26-SEP-02 09:41	EPA 8082	02-004-9948
PCB 1242	U	ug/kg	100	26-SEP-02 09:41	EPA 8082	02-004-9948
PCB 1248	U	ug/kg	100	26-SEP-02 09:41	EPA 8062	02-004-9948
PCB 1254	490 sf	ug/kg	100	26-SEP-02 09:41	EPA 8082	02-004-9948
PCB 1260	u -/	ug/kg	100	26-SEP-02 09:41	EPA 8082	02-004-9948

Extraction Information:

Surrogate Recovery:
Tetrachloro-m-xylene
Decachlorobiphenyl

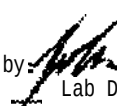
85 X
114 %

25-SEP-02 00:00 EPA 3550 02-044-87

02-004-9948
02-004-9948

TMB
4/24/03

Results calculated on a dry weight basis.

Approved by: 
Lab Director

Page 1 of 1
NY 10252 NJ 73168 PA 68180 EPA HY 00033

QC

KEY: ND or U = None Detected < = less than ug/L = micrograms per liter (equivalent to parts per billion)
mg/L = milligram per liter (equivalent to parts per million) mg/kg = milligrams per kilogram (equivalent to parts per million)
~~~~~L = analyte was detected in the method's trip blank J = result estimated below the quantitation limit

Information in this report is accurate to the best of our knowledge and ability. In no event shall our liability exceed the cost of these services. Your samples will be discarded after 14 days unless we are advised otherwise.



32 ITHACA STREET  
TELEPHONE (607) 565-3500

WAVERLY, NY 14892-1532  
FAX (607) 565-4083

Date: 30-SEP-2002

Lab Sample ID: L94538-5

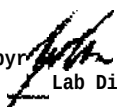
AAA. Environmental  
Peter Porter  
6679 Moore Road  
Syracuse, NY 13211

Sample Source: VIACOH/HORSEHEWJS; ?L2Q8  
Origin: B-B-S-E-001  
Description: COMPOS-IT-E...  
Sampled On: 24-SEP-02 16:00:00  
Date Received: 25-SEP-02 15:00:00  
P.O. No

| Analysis Performed      | Result | Units | Detection Limit | Date Analyzed   | Method   | Notebook Reference |
|-------------------------|--------|-------|-----------------|-----------------|----------|--------------------|
| Total Solids            | 45.4   |       |                 | 25-SEP-02 00:00 | CLP 3.0  | 02-066-77          |
| EPA S082                |        |       |                 |                 |          |                    |
| PCB 1016                | U      | ug/kg | 200             | 26-SEP-02 10:12 | EPA 8082 | 02-004-9949        |
| PCB 1221                | U      | ug/kg | 400             | 26-SEP-02 10:12 | EPA 8082 | 02-004-9949        |
| PCB 1232                | U      | ug/kg | 200             | 26-SEP-02 10:12 | EPA 8082 | 02-004-9949        |
| PCB 1242                | U      | ug/kg | 200             | 26-SEP-02 10:12 | EPA 8082 | 02-004-9949        |
| PCB 1248                | U      | ug/kg | 200             | 26-SEP-02 10:12 | EPA 8082 | 02-004-9949        |
| PCB 1254                | 1100   | ug/kg | 200             | 26-SEP-02 10:12 | EPA 8082 | 02-004-9949        |
| PCB 1260                | U      | ug/kg | 200             | 26-SEP-02 10:12 | EPA 8082 | 02-004-9949        |
| Extraction Information: |        |       |                 |                 |          |                    |
|                         |        |       |                 | 25-SEP-02 00:00 | EPA 3550 | 02-044-87          |
| Surrogate Recovery:     |        |       |                 |                 |          |                    |
| Tetrachloro-m-xylene    | 87     |       |                 |                 |          | 02-004-9949        |
| Dibenzodibiphenyl       | 114    |       |                 |                 |          | 02-004-9949        |

4b

Results calculated on a dry weight basis.

Approved by   
Lab Director

Page 1 of 1  
NY 10252 NJ 73168 PA 68180 EPA NY 00033

QC ^ v

KEY: NP o/ U = None Detected < = less than ug/L = micrograms per liter (equivalent to parts per billion)  
mg/L = milligram per liter (equivalent to parts per million) mg/kg = milligrams per kilogram (equivalent to parts per million)  
= analyte was detected in the method or trip blank J \* = result estimated below the quantitation limit

Information in this report is accurate to the best of our knowledge and ability. In no event shall our liability exceed the cost of the services. Your samples will be discarded after 14 days unless we are advised otherwise.

# FLI

## EREND

32 ITHACA STREET  
TELEPHONE (607) 565-3500

WAVERLY, NY 14892-1532  
FAX (607) 565-4083

Date: 30-SEP-2002

Lab Sample ID: L94538-6

AAA Environmental  
Peter Porter  
6 679 Moore Road  
Syracuse, NY 13211

Sample Source: VIACOM/HORSEHEADS 19208  
Origin: B-B-SS-U-001 (A)  
Description: COMPOSITE  
- 4 ^ i i n ^ I ^ d : . 9 n : 24-SEP-02 15:50 by CLIENT  
C\*at'e; ; ; ^ e c j e i c k e d : 25-SEP-02 15:25  
... ^ P ^ > 0 : : ^ : - N O : : N/A

| Analysis Performed | Result | Units | Detection Limit | Date Analyzed   | Method   | Notebook Reference |
|--------------------|--------|-------|-----------------|-----------------|----------|--------------------|
| Total Solids       | 81.9   |       |                 | 25-SEP-02 00:00 | CLP 3.0  | 02-066-77          |
| EPA 8082           |        |       |                 |                 |          |                    |
| PCB 1016           | U      | ug/kg | 110             | 26-SEP-02 10:43 | EPA 8082 | 02-004-9950        |
| PCB 1221           | U      | ug/kg | 230             | 26-SEP-02 10:43 | EPA 8082 | 02-004-9950        |
| PCB 1232           | U      | ug/kg | 110             | 26-SEP-02 10:43 | EPA 8082 | 02-004-9950        |
| PCB 1242           | U      | ug/kg | 110             | 26-SEP-02 10:43 | EPA 8082 | 02-004-9950        |
| PCB 1248           | U      | ug/kg | 110             | 26-SEP-02 10:43 | EPA 8082 | 02-004-9950        |
| PCB 1254           | 220    | ug/kg | 110             | 26-SEP-02 10:43 | EPA 8082 | 02-004-9950        |
| PCB 1260           | U      | ug/kg | 110             | 26-SEP-02 10:43 | EPA 8082 | 02-004-9950        |

### Extraction Information:

Surrogate Recovery:  
Tetrachloro-m-xylene  
Decachlorobiphenyl

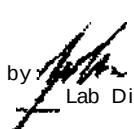
90  
110

25-SEP-02 00:00 EPA 3550 02-044-87

02-004-9950  
02-004-9950

Results calculated on a dry weight basis.

Page 1 of 1

Approved by:   
Lab Director

NY 10252 NJ 73168 PA 66180 EPA NY 00033

OCji ?J

KEY: ND = None Detected '< = less than ug/L = micrograms per liter (equivalent to parts per billion)  
mg/L = milligram per liter (equivalent to parts per million) mg/kg = milligrams per kilogram (equivalent to parts per million)  
= analyte was detected in the method or trip blank J = result estimated below the quantitation limit

Information in this report is accurate to the best of our knowledge and ability. In no event shall our liability exceed the cost of the services. Your samples will be discarded after 14 days unless we are advised otherwise.



32 ITHACA STREET  
TELEPHONE (607) 565-3500

WAVERLY, NY 14892-1532  
PAX (607) 565-4083

Date: 30-SEP-2002

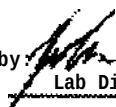
Lab Sample ID: L94538-7

AAA Environmental  
Peter Porter  
6679 Moore Road  
Syracuse, NY 13211

Sample Source: VIACOH/HORSEHEADS 1920S  
Origin: B-C-S-B-001 ; - J  
Description: COMPOSITE  
Sampled On: 24-SEP-02 15:40 by CLIENT  
Date Received: 25-SEP-02 15:25 :A  
P.O. NO: N/A

| Analysis Performed      | Result | Units | Detection Limit | Date Analyzed   | Method   | Notebook Reference |
|-------------------------|--------|-------|-----------------|-----------------|----------|--------------------|
| Total Solids            | 80.7   |       |                 | 25-SEP-02 00:00 | CLP 3.0  | 02-066-77          |
| EPA 8082                |        |       |                 |                 |          |                    |
| PCB 1016                | U      | ug/kg | 120             | 26-SEP-02 11:14 | EPA 8082 | 02-004-9951        |
| PCB 1221                | U      | ug/kg | 240             | 26-SEP-02 11:14 | EPA 8082 | 02-004-9951        |
| PCB 1232                | U      | ug/kg | 120             | 26-SEP-02 11:14 | EPA 8082 | 02-004-9951        |
| PCB 1242                | U      | ug/kg | 120             | 26-SEP-02 11:14 | EPA 8082 | 02-004-9951        |
| PCB 1248                | U      | ug/kg | 120             | 26-SEP-02 11:14 | EPA 8082 | 02-004-9951        |
| PCB 1254                | 1000   | ug/kg | 120             | 26-SEP-02 11:14 | EPA 8082 | 02-004-9951        |
| PCB 1260                | U      | ug/kg | 120             | 26-SEP-02 11:14 | EPA 8082 | 02-004-9951        |
| Extraction Information: |        |       |                 |                 |          |                    |
|                         |        |       |                 | 25-SEP-02 00:00 | EPA 3550 | 02-044-87          |
| Surrogate Recovery:     |        |       |                 |                 |          |                    |
| Tetrachloro-m-xylene    | 96     |       |                 |                 |          | 02-004-9951        |
| Dec^ Uprobi phenyl      | 141    |       |                 |                 |          | 02-004-9951        |

Results calculated on a dry weight basis.

Approved by:   
Lab Director

Page 1 of 1  
NY 10252 NJ 73168 PA 68180 EPA NY 00033

QC \*\*\*\*\*

KEY: ND of U s None Detected < = less than ug/L = micrograms per liter (equivalent to parts per billion)  
mg/L = milligram per liter (equivalent to parts per million) mg/kg = milligrams per kilogram (equivalent to parts per million)  
^^^J | ^ \_ = analyte was detected in the method or trip blank J = result estimated below the quantitation limit

**MB™** Information in this report is accurate to the best of our knowledge and ability. In no event shall our liability exceed the cost of our services. Your samples will be discarded after 14 days unless we are advised otherwise.

# ELI

F R I E N D  
LABORATORY  
I • N • C

32 ITHACA STREET  
TELEPHONE (607) 565-3500

WAVERLY, NY 14892-1532  
PAX (607) 565-4083

Date: 30-SEP-2002

Lab Sample ID: L94538-8  
AAA Environmental  
Peter Porter  
6 67 9 Moore Road  
Syracuse, NY 13211

Sample Source: VIACCW/HORSEHEADS 1920S  
Origin: B-B^STU-001  
Description;  
Sampled Ori.: 24'SEF>: ^2 15:40 by CLIENT  
Date Received: ^SENJ? 15:25  
P.O. No.: N/A: -.

| Analysis Performed | Result | Units | Detection Limit | Date Analyzed   | Method   | Notebook Reference |
|--------------------|--------|-------|-----------------|-----------------|----------|--------------------|
| Total Solids       | 86.2   |       |                 | 25-SEP-02 00:00 | CLP 3.0  | 02-066-77          |
| EPA 8082           |        |       |                 |                 |          |                    |
| PCB 1016           | U      | ug/kg | 110             | 26-SEP-02 11:46 | EPA 8082 | 02-004-9952        |
| PCB 1221           | U      | ug/kg | 210             | 26-SEP-02 11:46 | EPA 8082 | 02-004-9952        |
| PCB 1232           | U      | ug/kg | 110             | 26-SEP-02 11:46 | EPA 8082 | 02-004-9952        |
| PCB 1242           | U      | ug/kg | 110             | 26-SEP-02 11:46 | EPA 8082 | 02-004-9952        |
| PCB 1248           |        | ug/kg | 110             | 26-SEP-02 11:46 | EPA 8082 | 02-004-9952        |
| PCB 1254           | 270'T  | ug/kg | 110             | 26-SEP-02 11:46 | EPA 8082 | 02-004-9952        |
| PCB 1260           | U      | ug/kg | 110             | 26-SEP-02 11:46 | EPA 8082 | 02-004-9952        |

#### Extraction Information:

Surrogate Recovery:  
Tetrachloro-m-xylene  
Decachlorobiphenyl

103  
137

25-SEP-02 00:00 EPA 3550

02-044-87

02-004-9952  
02-001

*Handwritten signature/initials*

Results calculated on a dry weight basis.

Approved by: *[Signature]*  
Lab Director

Page 1 of 1  
NY 10252 NJ 73168 PA 68180 EPA NY 00033

QC L\*\*A.

KEY: ND = None Detected < = less than ug/L = micrograms per liter (equivalent to parts per billion)  
= milligram per liter (equivalent to parts per million) mg/kg = milligrams per kilogram (equivalent to parts per million)  
= analyte was detected in the method or trip blank J = result estimated below the quantitation limit

Information in this report is accurate to the best of our knowledge and ability. In no event shall our liability exceed the cost of these services. Your samples will be discarded after 14 days unless we are advised otherwise.

Likost



^sl/^r

ECT.CON INC.

^w I \^^w  
I Environmental and Computer  
Technology Consultants

*Support*

*Documentation*



*COC*



CUSTOMER



# CHAIN OF CUSTODY RECORD

PAGE 1

Yn

F

ONE RESEARCH CIRCLE

I<sup>4</sup> ft I fe N B  
AgQATORY

WAVERLY NY 14892-1532

Telephone (607) 565 3500

Fax (607) 565-4083

Sample Site: YstfCa^/^cr'SA&S

CLIENT: AAA Et<Vi&o""wrAt

INVOICE TO:

ADDRESS: tfo2\$ettE\*S>S

ADDRESS:

PHONE:

FAX:

PROJECT NO. / NAME

COPY TO:

ADDRESS:

P.O. #

DATE of TIME OF  
SAMPLE COLLECTION

SAMPLE DESCRIPTION

NUMBER OF  
CONTAINERS

ANALYSES / TESTS REQUESTED

NUMBER

V^/^/^/i/r

\* Q-s-ss-w-aoi (cy

>

7^^'i ^ ^

i

LAB USE ONLY

Description: GrabgTomposite> Other  
Matrix: DW WW MW(S5&Air Other

Qfafn-^xkxo

&&~B~S5 -f-coi

fC3<sup>f</sup>s &> ior

Description: GrabCCompositg? Other  
Matrix: DW WW MW<gJJl Air Other

^f/oz.^ /too

4f^&~B- \_S'E-ooi

)<

"r'cs's T^ SOIZL

-5

Description: Grab^CamposJie Other  
Matrix: DW WW MW gfl&Air Other

<sup>c</sup>i/z<//cdQ i\$~fo \*r/3-6-\*\_-w""oolM /

YCB's T«J Zo-cc-

-it,

Description: Grab \*ComposrTj>Other  
Matrix: DW WW MV<S\$JtAir Other  
J\_\_1, 1\_\_1\_\_L

RELINQUISHED BY

DATE /TIME

ACCEPTED BY

DATE/TIME

NOTES TO LABORATORY

SAMPLER I

qf/^&'lo^

Lia

V.a5

O  
IQ

SUSPECTED CONTAMINATION LEVEL

NONE SUGHT MODERATE HIGH (please circle)

CUSTO # .

# CHAIN OF H»DY RECORD

PAGE # «

TT? T T ONE RESEARCH CIRCLE  
Jf<sup>1</sup> X - i X WAVERLY NY 14892-1532  
y K-l fe N 5 Telephone (607) 565 3500  
^ Fax (607) 565-4083

Sample SiteL

CUENTiAAA £v\*fc\*\*\*/s\*«\*H INVOICE TO:  
ADDRESS: ^0^£HeA^>S ADDRESS:  
©,0 -Si-rf  
PHONE: FAX:

PROJECT NO. / NAME

COPY TO:  
ADDRESS:

P.O. #

|    |   |    |    |
|----|---|----|----|
| q. | o | q. | e  |
| m  | « | a: | x  |
| z  | « | ae | z: |

V^ACowWy^ft^^WE^^-S

- DATEa TIME OF  
SAMPLE COLLECTION

SAMPLE DESCRIPTION

NUMBER OF  
CONTAINERS<sub>k</sub>

ANAIYSES / TESTS REQUESTED

|       |              |
|-------|--------------|
| 94538 | NUMBER       |
| -7    | LAB USE ONLY |
| -8    |              |

y ^ / 6 Z - @l5H6

•4}=fc-c-^~&-o©|

"?CB's "XTA 5<TC<^

Description: Grab gtfmpostia Other  
Matrix: DW WW MWgolr^ir Other

Hjvfi\*. <L l5'<f6

tfg-B-S-\*^06

X

"pC-B'S -xi\* SoT(\_

Description: Grab (gompositij) Other  
Matrix: DW WW MW\*35DAir Other

Description: Grab Composite Other  
Matrix: DW WW MW Soil Air Other

Description: Grab Composite Other  
Matrix: DW WW MW Soil Air Other

RELINQUISHED BY

DATE /TIME

ACCEPTED BY

SAMPLER | " ^W  
f r f S c t i f G C & t i C i b ' X Z  
[Signature]

m<sub>3</sub>o

[Signature]  
'Jhnj f J f c f l o D  
6

|           |
|-----------|
| DATE/TIME |
| 9/20/02   |
| 2:29      |
| 9/25/02   |
| 3:25      |

NOTES TO LABORATORY

SUSPECTED CONTAMINATION LEVEL

NONE SLIGHT MODERATE HIGH (please circle)





## Laboratory Validation and Usability Assessment

**Project: AAA Environmental  
Viacom/Horseheads 19208  
Sampled September 21, 23, & 24, 2002**

The data reported in this package have been reviewed for compliance with QC acceptance limits as specified in the method cited for each analysis.

These statistical limits are typically based on historical laboratory data for a given sample matrix, and will not exceed any default limits specified by the method. CLP acceptance limits are also considered.

The following Quality Control operations are considered in the validation of reported results:

Holding times, surrogate recovery, spiked sample recovery, duplicates/spiked duplicate precision, tuning criteria, internal standard variation, continuing calibration variation, reference (check) sample recovery, and instrument, method, trip and field blanks. The appropriate frequency for each operation is also considered.

Every effort has been made to report data that is compliant with the EPA methodology cited for each analysis. In cases where the laboratory was unable to meet all method requirements prior to sample expiry, either due to the nature of the sample or other technical difficulty, results are reported with qualification with the understanding that qualified results may not be suitable for compliance purposes. The internal technical review is based on the USEPA Contract Laboratory Program *National Functional Guidelines for Organic Review* (EPA 540/R-94/012, February 1994) and *National Functional Guidelines for Inorganic Review* (EPA 5407R-94/013, February 1994).

### Validation

Sixteen site samples and a matrix spike/matrix spike duplicate set were received on September 23, 24, & 25, 2002, with ice and ice packs. The temperature, as received, was 3°C to 6°C.

## PCB

Site samples were analyzed by EPA method 8082 for PCBs with a two-microliter injection volume.

RTX-CLPesticides 1 and RTX-CLPesticides 2 capillary columns, 0.32 mm ID, with purge packed inlets and electronic pressure control are used on an Hewlett-Packard 5890 series II with dual ECD and an HP 7673 autosampler with simultaneous injection. Data is collected with HP Chemstation software and processed by Thruput with Target software. If a peak is detected within the retention time window of a target compound, second-column confirmation is performed. Column RTX-CLPesticides 2 was used for the primary analysis. Column RTX-CLPesticides 1 was used to confirm only the fingerprint, not the quantitation. Form 10B's are provided in order to verify pattern recognition.

PCB 1254 was detected in each of the site samples. Second-column analysis confirmed the presence of these targets. No PCBs were detected in the method blank.

Surrogate recoveries were within limits for the site samples.

Surrogate recoveries for the method blank and blank spike extracted on 9/25/02 were five times the expected amount. Since no PCBs were detected in the method blank, and blank spike recoveries of PCBs 1016 and 1260 were within the acceptance limits, no qualification was made.

Site sample A-B-SS-B-001 was spiked in duplicate. Spike recoveries were above the acceptance limits for the MS, and slightly above the acceptance limits for the MSD. Since PCB 1254 was present in this site sample, overlapping peaks probably caused an elevation of the recoveries.

Precision as indicated by RPD was within the acceptance limits.

Two blank spikes were associated with the site samples. Blank spike recoveries were within the acceptance limits.

No other analytical difficulties were encountered.

## Metals

Site samples were analyzed for TCLP Cadmium by Inductively Coupled Plasma - Optical Emission Spectrometry.

The ICP-OES instrument is an ARL 3560 with an AIM 1250 autosampler with an extension. The data is acquired with the Microactive, Australia software ICP Manager 35xx.

Laboratory Control sample recoveries for Cadmium were within acceptance limits.

No analytical difficulties were encountered.

## Wet Chemistry

Site samples were analyzed by EPA method 9095 for Paint Filter.

No analytical difficulties were encountered.

## Usability Assessment

All reported data were found to be valid and usable within the EPA National Functional Validation guidelines except those that were qualified in this Laboratory Validation.

Laboratory validation and  
Usability assessment conducted by: /Z&+JJ&\$L /I/L&ajt&L\*

Date: October 25, 2002

Elizabeth A. Keator  
Quality Assurance



. . .

*Worksheets*



# STANDARD OPERATING PROCEDURE

EPA Region II  
846 Method 8082

Date: May, 2002  
SOP HW-23B, Rev.1.0

fc-fc \*^~U>-<\*M,t61 ?y<0.? - /

YES NO N/A

## 5-,e.--3-co - α> ' PACKAGE COMPLETENESS AND DELIVERABLES

CASE NUMBER: \_\_\_\_\_ SDG#

LAB : n & t e t fdn0>T». -k.m. JtfL. SITE : /, \*£f\*i\*\_- //k/fe£ £S&C(

### 1.0 Data Completeness and Deliverables

1.1 Has all the data been submitted in CLP deliverable format?

U

1.2 Have any missing deliverables been received and added to the data package?

J\_L

ACTION: Call lab for explanation/resubmittal of any missing deliverables. If lab cannot provide them, note the effect on review of the data in the reviewer narrative.

### 2.0 Cover Letter. SDG Narrative

2.1 Is a laboratory narrative or cover letter present?

/  
rvΛ

2.2 Are the case number and/or SDG number contained in the narrative or cover letter?

\_LΛ

### 3.0 Data Validation Checklist

3.1 Does this data package contain:

Water data?

Waste data?

Soil/solid data?

/

YES NO N/A

POLYCHLORINATED BIPHENYLS

1.0 Traffic Reports and Laboratory Narrative

1.1 Are traffic report and chain-of-custody forms present for all samples? /  
FM \_\_\_\_\_.

ACTION: If no, contact lab for replacement of missing or illegible copies.

1.2 Do the traffic reports, chain-of-custody forms or SDG narrative indicate any problems with sample receipt, condition of the samples, analytical problems or special circumstances affecting the quality of the data? \_\_\_\_\_

ACTION: If any sample analyzed as a soil, other than TCLP, contains 50%-90% water, all data should be qualified as estimated, "J." If a soil sample, other than TCLP, contains more than 90% water, non detects, shall be qualified as unusable, "R."

ACTION: If samples were not iced or if the ice was melted upon arrival at the laboratory and the temperature of the cooler was elevated (> 10° C), flag all positive results "J" and all non-detects "UJ".

2.0 Holding Times

2.1 Have any PCB technical holding times, determined from date of collection to date of extraction, been exceeded? \_\_\_\_\_ A \_

Water and waste samples for PCB analysis must be extracted within 7 days of the date of collection. Extracts must be analyzed within 40 days of the date of extraction. Soils and solid samples must be extracted within 14 days of collection and analyzed within 40 days of extraction.

ACTION: If technical holding times are exceeded, flag all positive results as estimated, "J," and sample quantitation limits "UJ" and document in the narrative that holding times were exceeded. If analyses were done more than 14 days beyond holding time, either on the first analysis or upon re-analysis, the reviewer must use

## STANDARD OPERATING PROCEDURE

SEPA Region II  
846 Method 8082

Date: May, 2002  
SOP HW-23B, Rev.1.0

YES NO N/A

professional judgement to determine the reliability of the data and the effects of additional storage on the sample results. At a minimum, all the data should at least be qualified "J", but the reviewer may determine that non-detects are unusable, "R."

### 3.0 Surrogate Recovery (Form II) **M^r Lkf (ft\* ~ M\* IP\***

3.1 Were the recoveries of tetrachloro-m-xylene (TCMX) and decachlorobiphenyl (DCB) presented on CLP Surrogate Recovery Summary forms (Form II), or equivalent, for each of the following matrices?

a. Water/Waste

v/

b. Soil/Solid

J\_L \_\_\_\_\_ -U-

3.2 Are all the PCB samples listed on the appropriate surrogate recovery form for each of the following matrices?

a. Water

J\_L \_\_\_\_\_ ' \_\_\_\_\_

b. Waste

1/

c. Soil/Solid

1/

ACTION: Call lab for explanation/resubmittals.  
If missing deliverables are unavailable,  
document the effect in the data assessment.

3.3 Did the laboratory provide their developed in-house Surrogate recoveries?

J\_L \_\_\_\_\_ s

ACTION: If no, use 70 -130% recovery to qualify in section 3.4 below.

3.4 Were surrogate recoveries of TCMX or DCB outside of the laboratory-established upper (UCL) or lower (LCL) control limits for any sample or blank? \_\_\_\_\_ J\_L \_\_\_\_\_ /

ACTION: Circle all outliers in red.

ACTION: No qualification is done if surrogates are diluted out. If recovery for both surrogates is

YES NO N/A

below the LCL, but above 10%, flag all results for that sample "J". If recovery is < 10% for either surrogate, qualify positive results "J" and flag non-detects "R". If recovery is above the UCL for both surrogates qualify positive values "J".

Note: DCB is used when PCBs are determined as Aroclors. DCB is the internal standard when determining PCB congeners and TCMX the surrogate.

3.5 Were surrogate retention times (RT) within the windows established during the initial 5-point analysis?

ACTION: If the RT limits are not met, the analysis may be qualified unusable (R) for that sample on the basis of professional judgement. However, flag positive hits as estimate (J) if confirmed by GC/MS analysis.

3.6 Are there any transcription/calculation errors between raw data and Form II?

ACTION: If large errors exist, call lab for explanation/resubmittal. Make any necessary corrections and document the effect in data assessments.

4.0 Laboratory Control Sample \$ t\* ^ MfL \*\* f UW ~ \*/!/<"

4.1 Are raw data and percent recoveries present for all Laboratory Control samples as required by Method 8000B (section 8.5) and Method 8082 (section 8.4.2)?

f 1 \_\_\_\_\_ J

Verify that QC check samples were extracted and analyzed by the same procedures used for the actual samples.

ACTION: If any Laboratory Control Sample data are missing, call the lab for explanation /resubmittals. Make note in the data assessment.

NOTE: For aqueous samples, an additional QC check sample must be prepared and analyzed when any analyte in a matrix spike fails the required acceptance criteria (see section 5.3 below). The additional QC check sample must contain each analyte that failed in the MS analysis.

## STANDARD OPERATING PROCEDURE



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Date: May, 2002  
SOP HW-23B, Rev.1.0

YES NO N/A

Note: When the results for matrix spike analysis indicates a problem due to sample matrix effects, the LCS results are used to verify the laboratory can perform the analysis in a clean sample.

4.2 Were Laboratory Control Samples analyzed at the required concentration for all analytes of interest as specified in Method 8000B (sec.8.5)?

L 1      >/

ACTION: if Laboratory Control Samples were not analyzed at the required concentration or the required frequency, make note in the data assessment and use professional judgement to determined the affect on the data.

4.3 Were the LCS recoveries within the laboratory's in-house per cent recoveries (if not available, use 70 - 130%) J      

4.4 If no, were Laboratory Control Samples re-analyzed?

Note: Corrective action must be taken when one or more of the analytes of interest fail the QC acceptance criteria (Method 8000B, section 8.7.4)

ACTION: if QC check samples were not re-analyzed, or a general system problem is indicated by repeated failure to meet the QC acceptance criteria specified in the method, make note in the data assessment and use professional judgement to determine the effect on the data.

## 5.0 Matrix Spikes (Form II)

5.1 Are all data for one matrix spike and matrix duplicate (unspiked) pair (MS/Dup) or matrix spike/matrix spike duplicate (MS/MSD) present and complete for each matrix Method 8082{section 8.4.1)?

         J

NOTE: For soil and waste samples showing detectable amounts of organics, the lab may substitute replicate samples in place of the matrix spike (see Method 8000B-40, section 8.5.3)).

5.2 Have MS/Dup or MS/MSD results been summarized on modified CLP Form III?

y

ACTION: If any data are missing take action as specified in section 3.2 above.

5.3 Were matrix spikes analyzed at the required frequency

YES NO N/A

for each of the following matrices? (One MS/Dup, MS/MSD must be performed for every 20 samples of similar matrix or concentration level. Laboratories analyzing one to ten samples per month are required to analyze at least one MS per month (Method 8000B-39 (section 8.5)).

a. Water

>S

b. Waste

LL

c. Soil/Solid

y

ACTION: If any MS/Dup or MS/MSD data are missing, take the action specified in 3.2 above.

- 5.4 Were the 70 - 130% recoveries used to compare the matrix spike recoveries, or did the lab use the optional QC acceptance criteria discussed in Method 8000B-40(section 8.5.3.1)?

List the criteria used and make note in data assessment.

Criteria used \_\_\_\_\_

- 5.5 Was the matrix spike prepared at the proper spike concentration? (Method 8000B, section 8.5.1-8.5.2)

JJ

/

For aqueous organic extractable, the spike concentration should be prepared according options in: Method 8000B-40, (section 8.5.1 and 8.5.2).

ACTION: No action is taken based on MS or replicate data alone. However, using informed professional judgement, the data reviewer may use the matrix spike or laboratory replicate results in conjunction with other QC criteria and determine the need for some qualification of the data. In some instances it may be determined that only the replicate or spiked samples are affected. Alternatively, the data may suggest that the laboratory is having a systematic problem with one or more analytes, thereby affecting all associated samples.

## 6.0 Blanks (Form IV)

## STANDARD OPERATING PROCEDURE

SEPA Region II  
846 Method 8082Date: May, 2002  
SOP HW-23B, Rev.1.0

YES NO N/A

6.1 Was reagent blank data reported on CLP equivalent  
Method Blank Summary form(s) (Form IV)? / 1-A \_\_\_\_\_

6.2 Frequency of Analysis: Has a reagent blank been  
analyzed for every 20 (or less) samples  
of similar matrix or concentration or each  
extraction batch? ✓

ACTION: If any blank data are missing, take action as  
specified above (section 3.2) . If blank data is  
not available, reject (R) all associated positive  
data. However, using professional judgement, the  
data reviewer may substitute field blank data for  
missing method blank data.

6.3 Chromatography: review the blank raw data -  
chromatograms, quant reports or data system  
printouts.

Is the chromatographic performance (baseline  
stability) for each instrument acceptable for  
PCBs?

n/\_\_\_\_\_

« • ACTION: Use professional judgement to determine the  
effect on the data.

## 7.0 Contami

NOTE: "Water blanks", "distilled water blanks" and  
"drilling water blanks" are validated like any  
other sample and are not used to qualify the  
data. Do not confuse them with the other QC  
blanks discussed below.

7.1 Do any method/instrument/reagent/cleanup blanks  
have positive results for PCBs? When applied as  
described below, the contaminant concentration  
in these blanks are multiplied by the sample  
Dilution Factor and corrected for % moisture  
when necessary. \_\_\_\_\_ J\_L \_\_\_\_\_ /

7.2 Do any field/rinse blanks have positive  
PCB results? \_\_\_\_\_ J\_L \_\_\_\_\_ y  
\_\_\_\_\_ £

ACTION: Prepare a list of the samples associated with  
each of the contaminated blanks. (Attach a  
separate sheet.)

NOTE: All field blank results associated to a  
particular group of samples (may exceed one per  
case or one per day) may be used to qualify data.

« •



## STANDARD OPERATING PROCEDURE

USEPA Region II  
SW846 Method 8082

Date: May, 2002  
SOP HW-23B, Rev.1.0

YES NO N/A

Blanks may not be qualified because of contamination in another blank. Field blanks must be qualified for surrogate, or calibration QC problems.

ACTION; Follow the directions in the table below to qualify sample results due to contamination. Use the largest value from all the associated blanks.

|                                      |                                             |                                          |
|--------------------------------------|---------------------------------------------|------------------------------------------|
| Sample conc > EDL but < 5<br>x blank | Sample conc < EDL & is <<br>5 x blank value | Sample conc > EDL & > 5<br>x blank value |
| Flag sample result with a<br>"U"     | Report EDL & qualify<br>"U"                 | No qualification is<br>needed            |

NOTE: If gross blank contamination exists, all data in the associated samples should be qualified as unusable (R).

7.3 Are there field/rinse/equipment blanks associated with every sample?

i /

ACTION: For low level samples, note in data assessment that there is no associated field/rinse/equipment blank. Exception: samples taken from a drinking water tap do not have associated field blanks.

## 8.0 GC Apparatus and Materials *jd fr Pt^ l/Jo\* -t / ft ^ ~ JL?M US*

8.1 Was the proper gas chromatographic capillary column used for the analysis of PCBs?

Action: Check raw data, instrument logs, or contact the lab to determine what type of columns were used. (Method 8082, section 4.2)

y

8.2 Indicate the specific type of narrow bore or wide bore (.53 mm ID, fused silica GC columns, such as DB-608 and DB-1701 or equivalent).

column 1: \_\_\_\_\_

column 2: \_\_\_\_\_

ACTION: Note any changes to the suggested materials in section 8.1 above in the data assessment. Also note the impact (positive or negative) such changes have on the analytical results.

## STANDARD OPERATING PROCEDURE

kSEPA Region II  
846 Method 8082

Date: May, 2002  
SOP HW-23B, Rev.1.0

YES NO N/A

9.0 Calibration and GC Performance

9.1 Are the following Gas Chromatograms and Data Systems Printouts for both columns present for all samples/ blanks, MS, replicates?

a. Samples

b. All blanks

- Matrix spike samples

5 pt. initial calibration standards

/ s- calibration verification standards

- ^Laboratory Control samples <LCS)

*iA* \_

*J L* \_ *y*

*IA* \_

*\*/tyy.*

*<I*

ACTION: If no, take action specified in 3.2 above.

9.2 Are data summary forms (containing calibration factors or response factors) for the initial 5 pt. calibration and daily calibration verification standards present and complete for each column and each analytical sequence?

*Mm\*-'*

*j* \_

Note: Calibration Aroclor mixtures other than 1016/1260 may be used (as per approved project QA plan)

NOTE: If internal standard calibration procedure is used (Method 8000B-15(section 7.4.2.2)), then response factors must be used for %RSD calculations and compound quantitation. If, external standard calibration procedures are used (Method 8000B-16 (section 7.4.2.1)), then calibration factors must be used. The internal standard approach is highly recommended for PCB congener analysis.

ACTION: If any data are missing or it cannot be determined how the laboratory calculated calibration factors or response factors, contact the lab for explanation/resubmittals. Make necessary corrections and note any problems in the data assessment.

9.3 Are there any transcription/calculation errors between raw data and data summary forms?

ACTION: If large errors exist, call lab for

YES NO N/A

explanation/resubmittal, make necessary corrections and document the effect in data assessments.

- 9.4 Are standard retention time (RT) windows for each PCB peak of interest presented on modified CLP summary, forms? 

ACTION: If any data are missing, or it cannot be determined how RT windows were calculated, call the lab for explanation/resubmittals. Note any problems in the data assessment.

NOTE: Retention time windows for all PCBs are established using retention times from three calibration standards analyzed during the entire analytical sequence (Method 8000B, section 7.6).

Best results are obtained using retention times which span the entire sequence; i.e., using the calibration verification/continuing calibration standards analyzed every 12 hours.

- 9.5 Were RT windows on the confirmation column established using three standards as described above?

NOTE: RT windows for the confirmation column should be established using a 3 pt. calibration, preferably spanning the entire analytical sequence as described in 9.4 above. If RT windows on one column are tighter than the other, this may result in false negatives when attempting to identify compounds in the samples.

U    
used.  
value for multi-std  
value for  
std.  
to  
JCO<sup>A</sup>

ACTION: Note potential problems, if any, in the data assessment.

- 9.6 Do all standard retention times in each level of the initial 5 pt. calibrations for PCBs fall within the windows established during the initial calibration sequence?

xy\_

ACTION i: if no, all samples in the entire analytical sequence are potentially affected. Check to see if three standard spanning the entire sequence were used to obtained RT windows. If the lab used three standards from the 5 pt., RT windows may be too tight. If so, RT windows should be recalculated as per Method 8081B-15 (section 7.4.6).

ii. Alternatively, check to see if the chromatograms contain peaks

YES NO N/A

within an expanded window surrounding the expected retention times.

If no peaks are found and the surrogates are visible, non-detects are valid. If peaks are present but cannot be discerned through pattern recognition or by using revised RT windows, qualify all positive results and non-detects as unusable, "R".

- 9.7 Has the linearity criteria for the initial calibration standards been satisfied for both columns? (% RSD must be < 20.0% for all analytes) .

— ^ \_[H

ACTION: If no, qualify all associated positive results generated during the entire analytical sequence "J" and all non-detects "UJ". When RSD > 90%, flag all non-detect results for that analyte "R" (unusable).

- 9.8 Does the calibration verification/continuing Calibration standard contain the PCB peaks of interest, analyzed on each working day, prior to sample analyses (Method 8082, sections 7.6.2)?

J \_\_\_\_\_

- 9.9 Has a calibration verification/continuing calibration standard been analyzed after every 10 samples and at the end of each analytical sequence (Method 8082, section 7.6.2)

✓

ACTION: If no, take action as specified in section 3.2 above.

- 9.10 Has the percent difference (%D) exceeded  $\pm 15\%$  for any PCB analyte in any calibration verification/Continuing calibration standard?

C^f sjs^

✓

- 9.11 Has a new 5 pt. initial calibration curve been generated for those PCB analytes which failed in the calibration verification/continuing calibration standard (8000B, section 7.7.3), and all samples which followed the out-of-control calibration verification/standard continuing calibration Standard?

—[! -

✓

ACTION: If the %D for any analyte exceeded the  $\pm 15\%$  criterion and the instrument was not recalibrated for those analytes, qualify positive results for all associated samples (those which followed the out-of-control standard) "J" and sample quantitation limits "UJ". If the %D was > 90%

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YES NO N/A

for any analyte, qualify non-detects "R",  
unusable.

**rtJ\***<sup>1/</sup>  
**I-**

- 9.12 Have retention time (RT) windows been properly calculated for each analyte of interest (Method 8000B, section 7.6), using RTs from the associated calibration verification/continuing standard?

h/i

ACTION: If no, take action specified in section 3.2 above

- 9.13 Do all standard retention times for each calibration verification/continuing calibration standard fall within the windows established during the initial calibration sequence?

- 9.14 Do all standard retention times for each mid-concentration standard (analyzed after every 10 samples) fall within the daily RT windows

ACTION: If the answer to either 9.13 or 9.14 above is no, check the chromatograms of all samples which followed the last in-control standard. All samples analyzed after the last in-control standard must be re-injected, if initial analysis indicated the presence of the specific analyte that exceeded the retention time criteria. If samples were not re-analyzed, document under Contract Non-compliance in the Data Assessment.

Reviewer has two options to determine how to qualify questionable sample data. First option is to determine if possible peaks are present within daily retention time window. If no possible peaks are found, non-detects are valid. If possible peaks are found (or interference), qualify positive hits as presumptively present "NJ" and non-detects are rejected "R". Second option is to use the ratio of the retention time of the analyte over the retention time of either surrogate. The passing criteria is  $\pm 0.06$  RRT units of the RRT of the standard component. Reject "R" all questionable analytes exceeding criteria, and "NJ" all other positive hits.

For any multi-response analytes, retention time windows should be used but analyst and reviewer should rely primarily on pattern recognition or use option 2 specified in paragraph above.

- 9.15 Are there any transcription/calculation errors

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YES NO N/A

between raw data and data summary forms?

**u**

ACTION: If large errors exists, call lab for explanation/resubmittal, make any necessary corrections and document the effect in data assessments under "Conclusions".

10.0 Analytical Sequence Check (Form VIII-PEST)

10.1 Have all samples been listed on CLP Form VIII or equivalent, and are separate forms present for each column?

**A**\_\_\_\_\_

ACTION: If no, take action specified in 3.2 above.

10.2 Was the proper analytical sequence followed for each initial calibration and subsequent analyses?

**ML**

ACTION: If no, use professional judgement to determine the severity of the effect on the data and qualify it accordingly. Generally, the effect is negligible unless the sequence was grossly altered or the calibration was also out of limits.

10.3 Were the TCMX/DCB surrogate RTs for the samples within the mean surrogate RT from the initial calibration?

**✓**

Action: If no, see "Action" in section 9.14 above

11.0 Extraction Techniques for Sample Preparation **Aj A w ^ {pM^ ^ ( foke tHAn\*\*/**

Method 8081B permits a variety of extraction techniques to be used for sample preparation. Which extraction procedure was used?

1. Aqueous samples:

1. Separatory funnel (Method 3510)
2. Continuous liquid-liquid extraction {Method 3520)
3. Solid phase extraction (Method 3535)
4. Other

2. Solid samples:

1. Soxhlet (Method 3540)

**LL**

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YES NO N/A

- |                                        |                 |
|----------------------------------------|-----------------|
| 2. Automated Soxhlet (Method 3541)     | <u>LJ</u> _____ |
| 3. Pressurized fluid (Method 3545)     | I]_             |
| 4. Microwave extraction (Method 3546)  | J_L             |
| 5. Ultrasonic extraction (Method 3550) | J_1             |
| 6. Supercritical fluid (Method 3562)   |                 |
| 7. Other                               |                 |

11.1 Extract Cleanup - Efficiency Verification (Form IX)

*tf^jM+Zfa'Ap'*

- 11.1.1 Method 8082 (section 7.2) references method 3660 (sulfur) and 3665A (sulfuric acid) to use for Cleaning extracts. Were one or both method used? J\_]\_

ACTION: If no, take action specified in 3.2 above. If data suggests cleanup was not performed, make note in the data assessment.

NOTE: Method 3620A, Florisil, may be used per approved project QA plan. The method does not list which analytes and surrogate(s) to use to verify column efficiency. The reviewer must check project plan to verify method used as well as the correct PCB list. If not stated or available, use the CLP listing or accept what the laboratory used.

- 11.2 Are all samples listed on modified CLP PCBs Florisil/Cartridge Check Form? [...]

ACTION: If no, take action specified in 3.2 above.

- 11.3 Was GPC Cleanup (method 3640A) performed? f\_1

NOTE: GPC cleanup is not required and is optional. The reviewer should check Project Plan to verify requirement.

- 11.4 Were the same PCB analytes used in calibration used to check the efficiency of the cleanup procedures? f\_1

- 11.5 Are percent recoveries (% R) of the PCBs and surrogate compounds used to check the efficiency of the cleanup procedures within lab's in-house QC limits (use 70-130% if not available) J\_J\_

70-130% for GPC calibration?

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« »

YES NO N/A

Qualify only the analyte(s) which fail the recovery criteria as follows:

ACTION: If % R are < 80%, qualify positive results "J" and quantitation limits "UJ". Non-detects should be qualified "R" if zero %R was obtained for PCBs. Use professional judgement to qualify positive results if recoveries are greater than the upper limit.

## 12.0 PCB Identification

12.1 Has CLP Form X or equivalent, showing **retention time** data for positive results on the two GC columns, been completed for every sample in which a PCB was detected?

FAI

ACTION: If no, take action specified in 3.2 above, or compile a list comparing the retention times for all sample hits on the two columns.

12.2 Are there any transcription/calculation errors between raw data and data summary forms (initial calibration summaries, calibration verification summaries, analytical sequence summaries, GPC and cleanup verification forms)?

ACTION: If large errors exist, call lab for explanation/resubmittal, make necessary corrections and note error in the data assessment.

12.3 Are retention times (RT) of sample compounds within the established RT windows for both columns/analyses?

ACTION: Qualify as unusable (R) all positive results which were not confirmed by second GC column analysis. Also qualify "R", unusable, all positive results not within RT windows unless associated standard compounds are similarly biased. The reviewer should use professional judgement to assign an appropriate quantitation limit.

12.4 Check chromatograms for false negatives, especially if RT windows on each column were established differently.  
Were there any false negatives?

*Not for AP3 for 10/12  
Please only use  
retention  
fingerprints.*

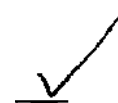


YES NO N/A

ACTION: Use professional judgement to decide if the compound should be reported. If there is reason to believe that peaks outside retention RT windows should be reported, make corrections to data summary forms (Form I) and note in data assessment.

12.5 Was GC/MS confirmation provided when sample concentration was sufficient (> 10 ug/ml) in the final extract?

J\_L



ACTION: Indicate with red pencil which Form I results were confirmed by GC/MS and also note in data assessment.

12.6 Is the percent difference (%D) calculated for the positive sample results on the two GC columns <25.0%?

NOTE: The method requires quantitation from one column. The second column is to confirm the presence of an analyte. It is the reviewer's responsibility to verify from the project plan what the lab was required to report. If the lab was required to report concentrations from both columns, continue with validation for % Difference. If required, but not reported, either contact the lab for results or calculate the concentrations from the calibration. If not required, skip this section. Document actions in Data Assessment.

g  
a-  
i  
<sup>4f.</sup>  
%m

ACTION: If the reviewer finds neither column shows interference for the positive hits, the data should be qualified as follows:

| <u>% Difference</u>                | <u>Qualifier</u> |
|------------------------------------|------------------|
| 0-25%                              | none             |
| 26-70%                             | "J"              |
| 71-100%                            | "NJ"             |
| >100% *                            | "R"              |
| 100-200% (Interference detected)** | "NJ"             |
| >50% (PCBs value is <CRQL)         | "U"              |

When the reported PCBs value is <CRQL and the %D is >50%, raise the value to the CRQL and qualify with "U" (non-detect).

\* Check the chromatogram. If pattern is confirmed qualify "J". If pattern is mixed, has interference, or the PCB cannot be positively determined due to weathering, qualify "JN".

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YES NO N/A

If PCB can not be confirmed, qualify the PCB as "R".

When the reported %D is 100-200% but interference is detected in either column, qualify the data with "NJ".

13.0 Compound Quantitation and Reported Detection Limits

13.1 Are there any transcription/calculation errors in Form I results? Check at least two positive values. Were any errors found?

NOTE: Single-peak PCBs results can be checked for rough agreement between quantitative results obtained on the two GC columns. The reviewer should use professional judgement to decide whether a much larger concentration obtained on one column versus the other indicates the presence of an interfering compound. If an interference is suspected, the lower of the two values should be reported and qualified according to section 12.6 above. This necessitates a determination of an estimated concentration on the confirmation column. The narrative should indicate that the presence of interferences has led to the quantitation of the second column confirmation results.

13.2 Are the EDLs (Estimated Detection Limits) adjusted to reflect sample dilutions and, for soils, % moisture?

ACTION: If errors are large, call lab for explanation/resubmittal, make any necessary corrections and document effect in data assessments.

ACTION When a sample is analyzed at more than one dilution, the lowest EDLs are used (unless a QC exceedance dictates the use of the higher EDL data from the diluted sample analysis). Replace concentrations that exceed the calibration range in the original analysis by crossing out the value on the original Form I and substituting it with data from the analysis of diluted sample. Specify which Form I is to be used, then draw a red "X" across the entire page of all Form I's that should not be used, including any in the summary package.

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- Li\*to<sup>S</sup>

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YES NO N/A

ACTION: EDLs affected by large, off-scale peaks should be qualified as unusable, "R". If the interference is on-scale, the reviewer can provide a modified EDL flagged "UJ" for each affected compound.

14.0 Chromatoaram Quality

14.1 Were baselines stable?

✓

14.2 Were any electropositive displacement (negative peaks) or unusual peaks seen?

✓

ACTION: Note all system performance problems in the data assessment: A

15.0 Field Duplicates <sup>LV</sup> \* \* '« - \* < ' J\*MA^~ ALVIIS

15.1 Were any field duplicates submitted for PCB analysis?

f 1

ACTION: Compare the reported results for field duplicates and calculate the relative percent difference.

ACTION: Any gross variation between field duplicate results must be addressed in the reviewer narrative. However, if large differences exist, the identity of the field duplicates is questionable. An attempt should be made to determine the proper identification of field duplicates.

4C  
PESTICIDE METHOD BLANK SUMMARY

NYSDEC SAMPLE NO.

**MB 87**

Lab Name: FRIEND LABORATORY, INC.    Contract:  
 Lab Code: 10252    Case No.:    SAS No.:    SDG No.: AAA  
 Lab Sample ID: MB 87    Lab File ID: E2989945  
 Matrix: (soil/water) SOIL    Extraction:(SepF/Cont/Sonc) SONC  
 Sulfur Cleanup: (Y/N) N    Date Extracted: 09/25/02  
 Date Analyzed (1): 09/26/02    Date Analyzed (2):  
 Time Analyzed (1): 0803    Time Analyzed (2):  
 Instrument ID (1): HP1    Instrument ID (2): HP3  
 GC Column (1): RTX-CLPESTIC1DES2    ID 0.32 (mm)  
 GC Column (2): RTX-CLPESTICIDES1    ID 0.32 (mm)

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

|    | NYSDEC<br>SAMPLE NO. | LAB<br>SAMPLE ID | DATE<br>ANALYZED 1 | DATE<br>ANALYZED 2 |
|----|----------------------|------------------|--------------------|--------------------|
| 01 | QC87                 | QC87             | 09/26/02           | 09/26/02           |
| 02 | L94538-1             | L94538-1         | 09/26/02           | 09/26/02           |
| 03 | L94538-2             | L94538-2         | 09/26/02           | 09/26/02           |
| 04 | L94538-5             | L94538-5         | 09/26/02           | 09/26/02           |
| 05 | L94538-6             | L94538-6         | 09/26/02           | 09/26/02           |
| 06 | L94538-7             | L94538-7         | 09/26/02           | 09/26/02           |
| 07 | L94538-8             | L94538-8         | 09/26/02           | 09/26/02           |
| 08 | L94538-2MS           | L94538-2MS       | 09/26/02           | 09/26/02           |
| 09 | L94538-2MSD          | L94538-2MSD      | 09/26/02           | 09/26/02           |
| 10 |                      |                  |                    |                    |
| 11 |                      |                  |                    |                    |
| 12 |                      |                  |                    |                    |
| 13 |                      |                  |                    |                    |
| 14 |                      |                  |                    |                    |
| 15 |                      |                  |                    |                    |
| 16 |                      |                  |                    |                    |
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| 25 |                      |                  |                    |                    |
| 26 |                      |                  |                    |                    |

COMMENTS

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00009

4 C  
PESTICIDE METHOD BLANK SUMMARY

NYSDEC SAMPLE NO.

MB 84

|                                                        |                                  |
|--------------------------------------------------------|----------------------------------|
| Lab Name: FRIEND LABORATORY, INC.                      | Contract:                        |
| Lab Code: 10252      Case No.: _____                   | SAS No.: _____                   |
| Lab Sample ID: MB 84                                   | SDG No.: AAA                     |
| Matrix: (soil/water) SOIL                              | Lab File ID: E2989924            |
| Sulfur Cleanup: (Y/N) N                                | Extraction:(SepF/Cont/Sonc) SONC |
| tete Analyzed (1): 09/25/02                            | Date Extracted: 09/24/02         |
| Time Analyzed (1): 1314                                | Date Analyzed (2): _____         |
| Instrument ID (1): HP1                                 | Time Analyzed (2): _____         |
| GC Column (1): RTX-CLPESTICIDES2    ID    0.32    (mm) | Instrument ID (2): HP3           |
| GC Colum\ (2): RTX-CLPESTICIDES1    ID    0.32    (mm) |                                  |

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

|    | "NYSDEC<br>SAMPLE NO. | LAB<br>SAMPLE ID | DATE<br>ANALYZED 1 | DATE<br>ANALYZED 2 |
|----|-----------------------|------------------|--------------------|--------------------|
| 01 | QC84 \                | QC84             | 09/25/02           | 09/25/02           |
| 02 | L94363-4 \            | L94363-4         | 09/25/02           | 09/25/02           |
| 03 | L94363-6 \            | L94363-6         | 09/25/02           | 09/25/02           |
| 04 | L94363-8 x            | L94363-8         | 09/25/02           | 09/25/02           |
| 05 | L94363-10             | LS4363-10        | 09/25/02           | 09/25/02           |
| 06 | L94363-12             | L94>63-12        | 09/25/02           | 09/25/02           |
| 07 | L94363-2              | L94363-2         | 09/25/02           | 09/25/02           |
| 08 |                       |                  |                    |                    |
| 09 |                       |                  |                    |                    |
| 10 |                       |                  |                    |                    |
| 11 |                       |                  |                    |                    |
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| 26 |                       |                  |                    |                    |

COMMENTS

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00008

ID  
PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

MB87

Lab Name: Contract:  
Lab Code: Case No. : SAS No. : SDG No. : AAA925  
Matrix: (soil/water) SOIL Lab Sample ID: MB87  
Sample wt/vol: 10.0 (g/mL) G Lab File ID: E2989945  
% Moisture: 0 decanted: (Y/N) N Date Received: 09/25/2  
Extraction: {SepF/Cont/Sonc) SONC Date Extracted: 09/25/2  
Concentrated Extract Volume: 10000 (up Date Analyzed: 09/26/2  
Injection Volume: . 2.0(uL) Dilution Factor: 1.0  
GPC Cleanup: (Y/N) N pH: 7.0 Sulfur Cleanup: (Y/N) N

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

12674-11-2\_\_\_\_ -Aroclor- 1016  
1104-28-2\_\_\_\_ -Aroclor- 1221'  
11141-16-5\_\_\_\_ -Aroclor- 1232"  
53469-21-9\_\_\_\_ -Aroclor- 1242"  
11097-69-1--- -Aroclor- 1254"  
11096-82-5--- -Aroclor- 1260"  
                  -Aroclor- 1248"

/E>& TT.011'U  
20 -0.02 U  
10 -0.01 U  
10 -0.01 U  
10 -0.01 U  
10 -0.01 U  
10 -0.01 U  
var  
/oj^sfijx-

Friend Inc.

Data File: /chem/hpl.i/8082r0917.b/E2989924.D  
Method: /chem/hpl.i/8082r0917.b/8082\_PCBsec.M  
Sample Info: MB84  
Misc Info:  
Analysis Date: 25-SEP-2002 13:14  
Sample Matrix: SOIL  
File Number: 9924

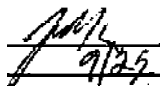
|                 |          |
|-----------------|----------|
| Dilution Factor | 1.0000   |
| Sample Weight   | 10.4202  |
| Final Volume    | 10.0000  |
| Total Solid     | 100.0000 |

Analytes (ug/Kg)

|                      |         |
|----------------------|---------|
| Aroclor-1016         | 0.00    |
| Aroclor-1221         | 0.00    |
| Aroclor-1232         | 0.00    |
| Aroclor-1242         | 0.00    |
| Aroclor-1254         | 0.00    |
| Aroclor-1260         | 0.00    |
| Aroclor-1248         | 0.00    |
| Tetrachloro-m-xylene | 94.24%  |
| Decachlorobiphenyl   | 132.37% |

Analyst: CPW  
Report Date: 09/25/2002 15:37

Supervisor:  
Date:

  
9/25

Thru-Put Systems, Inc

Data file : \chem\hpl.i\8082r0917.b\E2989945.D  
Lab Smp Id: MB87 Client Smp ID: MB87  
Inj Date : 26-SEP-2002 08:03  
Operator : CPW Inst ID: hpl.i  
Smp Info : MB87  
Misc Info  
Comment  
Method \chem\hpl.i\8082r0917.b\8082\_PCBsec.M  
Meth Date 26-Sep-2002 12:38 Administra Quant Type: ESTD  
Cal Date 17-SEP-2002 16:43 Cal File: E2989834.D  
Als bottle 1  
Dil Factor: 1.00000  
Integrator: Falcon  
Target Version: 3.40  
Processing Host: TARGET3  
Compound Sublist: PCB.sub  
Sample Matrix: SOIL

Concentration Formula:  $\text{Amt} * \text{DF} * ((\text{Vf} / \text{Ws}) * \text{Uf}) / \text{Ts} * 1000$

| Name | Value   | Description                    |
|------|---------|--------------------------------|
| DF   | 1.000   | Dilution Factor                |
| Vf   | 10.000  | Final volume                   |
| Ws   | 10.037  | Weight of sample extracted (g) |
| Uf   | 0.100   | Unit Correction Factor         |
| Ts   | 100.000 | Total Solid                    |

|        |                      | CONCENTRATIONS |                  |         |              |       |  |
|--------|----------------------|----------------|------------------|---------|--------------|-------|--|
|        |                      | ON-COL         | FINAL            |         |              |       |  |
| RT     | EXP RT               | DLT RT         | RESPONSE ( ug/L) | (ug/Kg) | TARGET RANGE | RATIO |  |
| S 1    | Tetrachloro-m-xylene | CAS #:         |                  |         |              |       |  |
| 7.973  | 7.997                | -0.024         | 3885733          | 479.418 | 477.65       | (R)   |  |
| S 29   | Decachlorobiphenyl   | CAS tt:        |                  |         |              |       |  |
| 20.123 | 20.130               | -0.007         | 3131701          | 595.878 | 593.6B       | (R)   |  |

### QC Flag Legend

R - Spike/Surrogate failed recovery limits.



```
000000000i^j^^P^j\j^P^P^rwwwwwroMnroNroojojcjwwwwojwA*.***.*.*.  
!~>u^Avl7>(0^f0P^f0(f^f^f^f^f^>M^D^$cP^r00^0^0M^f0^0^N0AG^0i^C0if0PNUAUlitt^>
```

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 "a  
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 VD  
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 ej

00233

Friend Inc.

Data File: /chem/hpl.i/8082r0917.b/E2989945.D  
Method: /chem/hpl.i/8082r0917.b/8082\_PCBsec.M  
Sample Info: MB87  
Misc Info:  
Analysis Date: 26-SEP-2002 08:03  
Sample Matrix SOIL  
File Number 9945

Dilution Factor 1.0000  
Sample Weight 10.0371  
Final Volume 10.0000  
Total Solid 100.0000

Analytes (ug/Kg)

|                      |         |
|----------------------|---------|
| Aroclor-1016         | 0.00    |
| Aroclor-1221         | 0.00    |
| Aroclor-1232         | 0.00    |
| Aroclor-1242         | 0.00    |
| Aroclor-1254         | 0.00    |
| Aroclor-1260         | 0.00    |
| Aroclor-1248         | 0.00    |
| Tetrachloro-m-xylene | 479.42% |
| Decachlorobiphenyl   | 595.88% |

**U**

Analyst: CPW  
Report Date: 09/26/2002 12:43

Supervisor:  
Date:'

**/f\*/\***

ID  
PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

QC84

Lab Name: Contract: .  
 Lab Code: Case No. : SAS No. : SDG No. : AAA923  
 Matrix: (soil/water) SOIL Lab Sample ID: QC84  
 Sample wt/vol: 10.0 (g/mL) G Lab File ID: E2989917  
 % Moisture: 0 decanted: (Y/N) N Date Received: 09/23/2  
 Extraction: (SepF/Cont/Sonc) SONC Date Extracted: 09/24/2  
 Concentrated Extract Volume: iQfiQQ (uL) Date Analyzed: 09/25/2  
 Injection Volume: 2.0(uL) Dilution Factor: 1.0  
 GPC Cleanup: (Y/N) N pH: 7.0 Sulfur Cleanup: (Y/N) N

| CAS NO.       | COMPOUND      | CONCENTRATION UNITS:<br>(ug/L or ug/Kg) UG/KG |
|---------------|---------------|-----------------------------------------------|
| 12674-11-2--- | Aroclor-1016  | 494.02                                        |
| 11096-82-5--- | Aroclor-1260" | 572.76 E                                      |

6D

Lab Name: FRIEND LABORATORY, INC. Contract:

b Code: 10252 Case No.: SAS No.: SDG No.: AAA

rument ID: HP1

Column: RTX-CLPest2 ID: 0.32 (mm)

Date(s) Analyzed: 09/17/02 09/17/02

File Numbers: 9827-9843

| COMPOUND             | Peak # | RT OF STANDARDS |        |          |         |         |          | MEAN RT | RT WINDOW |       |
|----------------------|--------|-----------------|--------|----------|---------|---------|----------|---------|-----------|-------|
|                      |        | 10ppb           | 50 ppb | 1100 ppb | 250 ppb | 500 ppb | 1000 ppb |         | FROM 1    | TO    |
| PCB1016              | 1*     | 10.19           | 10.20  | 10.20    | 10.20   | 10.21   | 10.21    | 10.20   | 10.10     | 10.30 |
|                      | 2*     | 10.71           | 10.71  | 10.71    | 10.71   | 10.71   | 10.71    | 10.71   | 10.61     | 10.81 |
|                      | 3*     | 11.89           | 11.89  | 11.90    | 11.90   | 11.90   | 11.90    | 11.90   | 11.80     | 12.00 |
|                      | 4      | 11.97           | 11.98  | 11.98    | 11.98   | 11.98   | 11.98    | 11.98   | 11.88     | 12.08 |
|                      | 5      | 12.67           | 12.68  | 12.68    | 12.68   | 12.69   | 12.69    | 12.68   | 12.58     | 12.78 |
| PCB 1221             | 1*     |                 |        |          | 8.79    |         |          | 8.79    | 8.69      | 8.89  |
|                      | 2*     |                 |        |          | 9.12    |         |          | 9.12    | 9.02      | 9.22  |
|                      | 3*     |                 |        |          | 9.27    |         |          | 9.27    | 9.17      | 9.37  |
| PCB1232              | 1*     |                 |        |          | 9.27    |         |          | 9.27    | 9.17      | 9.37  |
|                      | 2*     |                 |        |          | 10.20   |         |          | 10.20   | 10.10     | 10.30 |
|                      | 3*     |                 |        |          | 11.19   |         |          | 11.19   | 11.09     | 11.29 |
|                      | 4      |                 |        |          | 11.47   |         |          | 11.47   | 11.37     | 11.57 |
|                      | 5      |                 |        |          | 11.97   |         |          | 11.97   | 11.87     | 12.07 |
| PCB 1242             | 1*     |                 |        |          | 10.20   |         |          | 10.20   | 10.10     | 10.30 |
|                      | 2*     |                 |        |          | 11.19   |         |          | 11.19   | 11.09     | 11.29 |
|                      | 3*     |                 |        |          | 11.47   |         |          | 11.47   | 11.37     | 11.57 |
|                      | 4      |                 |        |          | 12.68   |         |          | 12.68   | 12.58     | 12.78 |
|                      | 5      |                 |        |          | 13.29   |         |          | 13.29   | 13.19     | 13.39 |
| K B 1248             | 1*     |                 |        |          | 11.19   |         |          | 11.19   | 11.09     | 11.29 |
|                      | 2*     |                 |        |          | 11.90   |         |          | 11.90   | 11.80     | 12.00 |
|                      | 3*     |                 |        |          | 12.68   |         |          | 12.68   | 12.58     | 12.78 |
|                      | 4      |                 |        |          | 13.21   |         |          | 13.21   | 13.11     | 13.31 |
|                      | 5      |                 |        |          | 13.29   |         |          | 13.29   | 13.19     | 13.39 |
| PCB 1254             | 1*     | 13.67           | 13.67  | 13.67    | 13.67   | 13.67   | 13.67    | 13.67   | 13.57     | 13.77 |
|                      | 2*     | 14.56           | 14.56  | 14.56    | 14.56   | 14.56   | 14.56    | 14.56   | 14.46     | 14.66 |
|                      | 3*     | 15.01           | 15.01  | 15.01    | 15.01   | 15.00   | 15.00    | 15.01   | 14.91     | 15.11 |
|                      | 4      | 15.34           | 15.35  | 15.35    | 15.35   | 15.35   | 15.35    | 15.35   | 15.25     | 15.45 |
|                      | 5      | 16.02           | 16.03  | 16.03    | 16.03   | 16.03   | 16.03    | 16.03   | 15.93     | 16.13 |
| PCB 1260             | 1*     | 14.93           | 14.93  | 14.94    | 14.94   | 14.94   | 14.94    | 14.94   | 14.84     | 15.04 |
|                      | 2*     | 15.34           | 15.34  | 15.35    | 15.35   | 15.35   | 15.35    | 15.35   | 15.25     | 15.45 |
|                      | 3*     | 16.19           | 16.19  | 16.20    | 16.20   | 16.20   | 16.21    | 16.20   | 16.10     | 16.30 |
|                      | 4      | 16.75           | 16.75  | 16.76    | 16.76   | 16.76   | 16.77    | 16.76   | 16.66     | 16.86 |
|                      | 5      | 17.23           | 17.23  | 17.24    | 17.24   | 17.25   | 17.25    | 17.24   | 17.14     | 17.34 |
| Tetrachloro-m-xylene |        | 7.97            | 7.99   | 8.00     | 7.99    | 8.00    | 8.00     | 7.99    | 7.89      | 8.09  |
| Decachlorobiphenyl   |        | 20.11           | 20.12  | 20.13    | 20.13   | 20.13   | 20.13    | 20.13   | 20.03     | 20.23 |

Denotes required peaks

Retention time windows are + 0.1 minutes for all compounds.

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FORM VI-PCB-1

00113

FORM 6  
PCB INITIAL CALIBRATION DATA

Lab Name: \_\_\_\_\_ Contract: \_\_\_\_\_  
 Lab Code: \_\_\_\_\_ Case No.: \_\_\_\_\_ SAS No.: \_\_\_\_\_ SDG No.: AAA916  
 Instrument ID: HP1 Calibration Date (si) 09/17/2 OS/11/2  
 GC Column-.. RTX-CLPESTICIDES 2 ID: 0.32 (mm)  
 LAB FILE ID: RF10: E2989834 RF50: E2989835 RF100: E2989836  
 RF250: E2989843 RF500: E2989838

**'T^k/**<sup>5</sup>

| COMPOUND             |     | RF10  | RF50  | RF100 | RF250 | RF50Q |
|----------------------|-----|-------|-------|-------|-------|-------|
| Aroclor-1016         |     | 401.3 | 365.1 | 438.0 | 493.9 | 404.2 |
|                      | (2) | 136.5 | 147.3 | 177.8 | 191.1 | 175.4 |
|                      | (3) | 135.2 | 120.4 | 144.0 | 140.8 | 117.2 |
|                      | (4) | 140.8 | 136.7 | 181.1 | 189.3 | 184.3 |
|                      | (5) | 201.4 | 165.9 | 179.7 | 207.5 | 203.2 |
| Aroclor-1221         |     |       |       |       | 86.2  |       |
|                      | (2) |       |       |       | 64.3  |       |
|                      | (3) |       |       |       | 307.9 |       |
|                      | (4) |       |       |       |       |       |
|                      | (5) |       |       |       |       |       |
| Aroclor-1232         |     |       |       |       | 283.3 |       |
|                      | (2) |       |       |       | 161.5 |       |
|                      | (3) |       |       |       | 221.6 |       |
|                      | (4) |       |       |       | 97.5  |       |
|                      | (5) |       |       |       | 57.9  |       |
| Aroclor-1242         |     |       |       |       | 352.7 |       |
|                      | (2) |       |       |       | 515.2 |       |
|                      | (3) |       |       |       | 225.6 |       |
|                      | (4) |       |       |       | 162.9 |       |
|                      | (5) |       |       |       | 195.6 |       |
| Aroclor-1254         |     | 316.9 | 313.4 | 305.2 | 308.2 | 343.4 |
|                      | (2) | 288.2 | 317.8 | 319.7 | 345.8 | 442.7 |
|                      | (3) | 190.1 | 233.8 | 239.2 | 278.8 | 384.7 |
|                      | (4) | 148.5 | 164.1 | 178.0 | 186.5 | 230.4 |
|                      | (5) | 253.9 | 263.2 | 271.9 | 294.5 | 392.1 |
| Aroclor-1260         |     | 334.4 | 269.7 | 334.8 | 384.6 | 340.0 |
|                      | (2) | 358.5 | 290.3 | 352.0 | 415.1 | 365.1 |
|                      | (3) | 227.9 | 170.5 | 206.4 | 246.1 | 209.2 |
|                      | (4) | 234.8 | 173.2 | 208.2 | 246.2 | 210.6 |
|                      | (5) | 364.1 | 280.0 | 381.6 | 496.5 | 440.9 |
| Aroclor-1248         |     |       |       |       | 278.0 |       |
|                      | (2) |       |       |       | 163.4 |       |
|                      | (3) |       |       |       | 213.4 |       |
|                      | (4) |       |       |       | 186.5 |       |
|                      | (5) |       |       |       | 304.2 |       |
| Tetrachloro-m-xylene |     | 3613  | 5109  | 8081  | 7743  | 8808  |
| Decachlorobiphenyl   |     | 3029  | 3502  | 5170  | 5257  | 6283  |
|                      |     |       |       |       | 1     |       |

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FORM 6.  
PCB INITIAL CALIBRATION DATA

Lab Name: \_\_\_\_\_ Contract: \_\_\_\_\_  
 } ^ ) Code: \_\_\_\_\_ Case No. : \_\_\_\_\_ SAS No. : \_\_\_\_\_ SDG No. AAA916  
 ^ • strument ID: HP1 Calibration Date(s) 09/17/2 09/17/2  
 l ^ C Column: RTX-CLPESTICIDES 2 ID: 0.32 (mm)  
 RF1000: E2989839

| COMPOUND             |     | RF100 | CURVE | COEFFICIENTS<br>A0 | A1         | %RSD<br>OR R~2 |
|----------------------|-----|-------|-------|--------------------|------------|----------------|
| Aroclor-1016         |     | 366.0 | LINR  | -18.105188         | 2.688e-003 | 0.991          |
|                      | (2) | 161.5 | LINR  | -9.4133819         | 6.109e-003 | 0.997          |
|                      | (3) | 100.6 | LINR  | -18.332671         | 9.78e-003  | 0.993          |
|                      | (4) | 162.6 | LINR  | -9.1394188         | 6.01e-003  | 0.995          |
| Aroclor-1221         | (5) | 201.8 | LINR  | 2.94297360         | 4.926e-003 | 1.000          |
|                      |     |       | LINR  | 0.-00000000        | 1.159e-002 | 1.000          |
|                      | (2) |       | LINR  | 0.00000000         | 1.555e-002 | * 1.000        |
|                      | (3) |       | LINR  | 0.00000000         | 3.248e-003 | 1.000          |
|                      | (4) |       | LINR  |                    |            |                |
| Aroclor-1232         | (5) |       | LINR  |                    |            |                |
|                      |     |       | LINR  | 0.00000000         | 3.53e-003  | 1.000          |
|                      | (2) |       | LINR  | 0.00000000         | 6.191e-003 | 1.000          |
|                      | (3) |       | LINR  | 0.00000000         | 4.512e-003 | 1.000          |
|                      | (4) |       | LINR  | 0.00000000         | 1.025e-002 | 1.000          |
| Aroclor-1242         | (5) |       | LINR  | 0.00000000         | 1.727e-002 | 1.000          |
|                      |     |       | LINR  | 0.00000000         | 2.835e-003 | 1.000          |
|                      | (2) |       | LINR  | 0.00000000         | 1.941e-003 | 1.000          |
|                      | (3) |       | LINR  | 0.00000000         | 4.432e-003 | 1.000          |
|                      | (4) |       | LINR  | 0.00000000         | 6.138e-003 | 1.000          |
|                      | (5) |       | LINR  | 0.00000000         | 5.111e-003 | 1.000          |
| Aroclor-1254         |     | 296.1 | LINR  | -6.4375383         | 3.29e-003  | 0.994          |
|                      | (2) | 434.5 | LINR  | 16.6006465         | 2.262e-003 | 0.997          |
|                      | (3) | 371.6 | LINR  | 21.3460443         | 2.623e-003 | 0.995          |
|                      | (4) | 190.9 | LINR  | 4.45851132         | 5.219e-003 | 1.000          |
| Aroclor-1260         | (5) | 352.0 | LINR  | 11.6581973         | 2.751e-003 | 0.994          |
|                      |     | 329.3 | LINR  | -5.1814212         | 3.014e-003 | 0.998          |
|                      | (2) | 358.9 | LINR  | -3.4590831         | 2.769e-003 | 0.998          |
|                      | (3) | 210.0 | LINR  | -3.5269711         | 4.748e-003 | 0.998          |
|                      | (4) | 214.3 | LINR  | -2.0615020         | 4.659e-003 | 0.998          |
| Aroclor-1248         | (5) | 480.7 | LINR  | 11.3530028         | 2.078e-003 | 0.998          |
|                      |     |       | LINR  | 0.00000000         | 3.596e-003 | 1.000          |
|                      |     |       | LINR  | 0.00000000         | 6.12e-003  | 1.000          |
|                      | (2) |       | LINR  | 0.00000000         | 4.686e-003 | 1.000          |
|                      | (3) |       | LINR  | 0.00000000         | 5.361e-003 | 1.000          |
|                      | (4) |       | LINR  | 0.00000000         | 3.287e-003 | 1.000          |
|                      | (5) |       | LINR  |                    |            |                |
| Tetrachloro-m-xylene |     | 7679  | LINR  | 5.59456943         | 1.219e-004 | 0.991          |
| Decachlorobiphenyl   |     | 5238  | LINR  | 4.64742762         | 1.888e-004 | 0.999          |

6F

Lab Name: FRIEND LABORATORY, INC.

Contract:

Lab Code: 10252 Case No.: \_\_\_\_\_ SAS No.: \_\_\_\_\_ SDG No.: AAA

Instrument ID: HP3

GC Column: RTX-CLPest1 ID: 0.32 (mm) Date(s) Analyzed: 09/25/02

File Numbers: 6172

| COMPOUND             | AMOUNT<br>(ng) | PEAK | RT    | RT WINDOW<br>FROM TO |       | CALIBRATION<br>FACTOR |
|----------------------|----------------|------|-------|----------------------|-------|-----------------------|
| PCB 1254             | 250 PPB        | 1*   | 14.60 | 14.50                | 14.70 | 289.77                |
|                      |                | 2*   | 15.12 | 15.02                | 15.22 | 481.24                |
|                      |                | 3*   | 15.93 | 15.83                | 16.03 | 405.70                |
|                      |                | 4    | 16.29 | 16.19                | 16.39 | 225.50                |
|                      |                | 5    | 16.84 | 16.74                | 16.94 | 400.31                |
| Tetrachloro-m-xylene | 300 PPB        |      | 9.72  | 9.62                 | 9.82  | 5801.99               |
| Decachlorobiphenyl   | 300 PPB        |      | 21.33 | 21.23                | 21.43 | 4463.69               |

Denotes required peaks

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Single injections of the low standard are made to establish approximate retention times and instrument sensitivity. Five point calibrations are performed if a multipoint component is detected in a sample.

Alternate column confirmation is run if a pesticide or PCB is detected in a site sample.

$$\text{Avg } \frac{(250 - 250)}{250} \times 100 = 0\%$$

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6F

Lab Name: FRIEND LABORATORY, INC.

Contract:

Lab Code: 10252 Case No.: \_\_\_\_\_ SAS No.: \_\_\_\_\_ SDG No.: AAA

Instrument ID: HP3

GC Column: RTX-CLPest1 ID: 0.32 (mm)

Date(s) Analyzed: 09/26/02

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File Numbers: 6215

| COMPOUND             | AMOUNT<br>(ng) | PEAK | RT    | RT WINDOW<br>FROM TO |       | CALIBRATION<br>FACTOR |
|----------------------|----------------|------|-------|----------------------|-------|-----------------------|
| PCB 1254             | 250 PPB        | 1    | 14.58 | 14.48                | 14.68 | 293.65                |
|                      |                | 2*   | 15.10 | 15.00                | 15.20 | 500.98                |
|                      |                | 3*   | 15.91 | 15.81                | 16.01 | 435.40                |
|                      |                | 4    | 16.27 | 16.17                | 16.37 | 231.60                |
|                      |                | 5    | 16.82 | 16.72                | 16.92 | 404.01                |
| Tetrachloro-m-xylene | 300 PPB        |      | 9.70  | 9.60                 | 9.80  | 6001.89               |
| Decachlorobiphenyl   | 300 PPB        |      | 21.31 | 21.21                | 21.41 | 4459.74               |

\* Denotes required peaks

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Single injections of the low standard are made to establish approximate retention times and instrument sensitivity. Five point calibrations are performed if a multipeak component is detected in a sample.

Alternate column confirmation is run if a pesticide or PCB is detected in a site sample.

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7E  
PCB CALIBRATION VERIFICATION SUMMARY

Lab Name: FRIEND LABORATORY, INC. Contract: \_\_\_\_\_  
Lab Code: 10252 Case No.: \_\_\_\_\_ SAS No.: „\_\_\_\_\_“ SDG No.: AAA

Sample Name: 250PPB 1254  
File Name: E2989916.D  
Instrument ID: HP1.I  
GC Column: RTX-CLPesticides 2

ID: 0.32 (mm)  
Analysis Date: 09/25/02  
Analysis Time: 0903

| COMPOUND             | PEAK | RT    | RT WINDOW |       | CALC<br>AMOUNT | TRUE<br>AMOUNT | %D     |
|----------------------|------|-------|-----------|-------|----------------|----------------|--------|
|                      |      |       | FROM      | TO.   |                |                |        |
| Aroclor-1254         | 1    | 13.66 | 13.57     | 13.77 | 238.56         | 250.00         | 4.58   |
| Aroclor-1254         | 2    | 14.55 | 14.46     | 14.66 | 216.56         | 250.00         | 13.38  |
| Aroclor-1254         | 3    | 15.00 | 14.91     | 15.11 | 203.89         | 250.00         | 18.44  |
| Aroclor-1254         | 4    | 15.34 | 15.25     | 15.45 | 264.10         | 250.00         | 5.64   |
| Aroclor-1254         | 5    | 16.02 | 15.93     | 16.13 | 227.43         | 250.00         | 9.03   |
| Tetrachloro-m-xylene | 1    | 7.98  | 7.89      | 8.09  | 297.98         | 300.00         | 0.67   |
| Decachlorobiphenyl   | 1    | 20.12 | 20.03     | 20.23 | 308.82         | 300.00         | 2.94 A |

QC LIMITS: %D of amounts in the Continuing Calibration must be  
less than or equal to 15%.

7E  
PCB CALIBRATION VERIFICATION SUMMARY

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Lab Name: FRIEND LABORATORY. INC. Contract: \_\_\_\_\_  
Lab Code: 10252 Case No.: \_\_\_\_\_ SAS No.: \_\_\_\_\_ SDG No.: AAA

Sample Name: 250PPB 1254  
File Name: E2989925.D  
Instrument ID: HP1.I  
GC Column: RTX-CLPesticides 2

ID: 0.32 (mm)  
Analysis Date: 09/25/02  
Analysis Time: 1345

| COMPOUND             | PEAK | RT    | RTW   | SDOW  | CALC   | TRUE   | %D    |
|----------------------|------|-------|-------|-------|--------|--------|-------|
|                      |      |       | FROM  | TO    | AMOUNT | AMOUNT |       |
| Aroclor-1254         | 1    | 13.66 | 13.57 | 13.77 | 271.52 | 250.00 | 8.61  |
| Aroclor-1254         | 2    | 14.55 | 14.46 | 14.66 | 241.18 | 250.00 | 3.53  |
| Aroclor-1254         | 3    | 15.00 | 14.91 | 15.11 | 239.00 | 250.00 | 4.40  |
| Aroclor-1254         | 4    | 15.34 | 15.25 | 15.45 | 290.21 | 250.00 | 16.08 |
| Aroclor-1254         | 5    | 16.02 | 15.93 | 16.13 | 247.62 | 250.00 | 0.95  |
| Tetrachloro-m-xylene | 1    | 8.00  | 7.89  | 8.09  | 297.80 | 300.00 | 0.73  |
| Decachlorobiphenyl   | 1    | 20.12 | 20.03 | 20.23 | 297.12 | 300.00 | 0.96  |

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\* QC LIMITS: %D of amounts in the Continuing Calibration must be less than or equal to 15%.

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7E  
PCB CALIBRATION VERIFICATION SUMMARY

Lab Name: FRIEND LABORATORY, INC. Contract: \_\_\_\_\_  
Lab Code: 10252 Case No.: \_\_\_\_\_ SAS No.: \_\_\_\_\_ SDG No.: AAA

Sample Name: 250PPB 1254  
File Name: E2989944.D  
Instrument ID: HP1.I  
GC Column: RTX-CLPesticides 2

ID: 0.32 (mm)  
Analysis Date: 09/26/02  
Analysis Time: 0734

| COMPOUND             | PEAK | RT    | RTW   | WINDOW<br>FROM TO | CALC<br>AMOUNT | TRUE<br>AMOUNT | %D    |
|----------------------|------|-------|-------|-------------------|----------------|----------------|-------|
| Aroclor-1254         | 1    | 13.66 | 13.57 | 13.77             | 253.65         | 250.00         | 1.46  |
| Aroclor-1254         | 2    | 14.56 | 14.46 | 14.66             | 219.37         | 250.00         | 12.25 |
| Aroclor-1254         | 3    | 15.00 | 14.91 | 15.11             | 223.72         | 250.00         | 10.51 |
| Aroclor-1254         | 4    | 15.34 | 15.25 | 15.45             | 281.08         | 250.00         | 12.43 |
| Aroclor-1254         | 5    | 16.02 | 15.93 | 16.13             | 231.65         | 250.00         | 7.34  |
| Tetrachloro-m-xylene | 1    | 7.98  | 7.89  | 8.09              | 288.02         | 300.00         | 3.99  |
| Decachlorobiphenyl   | 1    | 20.13 | 20.03 | 20.23             | 330.41         | 300.00         | 10.14 |

\* QC LIMITS: %D of amounts in the Continuing Calibration must be less than or equal to 15%.

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7E  
PCB CALIBRATION VERIFICATION SUMMARY

Lab Name: FRIEND LABORATORY, INC. Contract: \_\_\_\_\_  
 Lab Code: 10252 Case No.: \_\_\_\_\_ SAS No.: \_\_\_\_\_ SDG No.: AAA

Sample Name: 250PPB1254

File Name: E2989957.D

Instrument ID: HP1.I

GC Column: RTX-CLPesticides 2

ID: 0.32 (mm)

Analysis Date: 09/26/02

Analysis Time: 1422

| COMPOUND             | PEAK | RT    | RT WINDOW<br>FROM TO |       | CALC<br>AMOUNT | TRUE<br>AMOUNT | %D    |
|----------------------|------|-------|----------------------|-------|----------------|----------------|-------|
| Aroclor-1254         | 1    | 13.66 | 13.57                | 13.77 | 232.98         | 250.00         | 6.81  |
| Aroclor-1254         | 2    | 14.55 | 14.46                | 14.66 | 213.71         | 250.00         | 14.52 |
| Aroclor-1254         | 3    | 15.00 | 14.91                | 15.11 | 208.31         | 250.00         | 16.68 |
| Aroclor-1254         | 4    | 15.34 | 15.25                | 15.45 | 258.13         | 250.00         | 3.25  |
| Aroclor-1254         | 5    | 16.02 | 15.93                | 16.13 | 224.63         | 250.00         | 10.15 |
| Tetrachloro-m-xylene | 1    | 7.98  | 7.89                 | 8.09  | 275.22         | 300.00         | 8.26  |
| Decachlorobi phenyl  | 1    | 20.12 | 20.03                | 20.23 | 302.03         | 300.00         | 0.68  |

\* QC LIMITS: %D of amounts in the Continuing Calibration must be less than or equal to 15%.

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7E  
PCB CALIBRATION VERIFICATION SUMMARY

Lab Name: FRIEND LABORATORY, INC. Contract: \_\_\_\_\_  
Lab Code: 10252 Case No.: \_\_\_\_\_ SAS No.: \_\_\_\_\_ SDG No.: AAA

Sample Name: 250PPB 1254

File Name: E3956179.D

Instrument ID: HP3.I

GC Column: RTX-CLPesticides 1

ID: 0.32 (mm)

Analysis Date: 09/25/02

Analysis Time: 1250

| COMPOUND             | PEAK | RT    | RTW   | MDOW<br>FROM TO | CALC<br>AMOUNT | TRUE<br>AMOUNT | %D     |
|----------------------|------|-------|-------|-----------------|----------------|----------------|--------|
| Aroclor-1254         | 1    | 14.59 | 14.50 | 14.70           | 240.21         | 250.00         | 3.92   |
| Aroclor-1254         | 2    | 15.12 | 15.02 | 15.22           | 244.39         | 250.00         | 2.24   |
| Aroclor-1254         | 3    | 15.92 | 15.83 | 16.03           | 248.85         | 250.00         | 0.46   |
| Aroclor-1254         | 4    | 16.28 | 16.19 | 16.39           | 235.03         | 250.00         | 5.99   |
| Aroclor-1254         | 5    | 16.83 | 16.74 | 16.94           | 233.24         | 250.00         | 6.70   |
| Tetrachloro-m-xylene | 1    | 9.71  | 9.62  | 9.82            | 304.08         | 300.00         | 1.36   |
| Decachlorobiphenyl   | 1    | 21.32 | 21.23 | 21.43           | 290.67         | 300.00         | 3.11 4 |

1)

***a\****

QC LIMITS: %D of amounts in the Continuing Calibration must be  
less than or equal to 15%.

0012

7E  
PCB CALIBRATION VERIFICATION SUMMARY

Lab Name: FRIEND LABORATORY, INC. Contract: \_\_\_\_\_  
Lab Code: 10252 Case No.: \_\_\_\_\_ SAS No.: \_\_\_\_\_ SDG No.: AAA

Sample Name: 250PPB 1254  
File Name: E3956222.D  
Instrument ID: HP3.I  
GC Column: RTX-CLPesticides 1

ID: 0.32 (mm)

Analysis Date: 09/26/02

Analysis Time: 1428

| COMPOUND             | PEAK | RT    | RT WINDOW<br>FROM 1 TO |       | CALC<br>AMOUNT | TRUE<br>AMOUNT | %D   |
|----------------------|------|-------|------------------------|-------|----------------|----------------|------|
| Aroclor-1254         | 1    | 14.58 | 14.48                  | 14.68 | 254.71         | 250.00         | 1.88 |
| Aroclor-1254         | 2    | 15.10 | 15.00                  | 15.20 | 263.81         | 250.00         | 5.52 |
| Aroclor-1254         | 3    | 15.91 | 15.81                  | 16.01 | 272.60         | 250.00         | 9.04 |
| Aroclor-1254         | 4    | 16.27 | 16.17                  | 16.37 | 262.78         | 250.00         | 5.11 |
| Aroclor-1254         | 5    | 16.81 | 16.72                  | 16.92 | 258.77         | 250.00         | 3.51 |
| Tetrachloro-m-xylene | 1    | 9.70  | 9.60                   | 9.80  | 319.48         | 300.00         | 6.49 |
| Decachlorobiphenyl   | 1    | 21.30 | 21.21                  | 21.41 | 306.20         | 300.00         | 2.07 |

*til-*

\* QC LIMITS: %D of amounts in the Continuing Calibration must be less than or equal to 15%.

*fj>~A»5*  
*203-250*  
*250* *pci\** **'-6.M**

00123

## PCB ANALYTICAL SEQUENCE

Lab Name: Contract:  
 Lab Code: Case No. : SASNo.: SDG No. : AAA916  
 Instrument ID: HP1 Init. Calib. Date(s): 09/17/2 09/17/2  
 GC Column: RTX-CLPESTICIDES 2 ID: 0.32 (mm)

THE ANALYTICAL SEQUENCE OF PERFORMANCE EVALUATION MIXTURES, BLANKS,  
 SAMPLES, AND STANDARDS IS GIVEN BELOW: .

| MEAN SURROGATE RT FROM INITIAL CALIBRATION |                   |                  |                  |                  |             |             |
|--------------------------------------------|-------------------|------------------|------------------|------------------|-------------|-------------|
| TCX: 8.00 DCB: 20.13                       |                   |                  |                  |                  |             |             |
|                                            | EPA<br>SAMPLE NO. | LAB<br>SAMPLE ID | DATE<br>ANALYZED | TIME<br>ANALYZED | TCX<br>RT # | DCB<br>RT # |
| 01                                         | STD11660          | STD11660         | 09/17/2          | 1304 .           | 7.97        | 20.11       |
| 02                                         | STD21660          | STD21660         | 09/17/2          | 1335             | 7.99        | 20.12       |
| 03                                         | STD31660          | STD31660         | 09/17/2          | 1406             | 8.00        | 20.13       |
| 04                                         | STD41660          | STD41660         | 09/17/2          | 1437             | 7.99        | 20.13       |
| 05                                         | STD51660          | STD51660         | 09/17/2          | 1509             | 8.00        | 20.13       |
| 06                                         | STD61660          | STD61660         | 09/17/2          | 1540             | 8.00        | 20.13       |
| 07                                         | STD11254          | STD11254         | 09/17/2          | 1643             | 7.98        | 20.12       |
| 08                                         | STD21254          | STD21254         | 09/17/2          | 1714             | 7.-99       | 20.13       |
| 09                                         | STD31254          | STD31254         | 09/17/2          | 1745             | 8.00        | 20.13       |
| 10                                         | STD41254          | STD41254         | 09/17/2          | 1816             | 7.99        | 20.13       |
| 11                                         | STD51254          | STD51254         | 09/17/2          | 1848             | 7.98        | 20.13       |
| 12                                         | STD61254          | STD61254         | 09/17/2          | 1919             | 8.00        | 20.13       |
| 13                                         | STD41248          | STD41248         | 09/17/2          | 1950             | 7.99        | 20.13       |
| 14                                         | STD41242          | STD41242         | 09/17/2          | 2021             | 7.99        | 20.13       |
| 15                                         | STD41232          | STD41232         | 09/17/2          | 2052             | 7.99        | 20.13       |
| 16                                         | STD41221          | STD41221         | 09/17/2          | 2124             | 8.00        | 20.13       |
| 17                                         | ^BC16C001         | CC166001         | 09/18/2          | 1401             | 8.00        | 20.13       |
| 18                                         | MB82 /            | MB82             | 09/18/2          | 1433             | 8.02        | 20.13       |
| 19                                         | QC82 /            | QC82             | 09/18/2          | 1507             | 8.02        | 20.13       |
| 20                                         | L94080fLRE        | L94080-1RE       | 09/18/2          | 1538             | 7.99        | 20.13       |
| 21                                         | L94080/2          | L94080-2         | 09/18/2          | 1610             | 7.99        | 20.13       |
| 22                                         | L9408Cf-3RE       | L94080-3RE       | 09/18/2          | 1641             | 7.99        | 20.13       |
| 23                                         | L9408/-4          | L94080-4         | 09/18/2          | 1712             | 7.98        | 20.13       |
| 24                                         | CC16d002          | CC166002         | 09/18/2          | 1815             | 8.01        | 20.13       |
| 25                                         | L940I1-1RE        | L94081-1RE       | 09/18/2          | 1846             | 7.98        | 20.13       |
| 26                                         | L940B1-4RE        | L94081-4RE       | 09/18/2          | 1917             | 7.99        | 20.13       |
| 27                                         | L94 81-5RE        | L94081-5RE       | 09/18/2          | 1948             | 8.00        | 20.13       |
| 28                                         | L94f)81-6RE       | L94081-6RE       | 09/18/2          | 2019             | 7.99        | 20.13       |
| 29                                         | L9f081-7R         | 1494081-7R       | 09/18/2          | 2051             | 7.98        | 20.13       |
| 30                                         | L9I081-1MSR       | L94081-1MSR      | 09/18/2          | 2122             | 7.98        | 20.13       |
| 31                                         | LSR081-1MSDR      | L94081-1MSDR     | 09/18/2          | 2153             | 7.97        | 20.11       |
| 32                                         | C( 166003         | CC166003         | 09/18/2          | 2255             | 8.01        | 20.13       |
| 33                                         | Cf125401          | CC125401         | 09/18/2          | 2327             | 7.99        | 20.13       |
| 34                                         | CE125402          | CC125402         | 09/19/2          | 1009             | 7.99        | 20.13       |
| 35                                         | 1*4080-1          | L94080-1         | 09/19/2          | 1038             | 7.99        | 20.13       |
| 36                                         | lfe4080-3R        | L94080-3R        | 09/19/2          | 1116             | 7.99        | 20.13       |
| 17                                         |                   | L94081-6         | 09/19/2          | 1148             | 7.98        | 20.13       |

## QC LIMITS

TCX =\* Tetrachloro-m-xylene (+/- 0.10 MINUTES)  
 DCB = Decachlorobiphenyl (+/- 0.10 MINUTES)

# Column used to flag retention time values with an asterisk.

\* Values outside of QC limits.

8D  
PCB ANALYTICAL SEQUENCE

Lab Name: Contract:  
 Lab Code: Case No. : SAS No. : SDG No. : AAA923  
 Instrument ID: HP1 Init. Calib. Date(s): 09/17/2 09/17/2  
 GC Column: RTX-CLPESTICIDES 2 ID: 0.32 (mm)

THE ANALYTICAL SEQUENCE OF PERFORMANCE EVALUATION MIXTURES, BLANKS,  
 SAMPLES, AND STANDARDS IS GIVEN BELOW:

|    | MEAN SURROGATE RT FROM INITIAL CALIBRATION<br>TCX: 8.00 DCB: 20.13 |                  |                  |                  |             |             |
|----|--------------------------------------------------------------------|------------------|------------------|------------------|-------------|-------------|
|    | EPA<br>SAMPLE NO.                                                  | LAB<br>SAMPLE ID | DATE<br>ANALYZED | TIME<br>ANALYZED | TCX<br>RT # | DCB<br>RT # |
| 01 | CC12^S402                                                          | CC125402         | 09/25/2          | 0903             | 7.98        | 20.12       |
| 02 | QC84 \                                                             | QC84             | 09/25/2          | 0934             | 7.98        | 20.12       |
| 03 | L94363-4X                                                          | L94363-4         | 09/25/2          | 1007             | 7.97        | 20.11       |
| 04 | L94363-6 \                                                         | L94363-6         | 09/25/2          | 1038             | 7.97        | 20.11       |
| 05 | L94363-8                                                           | SL94363-8        | 09/25/2          | 1109             | 7.97        | 20.11       |
| 06 | L94363-10                                                          | L94363-10        | 09/25/2          | 1141             | 7.97        | 20.11       |
| 07 | L94363-12                                                          | L94363-12        | 09/25/2          | 1212             | 7.97        | 20.11       |
| 08 | L94363-2                                                           | L94363V2         | 09/25/2          | 1243             | 7.97        | 20.12       |
| 09 | MB84                                                               | MB84 N.          | 09/25/2          | 1314             | 7.98        | 20.12       |
| 10 | CC125402                                                           | CC125402 N.      | 09/25/2          | 1345             | 8.00        | 20.12       |
| 11 |                                                                    |                  |                  |                  |             |             |
| 12 |                                                                    |                  |                  |                  |             |             |
| 13 |                                                                    |                  |                  |                  |             |             |
| 14 |                                                                    |                  |                  |                  |             |             |
| 15 |                                                                    |                  |                  |                  |             |             |
| 16 |                                                                    |                  |                  |                  |             |             |
| 17 |                                                                    |                  |                  |                  |             |             |
| 18 |                                                                    |                  |                  |                  |             |             |
| 19 |                                                                    |                  |                  |                  |             |             |
| 20 |                                                                    |                  |                  |                  |             |             |
| 21 |                                                                    |                  |                  |                  |             |             |
| 22 |                                                                    |                  |                  |                  |             |             |
| 23 |                                                                    |                  |                  |                  |             |             |
| 24 |                                                                    |                  |                  |                  |             |             |
| 25 |                                                                    |                  |                  |                  |             |             |
| 26 |                                                                    |                  |                  |                  |             |             |
| 27 |                                                                    |                  |                  |                  |             |             |
| 28 |                                                                    |                  |                  |                  |             |             |
| 29 |                                                                    |                  |                  |                  |             |             |
| 30 |                                                                    |                  |                  |                  |             |             |
| 31 |                                                                    |                  |                  |                  |             |             |
| 32 |                                                                    |                  |                  |                  |             |             |
| 33 |                                                                    |                  |                  |                  |             |             |
| 34 |                                                                    |                  |                  |                  |             |             |
| 35 |                                                                    |                  |                  |                  |             |             |
| 36 |                                                                    |                  |                  |                  |             |             |
| 37 |                                                                    |                  |                  |                  |             |             |

QC LIMITS  
 TCX = Tetrachloro-m-xylene (+/- 0.10 MINUTES)  
 DCB = Decachlorobiphenyl (+/- 0.10 MINUTES)

# Column used to flag retention time values with an asterisk.  
 \* Values outside of QC limits.



8D  
PCB ANALYTICAL SEQUENCE

Lab Name: Contract: SDG No. : AAA925  
 Lab Code: Case No.: SAS No.:  
 Instrument ID: HP1 ^ Init. Calib. Date(s): 09/17/2 09/17/2  
 GC Column: RTX-CtJ'ESTICIDES 2 ID: 0.32 (mm)

THE ANALYTICAL SEQUENCE OF PERFORMANCE EVALUATION MIXTURES, BLANKS,  
 SAMPLES, AND STANDARDS IS GIVEN BELOW:

| MEAN SURROGATE RT FROM INITIAL CALIBRATION<br>TCX: 8.00 DCB: 20.13 |                   |                  |                  |                  |             |             |   |
|--------------------------------------------------------------------|-------------------|------------------|------------------|------------------|-------------|-------------|---|
|                                                                    | EPA<br>SAMPLE NO. | LAB<br>SAMPLE ID | DATE<br>ANALYZED | TIME<br>ANALYZED | TCX<br>RT # | DCB<br>RT # |   |
| 01                                                                 | CC1254            | CC1254           | 09/26/2          | 0734             | 7.98        | 20.13       |   |
| 02                                                                 | MB87              | MB87             | 09/26/2          | 0803             | 7.97        | 20.12       |   |
| 03                                                                 | QC87              | QC87             | 09/26/2          | 0838             | 7.99        | 20.12       |   |
| 04                                                                 |                   | L94538-1         | 09/26/2          | 0909             | 7.97        | 20.12       |   |
| 05                                                                 | L94538-2J         | L94538-2         | 09/26/2          | 0941             | 7.97        | 20.12       |   |
| 06                                                                 | L94538-5^         | L94538-5         | 09/26/2          | 1012             | 7.97        | 20.12       |   |
| 07                                                                 | L94538-6V         | L94538-6         | 09/26/2          | 1043             | 7.98        | 20.12       |   |
| 08                                                                 | L94538-7-//       | L94538-7         | 09/26/2          | 1114             | 7.97        | 20.12       |   |
| 09                                                                 | L94538-8 '        | L94538-8         | 09/26/2          | 1146             | 7.97        | 20.12       |   |
| 10                                                                 | L94538-1J         | L94538-1         | 09/26/2          | 1217             | 7.98        | 20.12       |   |
| 11                                                                 | L94538-2MS        | L94538-2MS       | 09/26/2          | 1248             | 7.98        | 20.12       |   |
| 12                                                                 | L94538-2MSD       | L94538-2MSD      | 09/26/2          | 1319             | 7.98        | 20.12       |   |
| 13                                                                 | CC125402          | CC125402         | 09/26/2          | 1422             | 7.98        | 20.12       |   |
| 14                                                                 |                   |                  |                  |                  |             |             |   |
| 15                                                                 |                   |                  |                  |                  |             |             | ^ |
| 16                                                                 |                   |                  |                  |                  |             |             |   |
| 17                                                                 |                   |                  |                  |                  |             |             |   |
| 18                                                                 |                   |                  |                  |                  |             |             |   |
| 19                                                                 |                   |                  |                  |                  |             |             |   |
| 20                                                                 |                   |                  |                  |                  |             |             |   |
| 21                                                                 |                   |                  |                  |                  |             |             |   |
| 22                                                                 |                   |                  |                  |                  |             |             |   |
| 23                                                                 |                   |                  |                  |                  |             |             |   |
| 24                                                                 |                   |                  |                  |                  |             |             |   |
| 25                                                                 |                   |                  |                  |                  |             |             |   |
| 26                                                                 |                   |                  |                  |                  |             |             |   |
| 27                                                                 |                   |                  |                  |                  |             |             |   |
| 28                                                                 |                   |                  |                  |                  |             |             |   |
| 29                                                                 |                   |                  |                  |                  |             |             |   |
| 30                                                                 |                   |                  |                  |                  |             |             |   |
| 31                                                                 |                   |                  |                  |                  |             |             |   |
| 32                                                                 |                   |                  |                  |                  |             |             |   |
| 33                                                                 |                   |                  |                  |                  |             |             |   |
| 34                                                                 |                   |                  |                  |                  |             |             |   |
| 35                                                                 |                   |                  |                  |                  |             |             |   |
| 36                                                                 |                   |                  |                  |                  |             |             |   |
| 37                                                                 |                   |                  |                  |                  |             |             |   |

QC LIMITS

TCX = Tetrachloro-m-xylene {+/- 0.10 MINUTES)  
 DCB = Decachlorobiphenyl (+/- 0.10 MINUTES)

# Column used to flag retention time values with an asterisk.  
 \* Values outside of QC limits.

8D  
PCB ANALYTICAL SEQUENCE

Lab Name: Contract: SDG No. : AAA923CONFIRM  
 Lab Code: Case No. : SAS No. :  
 Instrument ID: HP3 Init. Calib. Date(s): 09/19/2 09/25/2  
 GC Column: RTX-CLPESTICIDES 1 ID: 0.32 (mm) •—

THE ANALYTICAL SEQUENCE OF PERFORMANCE EVALUATION MIXTURES, BLANKS,  
 SAMPLES, AND STANDARDS IS GIVEN BELOW:

| MEAN SURROGATE RT FROM INITIAL CALIBRATION<br>TCX: 9.72 DCB: 21.33 |                     |                  |                  |                  |             |             |
|--------------------------------------------------------------------|---------------------|------------------|------------------|------------------|-------------|-------------|
|                                                                    | EPA •<br>SAMPLE NO. | LAB<br>SAMPLE ID | DATE<br>ANALYZED | TIME<br>ANALYZED | TCX<br>RT # | DCB<br>RT # |
| 01                                                                 | CC12MD1             | CC125401         | 09/25/2          | 0908             | 9.72        | 21.33       |
| 02                                                                 | L94363-^ \          | L94363-2         | 09/25/2          | 0939             | 9.72        | 21.33       |
| 03                                                                 | L94363-4 > \ ,      | L94363-4         | 09/25/2          | 1011             | 9.73        | 21.34       |
| 04                                                                 | L94363-12           | 1394363-12       | 09/25/2          | 1045             | 9.73        | 21.32       |
| 05                                                                 | L94363-6            | L94JTS^6         | 09/25/2          | 1116             | 9.72        | 21.33       |
| 06                                                                 | L94363-8            | L94363-8 \       | 09/25/2          | 1147             | 9.72        | 21.32       |
| 07                                                                 | L94363-10           | L94363-10 \      | 09/25/2          | 1218             | 9.71        | 21.32       |
| 08                                                                 | CC125402            | CC125402         | 09/25/2          | 1250             | 9.71        | 21.32       |
| 09                                                                 |                     |                  |                  |                  |             |             |
| 10                                                                 |                     |                  |                  |                  |             |             |
| 11                                                                 |                     |                  |                  |                  |             |             |
| 12                                                                 |                     |                  |                  |                  |             |             |
| 13                                                                 |                     |                  |                  |                  |             |             |
| 14                                                                 |                     |                  |                  |                  |             |             |
| 15                                                                 |                     |                  |                  |                  |             |             |
| 16                                                                 |                     |                  |                  |                  |             |             |
| 17                                                                 |                     |                  |                  |                  |             |             |
| 18                                                                 |                     |                  |                  |                  |             |             |
| 19                                                                 |                     |                  |                  |                  |             |             |
| 20                                                                 |                     |                  |                  |                  |             |             |
| 21                                                                 |                     |                  |                  |                  |             |             |
| 22                                                                 |                     |                  |                  |                  |             |             |
| 23                                                                 |                     |                  |                  |                  |             |             |
| 24                                                                 |                     |                  |                  |                  |             |             |
| 25                                                                 |                     |                  |                  |                  |             |             |
| 26                                                                 |                     |                  |                  |                  |             |             |
| 27                                                                 |                     |                  |                  |                  |             |             |
| 28                                                                 |                     |                  |                  |                  |             |             |
| 29                                                                 |                     |                  |                  |                  |             |             |
| 30                                                                 |                     |                  |                  |                  |             |             |
| 31                                                                 |                     |                  |                  |                  |             |             |
| 32                                                                 |                     |                  |                  |                  |             |             |
| 33                                                                 |                     |                  |                  |                  |             |             |
| 34                                                                 |                     |                  |                  |                  |             |             |
| 35                                                                 |                     |                  |                  |                  |             |             |
| 36                                                                 |                     |                  |                  |                  |             |             |
| 37                                                                 |                     |                  |                  |                  |             |             |

QC LIMITS  
 TCX = Tetrachloro-m-xylene (+/- 0.10 MINUTES)  
 DCB = Decachlorobiphenyl (+/- 0.10 MINUTES)

# Column used to flag retention time values with an asterisk,  
 \* Values outside of QC limits.

8D  
PCB ANALYTICAL SEQUENCE

Lab Name: Contract: SDG No. : AAA925C0Nta»  
 Lab Code: Case No. : SAS No. :  
 Instrument ID: HP0.\_\_\_\_ Init. Calib. Date(s) : 09/19/2 09#2572  
 GC Column: RTX-CLPESTICIDES 1 ID: 0.32 (mm) /2?72

THE ANALYTICAL SEQUENCE OF PERFORMANCE EVALUATION MIXTURES, BLANKS,  
 SAMPLES, AND STANDARDS IS GIVEN BELOW:

| MEAN SURROGATE RT FROM INITIAL CALIBRATION<br>TCX: 9.72 DCB: 21.33 |                  |                  |                  |           |   |           |   |
|--------------------------------------------------------------------|------------------|------------------|------------------|-----------|---|-----------|---|
| EPA<br>SAMPLE NO.                                                  | LAB<br>SAMPLE ID | DATE<br>ANALYZED | TIME<br>ANALYZED | TCX<br>RT | # | DCB<br>RT | # |
| 01 CC125401                                                        | CC125401         | 09/26/2          | 1050             | 9.70      |   | 21.31     |   |
| 02 L94538-2s/.                                                     | L94538-2         | 09/26/2          | 1121             | 9.70      |   | 21.30     |   |
| 03 L94538-5 J                                                      | L94538-5         | 09/26/2          | 1153             | 9.69      |   | 21.30     |   |
| 04 L94538-6 J                                                      | L94538-6         | 09/26/2          | 1224             | 9.69      |   | 21.30     |   |
| 05 L94538-7 J                                                      | L94538-7         | 09/26/2          | 1255             | 9.70      |   | 21.30     |   |
| 06 L94538-8^                                                       | L94538-8         | 09/26/2          | 1326             | 9.69      |   | 21.30     |   |
| 07 L94538-1J                                                       | L94538-1         | 09/26/2          | 1357             | 9.69      |   | 21.31     |   |
| 08 CC125402                                                        | CC125402         | 09/26/2          | 1428             | 9.70      |   | 21.30     |   |
| 09                                                                 |                  |                  |                  |           |   |           |   |
| 10                                                                 |                  |                  |                  |           |   |           |   |
| 11                                                                 |                  |                  |                  |           |   |           |   |
| 12                                                                 |                  |                  |                  |           |   |           |   |
| 13                                                                 |                  |                  |                  |           |   |           |   |
| 14                                                                 |                  |                  |                  |           |   |           |   |
| 15                                                                 |                  |                  |                  |           |   |           |   |
| 16                                                                 |                  |                  |                  |           |   |           | ( |
| 17                                                                 |                  |                  |                  |           |   |           |   |
| 18                                                                 |                  |                  |                  |           |   |           |   |
| 19                                                                 |                  |                  |                  |           |   |           |   |
| 20                                                                 |                  |                  |                  |           |   |           |   |
| 21                                                                 |                  |                  |                  |           |   |           |   |
| 22                                                                 |                  |                  |                  |           |   |           |   |
| 23                                                                 |                  |                  |                  |           |   |           |   |
| 24                                                                 |                  |                  |                  |           |   |           |   |
| 25                                                                 |                  |                  |                  |           |   |           |   |
| 26                                                                 |                  |                  |                  |           |   |           |   |
| 27                                                                 |                  |                  |                  |           |   |           |   |
| 28                                                                 |                  |                  |                  |           |   |           |   |
| 29                                                                 |                  |                  |                  |           |   |           |   |
| 30                                                                 |                  |                  |                  |           |   |           |   |
| 31                                                                 |                  |                  |                  |           |   |           |   |
| 32                                                                 |                  |                  |                  |           |   |           |   |
| 33                                                                 |                  |                  |                  |           |   |           |   |
| 34                                                                 |                  |                  |                  |           |   |           |   |
| 35                                                                 |                  |                  |                  |           |   |           |   |
| 36                                                                 |                  |                  |                  |           |   |           |   |
| 37                                                                 |                  |                  |                  |           |   |           |   |

QC LIMITS  
 TCX = Tetrachloro-m-xylene (+/- 0.10 MINUTES)  
 DCB = Decachlorobiphenyl (+/- 0.10 MINUTES)

# Column used to flag retention time values with an asterisk.  
 \* Values outside of QC limits.

10B  
PESTICIDE IDENTIFICATION SUMMARY  
FOR MULTICOMPONENT ANALYTES

EPA SAMPLE NO.

L94538-1

# ^ b Name:

Contract:

Lab Code:

Case No. :

SAS No. :

SDG No.: AAA925

Lab Sample ID: L94538-1

Date(s) Analyzed: 09/26/2009 09 26 20

Instrument ID (1): HP1

Instrument ID (2) : MP3

GC Column(1) : RTX-CLPESTICIDES 2 ID: 0,32 (mm) GC Column(2) : m-K-PE^T ± ID: 0.33.

| ANALYTE      | PEAK | RT     | RT WINDOW<br>FROM TO      | CONCENTRATION | MEAN<br>CONCENTRATION | %D      |
|--------------|------|--------|---------------------------|---------------|-----------------------|---------|
| Aroclor-1254 | 1    | 13.65  | 13.57 13.77               | 64.86         | 260.01                |         |
|              | 2    | 14.54  | 14.46 14.66               | 306.78        |                       |         |
|              | 3    | 14.99  | 14.90 15.10               | 358.85        |                       |         |
|              | 4    | 15.33  | 15.25 15.45               | 280.04        |                       |         |
|              | 5    | 16.01  | 15.93 16.13               | 289.50        |                       |         |
| COLUMN 1     | 1    | IM.S1  | IM.SO IM-IO               |               |                       |         |
|              | 2    | LS.10  | is.co. 15.33              | IM~J.M>       |                       |         |
|              | 3    | kT<M   | 15.33 Ik. 03              | 153. q t      |                       |         |
|              | 4    | li.-SR | ii <sub>0</sub> .w \u-;?l | a^3.-W        |                       |         |
|              | 5    | 11*.31 | 11*.14 ik.iM              | .3 in .^q     |                       |         |
| COLUMN 2     | 1    |        |                           |               |                       | -35". 6 |
|              | 2    |        |                           |               |                       |         |
|              | 3    |        |                           |               |                       |         |
|              | 4    |        |                           |               |                       |         |
|              | 5    |        |                           |               |                       |         |
| COLUMN 1     | 1    |        |                           |               |                       |         |
|              | 2    |        |                           |               |                       |         |
|              | 3    |        |                           |               |                       |         |
|              | 4    |        |                           |               |                       |         |
|              | 5    |        |                           |               |                       |         |
| COLUMN 2     | 1    |        |                           |               |                       |         |
|              | 2    |        |                           |               |                       |         |
|              | 3    |        |                           |               |                       |         |
|              | 4    |        |                           |               |                       |         |
|              | 5    |        |                           |               |                       |         |
| COLUMN 1     | 1    |        |                           |               |                       |         |
|              | 2    |        |                           |               |                       |         |
|              | 3    |        |                           |               |                       |         |
|              | 4    |        |                           |               |                       |         |
|              | 5    |        |                           |               |                       |         |
| COLUMN 2     | 1    |        |                           |               |                       |         |
|              | 2    |        |                           |               |                       |         |
|              | 3    |        |                           |               |                       |         |
|              | 4    |        |                           |               |                       |         |
|              | 5    |        |                           |               |                       |         |

At least 3 peaks are required for identification of multicomponent analytes.

x/<\* ^ J\*. -?

10B  
PESTICIDE IDENTIFICATION SUMMARY  
FOR MULTICOMPONENT ANALYTES

EPA SAMPLE NO.

L94538-2

Lab Name:

Contract:

Lab Code:

Case No.:

SAS No.:

SDG No.: AAA925

Lab Sample ID: L94538-2

Date(s) Analyzed: 09/26/2 Oblate Io 3-

Instrument ID (1): HP1

Instrument ID (2) : H£3

GC Column(1) : RTX-CLPESTICIDES 2 ID: 0.32 (mm) GC Column(2) : \$Jt-CLPE\$T X ID: 0.33-

| ANALYTE                      | PEAK | RT            | RT WINDOW<br>FROM TO | CONCENTRATION | MEAN<br>CONCENTRATION | %D      |
|------------------------------|------|---------------|----------------------|---------------|-----------------------|---------|
| Aroclor-1254<br><br>COLUMN 1 | 1    | 13.65         | 13.57 13.77          | 428.87        | 493.79                |         |
|                              | 2    | 14.55         | 14.46 14.66          | 564.11        |                       |         |
|                              | 3    | 14.99         | 14.90 15.10          | 479.80        |                       |         |
|                              | 4    | 15.33         | 15.25 15.45          | 533.47        |                       |         |
|                              | 5    | 16.01         | 15.93 16.13          | 462.70        |                       |         |
| COLUMN 2                     | 1    |               | JQ-5-0 N^O m . 0-0   |               |                       | 3L-. .? |
|                              | 2    | JSJD ,^03-    | A5~.33 ktcX.lX       |               |                       |         |
|                              | 3    | JS-fi /.^S3   | lb.OS /rte:^(c%      |               |                       |         |
|                              | 4    | ftt-3? lb. ft | lb,&\ /r-KD.iX       |               |                       |         |
|                              | 5    | fto.ti l&.l^  | l&M /rtt.tote        |               |                       |         |
| COLUMN 1                     | 1    |               |                      |               |                       | A<br>M  |
|                              | 2    |               |                      |               |                       |         |
|                              | 3    |               |                      |               |                       |         |
|                              | 4    |               |                      |               |                       |         |
|                              | 5    |               |                      |               |                       |         |
| COLUMN 2                     | 1    |               |                      |               |                       |         |
|                              | 2    |               |                      |               |                       |         |
|                              | 3    |               |                      |               |                       |         |
|                              | 4    |               |                      |               |                       |         |
|                              | 5    |               |                      |               |                       |         |
| COLUMN 1                     | 1    | ==.==         | =====                | =====         |                       |         |
|                              | 2    |               |                      |               |                       |         |
|                              | 3    |               |                      |               |                       |         |
|                              | 4    |               |                      |               |                       |         |
|                              | 5    |               |                      |               |                       |         |
| COLUMN 2                     | 1    |               |                      |               |                       |         |
|                              | 2    |               |                      |               |                       |         |
|                              | 3    |               |                      |               |                       |         |
|                              | 4    |               |                      |               |                       |         |
|                              | 5    |               |                      |               |                       |         |

At least 3 peaks are required for identification of multicomponent analytes.



10B  
PESTICIDE IDENTIFICATION SUMMARY  
FOR MULTICOMPONENT ANALYTES

EPA SAMPLE NO.

L94538-5

Name: Contract:  
Lab Code: Case No. : SAS No.: SDG No.: AAA925  
Lab Sample ID: L94538-5 Date(s) Analyzed: 09/26/2 Q/hblcx  
Instrument ID (1): HP1 Instrument ID (2) : up3  
GC Column(1) : RTX-CLPESTICIDES 2 ID: 0.32 (mm) GC Column(2) : RTX-CLPEST 1 ID: Q.^g  
(MM)

| ANALYTE      | PEAK | RT      | RT WINDOW<br>FROM TO | CONCENTRATION | MEAN<br>CONCENTRATION | %D |
|--------------|------|---------|----------------------|---------------|-----------------------|----|
| Aroclor-1254 | 1    | 13.65   | 13.57 13.77          | 1023.52       | 1135.44               |    |
|              | 2    | 14.55   | 14.46 14.66          | 1223.05       |                       |    |
|              | 3    | 14.99   | 14.90 15.10          | 1148.80       |                       |    |
|              | 4    | 15.33   | 15.25 15.45          | 1197.75       |                       |    |
|              | 5    | 16.01   | 15.93 16.13          | 1084.08       |                       |    |
| COLUMN 1     | 1    | m.ST-   |                      | M&3 -tt       |                       |    |
|              | 2    | J5.C1   | /T.03. /3".aa        | iItib-AO      |                       |    |
|              | 3    | ifi.W   | /S.83 It*. 03        | 13SS. 9/      |                       |    |
|              | 4    | lb-2b   | Jfc.tf U,'2f\        | /c20.r- 5f7   |                       |    |
|              | 5    | /fr.frl | l/..?i/ ihM          | /JW.S.^J?     |                       |    |
| COLUMN 2     | 1    |         |                      |               |                       |    |
|              | 2    |         |                      |               |                       |    |
|              | 3    |         |                      |               |                       |    |
|              | 4    |         |                      |               |                       |    |
|              | 5    |         |                      |               |                       |    |
| COLUMN 1     | 1    |         |                      |               |                       |    |
|              | 2    |         |                      |               |                       |    |
|              | 3    |         |                      |               |                       |    |
|              | 4    |         |                      |               |                       |    |
|              | 5    |         |                      |               |                       |    |
| COLUMN 2     | 1    |         |                      |               |                       |    |
|              | 2    |         |                      |               |                       |    |
|              | 3    |         |                      |               |                       |    |
|              | 4    |         |                      |               |                       |    |
|              | 5    |         |                      |               |                       |    |
| COLUMN 1     | 1    |         |                      |               |                       |    |
|              | 2    |         |                      |               |                       |    |
|              | 3    |         |                      |               |                       |    |
|              | 4    |         |                      |               |                       |    |
|              | 5    |         |                      |               |                       |    |
| COLUMN 2     | 1    |         |                      |               |                       |    |
|              | 2    |         |                      |               |                       |    |
|              | 3    |         |                      |               |                       |    |
|              | 4    |         |                      |               |                       |    |
|              | 5    |         |                      |               |                       |    |

At least 3 peaks are required for identification of multicomponent analytes.

10B  
PESTICIDE IDENTIFICATION SUMMARY  
FOR MULTICOMPONENT ANALYTES

EPA SAMPLE NO.

L94538-6

Lab Name:

Contract:

Lab Code:

Case No.:

SAS No.:

SDG No.: AAA925

Lab Sample ID: L94538-6

Date(s) Analyzed: 09/26/2009

Instrument ID (1): HP1

Instrument ID (2): HP3

GC Column(1) : RTX-CLPESTICIDES 2 ID: 0.32 (mm) GC Column(2) : HRX-CLPCSrl ID: 0.32

| ANALYTE      | PEAK | RT    | RT WINDOW<br>FROM TO | CONCENTRATION | MEAN<br>CONCENTRATION | %D |
|--------------|------|-------|----------------------|---------------|-----------------------|----|
| Aroclor-1254 | 1    | 13.65 | 13.57 13.77          | 57.62         | 219.76                |    |
|              | 2    | 14.54 | 14.46 14.66          | 258.14        |                       |    |
|              | 3    | 14.99 | 14.90 15.10          | 297.04        |                       |    |
|              | 4    | 15.33 | 15.25 15.45          | 209.28        |                       |    |
|              | 5    | 16.01 | 15.93 16.13          | 276.69        |                       |    |
| COLUMN 1     | 1    |       |                      |               |                       |    |
|              | 2    |       |                      |               |                       |    |
|              | 3    |       |                      |               |                       |    |
|              | 4    |       |                      |               |                       |    |
|              | 5    |       |                      |               |                       |    |
| COLUMN 2     | 1    |       |                      |               |                       |    |
|              | 2    |       |                      |               |                       |    |
|              | 3    |       |                      |               |                       |    |
|              | 4    |       |                      |               |                       |    |
|              | 5    |       |                      |               |                       |    |
| COLUMN 1     | 1    |       |                      |               |                       |    |
|              | 2    |       |                      |               |                       |    |
|              | 3    |       |                      |               |                       |    |
|              | 4    |       |                      |               |                       |    |
|              | 5    |       |                      |               |                       |    |
| COLUMN 2     | 1    |       |                      |               |                       |    |
|              | 2    |       |                      |               |                       |    |
|              | 3    |       |                      |               |                       |    |
|              | 4    |       |                      |               |                       |    |
|              | 5    |       |                      |               |                       |    |
| COLUMN 1     | 1    |       |                      |               |                       |    |
|              | 2    |       |                      |               |                       |    |
|              | 3    |       |                      |               |                       |    |
|              | 4    |       |                      |               |                       |    |
|              | 5    |       |                      |               |                       |    |
| COLUMN 2     | 1    |       |                      |               |                       |    |
|              | 2    |       |                      |               |                       |    |
|              | 3    |       |                      |               |                       |    |
|              | 4    |       |                      |               |                       |    |
|              | 5    |       |                      |               |                       |    |

At least 3 peaks are required for identification of multicomponent analytes.

10B  
PESTICIDE IDENTIFICATION SUMMARY  
FOR MULTICOMPONENT ANALYTES

EPA SAMPLE NO.

L94538-7

ab Name:

Contract:

Lab Code:

Case No.:

SAS No.:

SDG No. : AAA925

Lab Sample ID: L94538-7

Date(s) Analyzed: 09/26/2 Mfajill-

Instrument ID (1): HP1

Instrument ID (2) : JP3

GC Column(1) : RTX-CLPESTICIDES 2 ID: 0.32{mm) GC Column(2) : f<n~ClPEST:£ ID: #  
(

| ANALYTE                      | PEAK | RT      | RT WINDOW<br>FROM TO | CONCENTRATION | MEAN<br>CONCENTRATION | %D |
|------------------------------|------|---------|----------------------|---------------|-----------------------|----|
| Aroclor-1254<br><br>COLUMN 1 | 1    | 13.65   | 13.57 13.77          | 1156.53       | 1014.51               |    |
|                              | 2    | 14.55   | 14.46 14.66          | 1017.89       |                       |    |
|                              | 3    | 14.99   | 14.90 15.10          | 911.80        |                       |    |
|                              | 4    | 15.33   | 15.25 15.45          | 1237.70       |                       |    |
|                              | 5    | 16.01   | 15.93 16.13          | 748.61        |                       |    |
| COLUMN 2                     | 1    |         |                      |               |                       |    |
|                              | 2    | iS>\0   | L*. 01- iff. 33      | QXfc.tt       |                       |    |
|                              | 3    | iS.cit) | i*.83 l/c*OZ         | <?*?.?*       |                       |    |
|                              | 4    | ih.at   | ilt-H lh.1°i         | iD3Q*H\       |                       |    |
|                              | 5    | ih,x\   | lb.1** IhM           | WV.Dl         |                       |    |
| COLUMN 1                     | 1    |         |                      |               |                       |    |
|                              | 2    |         |                      |               |                       |    |
|                              | 3    |         |                      |               |                       |    |
|                              | 4    |         |                      |               |                       |    |
|                              | 5    |         |                      |               |                       |    |
| COLUMN 2                     | 1    |         |                      |               |                       |    |
|                              | 2    |         |                      |               |                       |    |
|                              | 3    |         |                      |               |                       |    |
|                              | 4    |         |                      |               |                       |    |
|                              | 5    |         |                      |               |                       |    |
| COLUMN 1                     | 1    |         |                      |               |                       |    |
|                              | 2    |         |                      |               |                       |    |
|                              | 3    |         |                      |               |                       |    |
|                              | 4    |         |                      |               |                       |    |
|                              | 5    |         |                      |               |                       |    |
| COLUMN 2                     | 1    |         |                      |               |                       |    |
|                              | 2    |         |                      |               |                       |    |
|                              | 3    |         |                      |               |                       |    |
|                              | 4    |         |                      |               |                       |    |
|                              | 5    |         |                      |               |                       |    |

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At least 3 peaks are required for identification of multicomponent analytes.



10B  
PESTICIDE IDENTIFICATION SUMMARY  
FOR MULTI COMPONENT ANALYTES

EPA SAMPLE NO.

L94538-8

Lab Name:

Contract:

Lab Code:

Case No.:

SAS No.:

SDG No. : AAA925

Lab Sample ID: L94538-8

Date(s) Analyzed: 09/26/2009

Instrument ID (1): HP1

Instrument ID (2):

GC Column(1) : RTX-CLPESTICIDES 2 ID: 0.32 (mm) GC Column(2) :

ID:

| ANALYTE      | PEAK | RT      | RT WINDOW<br>FROM TO | CONCENTRATION | MEAN<br>CONCENTRATION | %D     |
|--------------|------|---------|----------------------|---------------|-----------------------|--------|
| Aroclor-1254 | 1    | 13.65   | 13.57                | 13.77         | 107.35                |        |
|              | 2    | 14.54   | 14.46                | 14.66         | 255.97                |        |
|              | 3    | 14.98   | 14.90                | 15.10         | 340.79                |        |
|              | 4    | 15.33   | 15.25                | 15.45         | 342.27                |        |
|              | 5    | 16.01   | 15.93                | 16.13         | 319.99                |        |
| COLUMN 1     |      |         |                      |               | 273.27                |        |
|              | 1    |         |                      | N.70          |                       |        |
|              | 2    | lb .ID  | J^D^                 | 1^,33         | mo.'A-^               |        |
|              | 3    | //>.<?/ | y*r.ff.^             | /to. OX       | i<-)LS4               |        |
|              | 4    | //;-3?  | /6.M                 | Ih. ~*ft      | JttSll-               |        |
| COLUMN 2     | 5    | lb-M    | lb,'} 4              | /£. 14        | ^3S,^i                | 1X3-tO |
|              | 1    |         |                      |               |                       |        |
|              | 2    |         |                      |               |                       |        |
|              | 3    |         |                      |               |                       |        |
|              | 4    |         |                      |               |                       |        |
| COLUMN 1     | 5    |         |                      |               |                       |        |
|              | 1    |         |                      |               |                       |        |
|              | 2    |         |                      |               |                       |        |
|              | 3    |         |                      |               |                       |        |
|              | 4    |         |                      |               |                       |        |
| COLUMN 2     | 5    |         |                      |               |                       |        |
|              | 1    |         |                      |               |                       |        |
|              | 2    |         |                      |               |                       |        |
|              | 3    |         |                      |               |                       |        |
|              | 4    |         |                      |               |                       |        |
| COLUMN 1     | 5    |         |                      |               |                       |        |
|              | 1    |         |                      |               |                       |        |
|              | 2    |         |                      |               |                       |        |
|              | 3    |         |                      |               |                       |        |
|              | 4    |         |                      |               |                       |        |
| COLUMN 2     | 5    |         |                      |               |                       |        |
|              | 1    |         |                      |               |                       |        |
|              | 2    |         |                      |               |                       |        |
|              | 3    |         |                      |               |                       |        |
|              | 4    |         |                      |               |                       |        |
| COLUMN 1     | 5    |         |                      |               |                       |        |
|              | 1    |         |                      |               |                       |        |
|              | 2    |         |                      |               |                       |        |
|              | 3    |         |                      |               |                       |        |
|              | 4    |         |                      |               |                       |        |
| COLUMN 2     | 5    |         |                      |               |                       |        |
|              | 1    |         |                      |               |                       |        |
|              | 2    |         |                      |               |                       |        |
|              | 3    |         |                      |               |                       |        |
|              | 4    |         |                      |               |                       |        |
| COLUMN 1     | 5    |         |                      |               |                       |        |
|              | 1    |         |                      |               |                       |        |
|              | 2    |         |                      |               |                       |        |
|              | 3    |         |                      |               |                       |        |
|              | 4    |         |                      |               |                       |        |
| COLUMN 2     | 5    |         |                      |               |                       |        |
|              | 1    |         |                      |               |                       |        |
|              | 2    |         |                      |               |                       |        |
|              | 3    |         |                      |               |                       |        |
|              | 4    |         |                      |               |                       |        |
| COLUMN 1     | 5    |         |                      |               |                       |        |
|              | 1    |         |                      |               |                       |        |
|              | 2    |         |                      |               |                       |        |
|              | 3    |         |                      |               |                       |        |
|              | 4    |         |                      |               |                       |        |
| COLUMN 2     | 5    |         |                      |               |                       |        |
|              | 1    |         |                      |               |                       |        |
|              | 2    |         |                      |               |                       |        |
|              | 3    |         |                      |               |                       |        |
|              | 4    |         |                      |               |                       |        |
| COLUMN 1     | 5    |         |                      |               |                       |        |
|              | 1    |         |                      |               |                       |        |
|              | 2    |         |                      |               |                       |        |
|              | 3    |         |                      |               |                       |        |
|              | 4    |         |                      |               |                       |        |
| COLUMN 2     | 5    |         |                      |               |                       |        |
|              | 1    |         |                      |               |                       |        |
|              | 2    |         |                      |               |                       |        |
|              | 3    |         |                      |               |                       |        |
|              | 4    |         |                      |               |                       |        |
| COLUMN 1     | 5    |         |                      |               |                       |        |
|              | 1    |         |                      |               |                       |        |
|              | 2    |         |                      |               |                       |        |
|              | 3    |         |                      |               |                       |        |
|              | 4    |         |                      |               |                       |        |
| COLUMN 2     | 5    |         |                      |               |                       |        |
|              | 1    |         |                      |               |                       |        |
|              | 2    |         |                      |               |                       |        |
|              | 3    |         |                      |               |                       |        |
|              | 4    |         |                      |               |                       |        |
| COLUMN 1     | 5    |         |                      |               |                       |        |
|              | 1    |         |                      |               |                       |        |
|              | 2    |         |                      |               |                       |        |
|              | 3    |         |                      |               |                       |        |
|              | 4    |         |                      |               |                       |        |
| COLUMN 2     | 5    |         |                      |               |                       |        |
|              | 1    |         |                      |               |                       |        |
|              | 2    |         |                      |               |                       |        |
|              | 3    |         |                      |               |                       |        |
|              | 4    |         |                      |               |                       |        |
| COLUMN 1     | 5    |         |                      |               |                       |        |
|              | 1    |         |                      |               |                       |        |
|              | 2    |         |                      |               |                       |        |
|              | 3    |         |                      |               |                       |        |
|              | 4    |         |                      |               |                       |        |
| COLUMN 2     | 5    |         |                      |               |                       |        |
|              | 1    |         |                      |               |                       |        |
|              | 2    |         |                      |               |                       |        |
|              | 3    |         |                      |               |                       |        |
|              | 4    |         |                      |               |                       |        |
| COLUMN 1     | 5    |         |                      |               |                       |        |
|              | 1    |         |                      |               |                       |        |
|              | 2    |         |                      |               |                       |        |
|              | 3    |         |                      |               |                       |        |
|              | 4    |         |                      |               |                       |        |
| COLUMN 2     | 5    |         |                      |               |                       |        |
|              | 1    |         |                      |               |                       |        |
|              | 2    |         |                      |               |                       |        |
|              | 3    |         |                      |               |                       |        |
|              | 4    |         |                      |               |                       |        |
| COLUMN 1     | 5    |         |                      |               |                       |        |
|              | 1    |         |                      |               |                       |        |
|              | 2    |         |                      |               |                       |        |
|              | 3    |         |                      |               |                       |        |
|              | 4    |         |                      |               |                       |        |
| COLUMN 2     | 5    |         |                      |               |                       |        |
|              | 1    |         |                      |               |                       |        |
|              | 2    |         |                      |               |                       |        |
|              | 3    |         |                      |               |                       |        |
|              | 4    |         |                      |               |                       |        |
| COLUMN 1     | 5    |         |                      |               |                       |        |
|              | 1    |         |                      |               |                       |        |
|              | 2    |         |                      |               |                       |        |
|              | 3    |         |                      |               |                       |        |
|              | 4    |         |                      |               |                       |        |
| COLUMN 2     | 5    |         |                      |               |                       |        |
|              | 1    |         |                      |               |                       |        |
|              | 2    |         |                      |               |                       |        |
|              | 3    |         |                      |               |                       |        |
|              | 4    |         |                      |               |                       |        |
| COLUMN 1     | 5    |         |                      |               |                       |        |
|              | 1    |         |                      |               |                       |        |
|              | 2    |         |                      |               |                       |        |
|              | 3    |         |                      |               |                       |        |
|              | 4    |         |                      |               |                       |        |
| COLUMN 2     | 5    |         |                      |               |                       |        |
|              | 1    |         |                      |               |                       |        |
|              | 2    |         |                      |               |                       |        |
|              | 3    |         |                      |               |                       |        |
|              | 4    |         |                      |               |                       |        |
| COLUMN 1     | 5    |         |                      |               |                       |        |
|              | 1    |         |                      |               |                       |        |
|              | 2    |         |                      |               |                       |        |
|              | 3    |         |                      |               |                       |        |
|              | 4    |         |                      |               |                       |        |
| COLUMN 2     | 5    |         |                      |               |                       |        |
|              | 1    |         |                      |               |                       |        |
|              | 2    |         |                      |               |                       |        |
|              | 3    |         |                      |               |                       |        |
|              | 4    |         |                      |               |                       |        |
| COLUMN 1     | 5    |         |                      |               |                       |        |
|              | 1    |         |                      |               |                       |        |
|              | 2    |         |                      |               |                       |        |
|              | 3    |         |                      |               |                       |        |
|              | 4    |         |                      |               |                       |        |
| COLUMN 2     | 5    |         |                      |               |                       |        |
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|              | 2    |         |                      |               |                       |        |
|              | 3    |         |                      |               |                       |        |
|              | 4    |         |                      |               |                       |        |
| COLUMN 1     | 5    |         |                      |               |                       |        |
|              | 1    |         |                      |               |                       |        |
|              | 2    |         |                      |               |                       |        |
|              | 3    |         |                      |               |                       |        |
|              | 4    |         |                      |               |                       |        |
| COLUMN 2     | 5    |         |                      |               |                       |        |
|              | 1    |         |                      |               |                       |        |
|              | 2    |         |                      |               |                       |        |
|              | 3    |         |                      |               |                       |        |
|              | 4    |         |                      |               |                       |        |
| COLUMN 1     | 5    |         |                      |               |                       |        |
|              | 1    |         |                      |               |                       |        |
|              | 2    |         |                      |               |                       |        |
|              | 3    |         |                      |               |                       |        |
|              | 4    |         |                      |               |                       |        |
| COLUMN 2     | 5    |         |                      |               |                       |        |
|              | 1    |         |                      |               |                       |        |
|              | 2    |         |                      |               |                       |        |
|              | 3    |         |                      |               |                       |        |
|              | 4    |         |                      |               |                       |        |
| COLUMN 1     | 5    |         |                      |               |                       |        |
|              | 1    |         |                      |               |                       |        |
|              | 2    |         |                      |               |                       |        |
|              | 3    |         |                      |               |                       |        |
|              | 4    |         |                      |               |                       |        |
| COLUMN 2     | 5    |         |                      |               |                       |        |
|              | 1    |         |                      |               |                       |        |
|              | 2    |         |                      |               |                       |        |
|              | 3    |         |                      |               |                       |        |
|              | 4    |         |                      |               |                       |        |
| COLUMN 1     | 5    |         |                      |               |                       |        |
|              | 1    |         |                      |               |                       |        |
|              | 2    |         |                      |               |                       |        |
|              | 3    |         |                      |               |                       |        |
|              | 4    |         |                      |               |                       |        |
| COLUMN 2     | 5    |         |                      |               |                       |        |
|              | 1    |         |                      |               |                       |        |
|              | 2    |         |                      |               |                       |        |
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|              | 4    |         |                      |               |                       |        |
| COLUMN 1     | 5    |         |                      |               |                       |        |
|              | 1    |         |                      |               |                       |        |
|              | 2    |         |                      |               |                       |        |
|              | 3    |         |                      |               |                       |        |
|              | 4    |         |                      |               |                       |        |
| COLUMN 2     | 5    |         |                      |               |                       |        |
|              | 1    |         |                      |               |                       |        |
|              | 2    |         |                      |               |                       |        |
|              | 3    |         |                      |               |                       |        |
|              | 4    |         |                      |               |                       |        |
| COLUMN 1     | 5    |         |                      |               |                       |        |
|              | 1    |         |                      |               |                       |        |
|              | 2    |         |                      |               |                       |        |
|              | 3    |         |                      |               |                       |        |
|              | 4    |         |                      |               |                       |        |
| COLUMN 2     | 5    |         |                      |               |                       |        |
|              | 1    |         |                      |               |                       |        |
|              | 2    |         |                      |               |                       |        |
|              | 3    |         |                      |               |                       |        |
|              | 4    |         |                      |               |                       |        |
| COLUMN 1     | 5    |         |                      |               |                       |        |
|              | 1    |         |                      |               |                       |        |
|              | 2    |         |                      |               |                       |        |
|              | 3    |         |                      |               |                       |        |
|              | 4    |         |                      |               |                       |        |
| COLUMN 2     | 5    |         |                      |               |                       |        |
|              | 1    |         |                      |               |                       |        |
|              | 2    |         |                      |               |                       |        |
|              | 3    |         |                      |               |                       |        |
|              | 4    |         |                      |               |                       |        |
| COLUMN 1     | 5    |         |                      |               |                       |        |
|              | 1    |         |                      |               |                       |        |
|              | 2    |         |                      |               |                       |        |
|              | 3    |         |                      |               |                       |        |
|              | 4    |         |                      |               |                       |        |
| COLUMN 2     | 5    |         |                      |               |                       |        |
|              | 1    |         |                      |               |                       |        |
|              | 2    |         |                      |               |                       |        |
|              | 3    |         |                      |               |                       |        |
|              | 4    |         |                      |               |                       |        |
| COLUMN 1     | 5    |         |                      |               |                       |        |
|              | 1    |         |                      |               |                       |        |
|              | 2    |         |                      |               |                       |        |
|              | 3    |         |                      |               |                       |        |
|              | 4    |         |                      |               |                       |        |
| COLUMN 2     | 5    |         |                      |               |                       |        |
|              | 1    |         |                      |               |                       |        |
|              | 2    |         |                      |               |                       |        |
|              | 3    |         |                      |               |                       |        |
|              | 4    |         |                      |               |                       |        |
| COLUMN 1     | 5    |         |                      |               |                       |        |
|              | 1    |         |                      |               |                       |        |
|              | 2    |         |                      |               |                       |        |
|              | 3    |         |                      |               |                       |        |
|              | 4    |         |                      |               |                       |        |
| COLUMN 2     | 5    |         |                      |               |                       |        |
|              | 1    |         |                      |               |                       |        |
|              | 2    |         |                      |               |                       |        |
|              | 3    |         |                      |               |                       |        |
|              | 4    |         |                      |               |                       |        |
| COLUMN 1     | 5    |         |                      |               |                       |        |
|              | 1    |         |                      |               |                       |        |
|              | 2    |         |                      |               |                       |        |
|              | 3    |         |                      |               |                       |        |
|              | 4    |         |                      |               |                       |        |
| COLUMN 2     | 5    |         |                      |               |                       |        |

Friend Inc.

Data File: /chem/hp3.i/1254FCONFIRMa.b/E3956175.D  
Method: /chem/hp3.i/1254FCONFIRMa.b/8082\_PCBsec.M  
Sample Info: L94363-12  
Misc Info: CONFIRMATION  
Analysis Date: 25-SEP-2002 10:45  
Sample Matrix: SOIL  
File Number: 6175

=====  
Dilution Factor 10.0000  
Sample Weight 10.0473  
Final Volume 10.0000  
Total Solid 84.9000  
-----

-----  
Analytes (ug/Kg) -----

|                      |                     |
|----------------------|---------------------|
| Aroclor-1254         | 1026.21             |
| Tetrachloro-m-xylene | 148.45%             |
| Decachlorobiphenyl   | 173.51 <sup>1</sup> |

Analyst: CPW  
Report Date: 09/25/2002 16:12

Supervisor: \_\_\_\_\_

Date: \_\_\_\_\_

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ID  
PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

L94538-1

Lab Name:

Contract:

Lab Code:

Case No. :

SAS No. :

SDG No. : AAA925

Matrix: (soil/water) SOIL

Lab Sample ID: L94538-1

Sample wt/vol: 10.4 (g/mL) G

Lab File ID: E2989953

% Moisture: 30-3 decanted: (Y/N) N

Date Received: 09/25/2

Extraction: (SepF/Cont/Sonc) SONC

Date Extracted: 09/25/2

Concentrated Extract Volume: joOOQ (up

Date Analyzed: 09/26/2

Injection Volume: 2.0(uL)

Dilution Factor: 10.0

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

Sulfur Cleanup: (Y/N) N

|         |          |                                               |   |
|---------|----------|-----------------------------------------------|---|
| CAS NO. | COMPOUND | CONCENTRATION UNITS:<br>(ug/L or ug/Kg) UG/KG | Q |
|---------|----------|-----------------------------------------------|---|

|                             |  |  |
|-----------------------------|--|--|
| 12674-11-2_____Aroclor-1016 |  |  |
| 1104-28-2_____Aroclor-1221  |  |  |
| 11141-16-5_____Aroclor-1232 |  |  |
| 53469-21-9_____Aroclor-1242 |  |  |
| 11097-69-1_____Aroclor-1254 |  |  |
| 11096-82-5_____Aroclor-1260 |  |  |
| _____Aroclor-1248           |  |  |

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Thru-Put Systems, Inc.

Data, file : \chem\hpl.i\8082r0917.b\E2989953.D  
Lab Smp Id; L94538-1 Client Smp ID: L94538-1  
Inj Date 26-SEP-2002 12:17  
Operator CPW Inst ID: hpl.i  
Smp Info L94538-1  
Misc Info : L94538-1  
Comment 1\*032900,02-004  
Method \chem\hpl.i\8082r0917.b\8082\_PCBsec.M  
Meth Date 26-Sep-2002 14:49 Administra Quant Type: ESTD  
Cal Date 17-SEP-2002 16:43 Cal File: E2989834.D  
Als bottle 1  
Dil Factor 10.00000  
Integrator Falcon Compound Sublist: PCB.sub  
Target Version: 3.40 Sample Matrix: SOIL  
Processing Host: TARGET3

Concentration Formula: Amt \* DF \* ((Vf / Ws) \* Uf) / Ts \* 1000

| Name | Value  | Description                    |
|------|--------|--------------------------------|
| DF   | 10.000 | Dilution Factor                |
| Vf   | 10.000 | Final volume                   |
| Ws   | 10.366 | Weight of sample extracted (g) |
| Uf   | 0.100  | Unit Correction Factor         |
| Ts   | 69.200 | Total Solid                    |

| CONCENTRATIONS                          |        |        |          |                |               |              |               |            |  |
|-----------------------------------------|--------|--------|----------|----------------|---------------|--------------|---------------|------------|--|
| RT                                      | EXP RT | DLT RT | RESPONSE | ON-COL ( ug/L) | FINAL (ug/Kg) | TARGET RANGE | RATIO         |            |  |
| -----                                   |        |        |          |                |               |              |               |            |  |
| \$ 1                                    | 7.983  | 7.997  | -0.014   | 259778         | 37.2717       | 519.57       |               |            |  |
| -----                                   |        |        |          |                |               |              |               |            |  |
| \$ 29                                   | 20.120 | 20.130 | -0.010   | 193975         | 41.2678       | 575.28       |               |            |  |
| -----                                   |        |        |          |                |               |              |               |            |  |
| 25                                      | 13.647 | 13.670 | -0.023   | 3371           | 4.65275       | 64.86        | 80.00- 120.00 | 100.00(MH) |  |
|                                         | 14.537 | 14.563 | -0.026   | 2390           | 22.0067       | 306.78       | 99-75- 139.75 | 70.90      |  |
|                                         | 14.987 | 15.003 | -0.016   | 1676           | 25.7425       | 359.B5       | 77.94- 117.94 | 49.72      |  |
|                                         | 15.327 | 15.350 | -0.023   | 2995           | 20.0888       | 2B0.04       | 46.79- 86.79  | 68.85      |  |
|                                         | 16.007 | 16.033 | -0.026   | 3311           | 20.7672       | 289.50       | 86.38- 126.38 | 98.22      |  |
| Average of Peak Concentrations - 260.01 |        |        |          |                |               |              |               |            |  |
| -----                                   |        |        |          |                |               |              |               |            |  |

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Data File: \chem\hpl.i\8082r0917.b\E2989953-D  
Report Date: 26-Sep-2002 14:51

#### QC Flag Legend

- M - Compound response manually integrated.
- H - Operator selected an alternate compound hit.

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Tetrachloro-m-xylene (7\*983)

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-filroclor-1254 (13.647).

-Aroolor-1254 (14.537)

^-ftroclor-1254 (14.987) <

-Ar-oclor-1254 (15.327)

-Aroclor-1254 (16.007)

Decach1orota i phsny1 (20.120)

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Friend Inc.

Data File: /chem/hpl.i/8082r0917.b/E2989953.D  
Method: /chem/hpl.i/8082r0917.b/8082\_PCBsec.M  
Sample Info L94538-1  
Misc Info WG32900,02-004  
Analysis Date 26-SEP-2002 12:17  
Sample Matrix SOIL  
File Number 9953

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\* ? \* \$/ '

|                 |         |
|-----------------|---------|
| Dilution Factor | 10.0000 |
| Sample Weight   | 10.3664 |
| Final Volume    | 10.0000 |
| Total Solid     | 69.2000 |

Analytes (ug/Kg)

|                      |        |
|----------------------|--------|
| Aroclor-1016         | 0.00   |
| Aroclor-1221         | 0.00   |
| Aroclor-1232         | 0.00   |
| Aroclor-1242         | 0.00   |
| Aroclor-1254         | 260.01 |
| Aroclor-1260         | 0.00   |
| Aroclor-1248         | 0.00   |
| Tetrachloro-m-xylene | 74.54% |
| Decachlorobiphenyl   | 82.54% |

Analyst: CPW  
Report Date: 09/26/2002 14:51

Supervisor:  
Date:

Thru-Put Systems, Inc

Data file : \chem\hp3.i\1254FCONFIRMa.b\E3956221.D  
Lab Smp Id: L94538-1 Client Smp ID: L94538-1  
Inj Date : 26-SEP-2002 13:57  
Operator : CPW Inst ID: hp3.i  
Smp Info : L94538-1  
Misc Info : CONFIRMATION  
Comment :  
Method : \chem\hp3.i\1254FCONFIRMa.b\8082\_PCBsec.M  
Meth Date : 26-Sep-2002 14:54 Administra Quant Type: ESTD  
Cal Date : 25-SEP-2002 09:08 Cal File: E3956172.D  
Als bottle: 1  
Dil Factor: 10.00000  
Integrator: Falcon Compound S.ublist: 1254. sub  
Target Version: 3.40 Sample Matrix: SOIL  
Processing Host: TARGET3

Concentration Formula:  $\text{Amt} * \text{DF} * (\text{Vf} / \text{Ws}) * \text{Uf} / \text{Ts} * 1000$

| Name | Value  | Description                |
|------|--------|----------------------------|
| DF   | 10.000 | Dilution Factor            |
| Vf   | 10.000 | Final volume               |
| Ws   | 10.366 | Weight of sample extracted |
| Uf   | 0.100  | Unit Correction Factor     |
| Ts   | 69.200 | Total Solid                |

CONCENTRATIONS

| RT                                 | EXP RT | DLT RT | RESPONSE { ug'/L) | PINAL (ug/Kg) | TARGET RANGE           | RATIO   |
|------------------------------------|--------|--------|-------------------|---------------|------------------------|---------|
| 1 Tetrachloro-m-xylene CAS #:      |        |        |                   |               |                        |         |
| 9.690                              | 9.717  | -0.027 | 376910            | 65.3069       | 910.38                 |         |
| 25 Aroclor-1254 CAS ft: 11097-69-1 |        |        |                   |               |                        |         |
| 14.573                             | 14.597 | -0.024 | 3659              | 12.6272       | 176.02 80.00- 120.00   | 100..00 |
| 15.100                             | 15.123 | -0.023 | 5091              | 10.5788       | 147.47 152.01- 192..01 | 139..14 |
| 15.907                             | 15.927 | -0.020 | 4523              | 11.1485       | 155.41 129.84- 169..84 | 123..61 |
| 16.270                             | 16.290 | -0.020 | 4243              | 18.8156       | 262.29 60.29- 100..29  | 115..96 |
| 16.813                             | 16.837 | -0.024 | 6247              | 15.6055       | 217.54 120.35- 160..35 | 170..73 |
| Average of Peak Concentrations =   |        |        |                   | 191.75        |                        |         |
| 29 Decachlorobiphenyl CAS ft.      |        |        |                   |               |                        |         |
| 21.313                             | 21.327 | -0.014 | 294002            | 65.8652       | 918.17                 |         |

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ID  
PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO

L94538-2

Name:

Contract:

Lab Code:

Case No. :

SAS No. :

SDG No. : AAA925

Matrix: (soil/water) SOIL

Lab Sample ID: L94538-2

Sample wt/vol: 10.9 {g/mL} G

Lab File ID: E2989948

% Moisture: -e-ia.s" decanted: (Y/N) N

Date Received: 09/25/2

Extraction: (SepF/Cont/Sonc) SONC

Date Extracted:09/25/2

Concentrated Extract Volume: 10000 (up

Date Analyzed: 09/26/2

Injection Volume: 2.0(uL)

Dilution Factor: 10.0

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

Sulfur Cleanup: (Y/N) N

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

|              |               |        |                    |
|--------------|---------------|--------|--------------------|
| 12674-11-2-- | —Aroclor-1016 |        |                    |
| 1104-28-2--- | —Aroclor-1221 | 100    | U-i-U <sup>T</sup> |
| 11141-16-5-- | —Aroclor-1232 | <2/C   | 0-rSi              |
| 53469-21-9-- | —Aroclor-1242 | 100    | 0~i0               |
| 11097-69-1-- | —Aroclor-1254 | too    | 6.16               |
| 11096-82-5-- | —Aroclor-1260 | 493.79 |                    |
|              | —Aroclor-1248 |        |                    |
|              |               |        |                    |

/Dla^100J

Friend Inc.

Data File: /chem/hp3.i/1254FCONFIRMa.b/E3956221.D  
Method: /chem/hp3.i/1254FCONFIRMa.b/8082\_PCBsec.M  
Sample Info: L94538-1  
Misc Info: CONFIRMATION  
Analysis Date: 26-SEP-2002 13:57  
Sample Matrix: SOIL  
File Number: 6221

|                 |         |
|-----------------|---------|
| Dilution Factor | 10.0000 |
| Sample Weight   | 10.3664 |
| Final Volume    | 10.0000 |
| Total Solid     | 69.2000 |

Analytes (ug/Kg)

|                      |         |
|----------------------|---------|
| Aroclor-1254         | 191.75  |
| Tetrachloro-m-xylene | 130.61% |
| Decachlorobiphenyl   | 131.73% |

Analyst: CPW  
Report Date: 09/26/2002 15:02

Supervisor:  
Date:

Thru-Put Systems, Inc.

Data file ; \chem\hpl.i\8082r0917.b\E2989948.D  
Lab Smp Id: L94538-2 Client Smp ID: L94538-2  
Inj Date 26-SEP-2002 09:41  
Operator CPW Inst ID: hpl.i  
Smp Info L94538-2  
Misc Info WG32900,02-004  
Comment  
Method \chem\hpl.i\8082r0917.b\8082\_PCBsec.M  
Meth Date 26-Sep-2002 14:49 Administra Quant Type: ESTD  
Cal Date 17-SEP-2002 16:43 Cal File: E2989834.D  
Als bottle 1  
Dil Factor 10.00000  
Integrator Falcon Compound Sublist: PCB.sub  
Target Version: 3.40 Sample Matrix: SOIL  
Processing Host: TARGET3

Concentration Formula:  $\text{Amt} * \text{DF} * ((\text{Vf} / \text{Ws}) * \text{Uf}) / \text{Ts} * 1000$

| Name | Value  | Description                |
|------|--------|----------------------------|
| DF   | 10.000 | Dilution Factor            |
| Vf   | 10.000 | Final volume               |
| Ws   | 10.929 | Weight of sample extracted |
| Uf   | 0.100  | Unit Correction Factor     |
| Ts   | 87.500 | Total Solid                |

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CONCENTRATIONS  
ON-COL FINAL

| RT                                 | EXP RT | DLT RT | RESPONSE ( ug/L) | (ug/Kg) | TARGET RANGE                    |
|------------------------------------|--------|--------|------------------|---------|---------------------------------|
| \$ 1 Tetrachloro-m-xylene CAS «:   |        |        |                  |         |                                 |
| 7.973                              | 7.997  | -0.024 | 300883           | 42.2846 | 442.17                          |
| \$ 29 Decachlorobiphenyl CAS »:    |        |        |                  |         |                                 |
| 20.120                             | 20.130 | -0.010 | 278127           | 57.1548 | 597.67                          |
| 25 Aroclor-1254 CAS tt: 11097-69-1 |        |        |                  |         |                                 |
| 13.653                             | 13.670 | -0.017 | 14423            | 41.0129 | 428.87 80.00- 120.00 100..00<H) |
| 14.547                             | 14.563 | -0.016 | 16510            | 53.9452 | 564.11 99.75- 139.75 114..47    |
| 14.993                             | 15.003 | -0.010 | 9354             | 45.8835 | 479.80 77.94- 117.94 64 .85     |
| 15.333                             | 15.350 | -0.017 | 8921             | 51.0155 | 533.47 46.79- 86.79 61 .85      |
| 16.013                             | 16.033 | -0.020 | 11846            | 44.2482 | 462.70 86.38- 126.38 82 .13     |
| Average of Peak Concentrations -   |        |        |                  | 493.79  |                                 |

4^3 CUP

00074

Data File: \chem\hpl.i\8082r0917.b\E2989948.D  
Report Date: 26-Sep-2002 14:51

#### QC Flag Legend

H - Operator selected an alternate compound hit.

Date : 26-SEP-2002 09:41

Client ID: L94538-2

Sample Info: L94538-2

Volume Injected (uL): 2.0

Column phase: RTX-CLPesticides 2

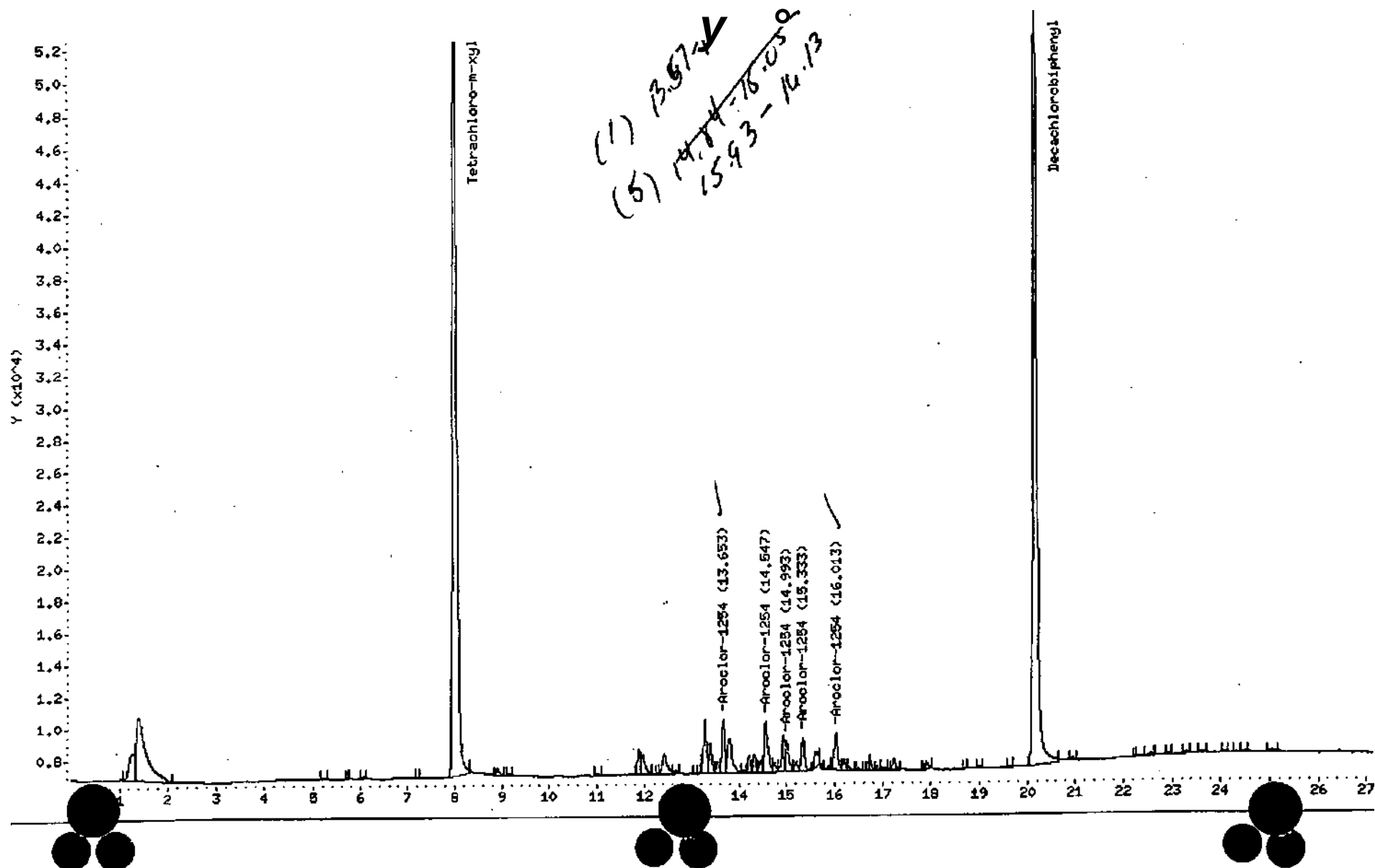
Instrument: hpl.i

Operator: CPW

Column diameter: 0.32

/chem/hpl.i/8082r0917.b/E2989943.D i S

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Friend Inc.

Data File: /chem/hpl.i/8082r0917.b/E2989948.D  
Method: /chem/hpl.i/8082r0917.b/80 82\_PCBsec.M  
Sample Info: L94538-2  
Misc Info: WG32900,02-004  
Analysis Date: 26-SEP-2002 09:41  
Sample Matrix: SOIL  
File Number: 9948

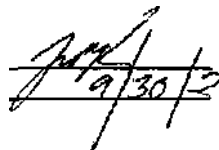
|                 |         |
|-----------------|---------|
| Dilution Factor | 10.0000 |
| Sample Weight   | 10.9291 |
| Final Volume    | 10.0000 |
| Total Solid     | 87.5000 |

Analytes (ug/Kg)

|                      |         |
|----------------------|---------|
| Aroclor-1016         | 0.00    |
| Aroclor-1221         | 0.00    |
| Aroclor-1232         | 0.00    |
| Aroclor-1242         | 0.00    |
| Aroclor-1254         | 493.79  |
| Aroclor-1260         | 0.00    |
| Aroclor-1248         | 0.00    |
| Tetrachloro-m-xylene | 84.57%  |
| Decachlorobiphenyl   | 114.31% |

Analyst: CPW  
Report Date: 09/26/2002 14:51

Supervisor:  
Date:



Thru-Put Systems, Inc

Data file : \chera\hp3.i\1254FCONFIRMa.b\E3956216.D  
 Lab Smp Id: L94538-2 Client Smp ID: L94538-2  
 Inj Date : 26-SEP-2002 11:21  
 Operator : CPW Inst ID: hp3.i  
 Smp Info : L94538-2  
 Misc Info : CONFIRMATION  
 Comment :  
 Method : \chem\hp3.i\1254FCONFIRMa.b\8082\_PCBsec.M  
 Meth Date : 26-Sep-2002 14:54 Administra Quant Type: ESTD  
 Cal Date : 25-SEP-2002 09:08 Cal File: E3956172.D  
 Als bottle: 1  
 Dil Factor: 10.00000  
 Integrator: Falcon Compound Sublist: 1254.sub  
 Target Version: 3.40 Sample Matrix: SOIL  
 Processing Host: TARGET3

Concentration Formula:  $\text{Amt} * \text{DF} * ((\text{Vf} / \text{Ws}) * \text{Uf}) / \text{Ts} * 1000$

| Name | Value  | Description                |
|------|--------|----------------------------|
| DF   | 10.000 | Dilution Factor            |
| Vf   | 10.000 | Final volume-              |
| Ws   | 10.929 | Weight of sample extracted |
| Uf   | 0.100  | Unit Correction Factor     |
| Ts   | 87.500 | Total Solid                |

| CONCENTRATIONS                   |        |         |                  |         |                    |         |        |         |  |
|----------------------------------|--------|---------|------------------|---------|--------------------|---------|--------|---------|--|
|                                  |        |         | ON-COL           |         | FINAL              |         |        |         |  |
| RT                               | EXP RT | DLT RT  | RESPONSE ( ug/L) |         | (ug/Kg)            | TARGET  | RANGE  | RATIO   |  |
|                                  |        |         |                  |         |                    |         |        |         |  |
| \$ 1 Tetrachloro-m-xylene        |        |         |                  |         | CAS «i             |         |        |         |  |
| 9-700                            | 9.717  | -0.017  | 36B178           | 63.4572 | 663*. S7           |         |        |         |  |
|                                  |        |         |                  |         |                    |         |        |         |  |
| 25 Aroclor-1254                  |        |         |                  |         | CAS ft: 11097-69-1 |         |        |         |  |
| 14.577                           | 14.597 | -0..020 | 20262            | 69.9239 | 731.20             | 80.00-  | 120.00 | 100.0.0 |  |
| 15.100                           | 15.123 | -0..023 | 30778            | 63.9551 | 668.78             | 152.01- | 192.01 | 151.90  |  |
| 15-907                           | 15.927 | -0.020  | 25749            | 63.4675 | 663.66             | 129.84- | 169.84 | 127.08  |  |
| 16.267                           | 16.290 | -0.023  | 14681            | 65.1031 | 680.76             | 60.29-  | 100.29 | 72.46   |  |
| 16.813                           | 16.837 | -0.024  | 24334            | 60.7882 | 635.66             | 120.35- | 160.35 | 120-10  |  |
| Average of Peak Concentrations - |        |         |                  |         | 676.02             |         |        |         |  |
|                                  |        |         |                  |         |                    |         |        |         |  |
| \$ 29 Decachlorobiphenyl         |        |         |                  |         | CAS It             |         |        |         |  |
| 21-303                           | 21.327 | -0.024  | 300647           | 67.3539 | 704.32             |         |        |         |  |





Friend Inc.

Data File: /chem/hp3.i/1254FC0NFIRMa.b/E3956216.D  
Method: /chem/hp3.i/1254FC0NFIRMa.b/8082\_PCBsec-M  
Sample Info: L94538-2  
Misc Info: CONFIRMATION  
Analysis Date: 26-SEP-2002 11:21  
Sample Matrix: SOIL  
File Number: 6216

|                 |         |
|-----------------|---------|
| Dilution Factor | 10.0000 |
| Sample Weight   | 10.9291 |
| Final Volume    | 10.0000 |
| Total Solid     | 87.5000 |

Analytes (ug/Kg)

|                      |         |
|----------------------|---------|
| Aroclor-1254         | 676.02  |
| Tetrachloro-m-xylene | 126.91% |
| Decachlorobiphenyl   | 134.71% |

Analyst: CPW  
Report Date: 09/26/2002 15:01

Supervisor:  
Date:

ID  
PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

L94538-5

Lab Name: Contract: .

Lab Code: Case No.: SAS No.: SDG No.: AAA925

Matrix: (soil/water) SOIL Lab Sample ID: L94538-5

Sample wt/vol: 11.0 (g/mL) G Lab File ID: E2989949

% Moisture: .<sup>^</sup>TSH-U decanted: (Y/N) N Date Received: 09/25/2

Extraction: (SepF/Cont/Sonc) SONC Date Extracted: 09/25/2

Concentrated Extract Volume: iOOOQ (up Date Analyzed: 09/26/2

Injection Volume: 2.0(uL) Dilution Factor: 10.0

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

| CAS NO.     | COMPOUND     | CONCENTRATION UNITS:<br>{ug/L or ug/Kg) UG/KG. | Q                     |
|-------------|--------------|------------------------------------------------|-----------------------|
| 12674-11-2  | Aroclor-1016 |                                                | U<br>U<br>U<br>U<br>U |
| 1104-28-2   | Aroclor-1221 | •V∞ .Q.4Q                                      |                       |
| 11141-16-5  | Aroclor-1232 | 30fi n on                                      |                       |
| 53469-21-9  | Aroclor-1242 | 1135.44                                        |                       |
| 11097-69-1  | Aroclor-1254 |                                                |                       |
| .11096-82-5 | Aroclor-1260 |                                                | U<br>U                |
|             | Aroclor-1248 | ^00-0-T56                                      |                       |
|             |              |                                                |                       |

Thru-Put Systems, Inc.

Data file : \chem\hpl.i\8082r0917,b\E2989949.D  
Lab Smp Id: L94538-5 Client Smp ID: L94538-5  
Inj Date : 26-SEP-2002 10:12  
Operator : CPW Inst ID: hpl.i  
Smp Info : L94538-5  
Misc Info : WG32900/.02-004  
Comment :  
Method : \chem\hpl.i\8082r0917.b\8082\_PCBsec.M  
Meth Date : 26-Sep-2002 14:49 Administra Quant Type: ESTD  
Cal Date : 17-SEP-2002 16:43 Cal File: E2989834.D  
Als bottle: 1  
Dil Factor: 10.00000  
Integrator: Falcon Compound Sublist: PCB.sub  
Target Version: 3.40 Sample Matrix: SOIL  
Processing Host: TARGET3

Concentration Formula:  $\text{Amt} * \text{DF} * ((\text{Vf} / \text{Ws}) * \text{Uf}) / \text{Ts} * 1000$

| Name | Value  | Description                    |
|------|--------|--------------------------------|
| DF   | 10.000 | Dilution Factor                |
| Vf   | 10.000 | Final volume                   |
| Ws   | 10.975 | Weight of sample extracted (g) |
| Uf   | 0.100  | Unit Correction Factor         |
| Ts   | 45.400 | Total Solid                    |

S»

|                                          |        | CONCENTRATIONS |                  |         |         |        |         |            |  |
|------------------------------------------|--------|----------------|------------------|---------|---------|--------|---------|------------|--|
|                                          |        | ON-COL         |                  | FINAL   |         |        |         |            |  |
| RT                                       | EXP RT | DLT RT         | RESPONSE { ug/L) | (ug/Kg) | TARGET  | RANGE  |         |            |  |
| \$ 1 Tetrachloro-ni-xylene CAS A:        |        |                |                  |         |         |        |         |            |  |
| 7.973                                    | 7.997  | -0.024         | 311670           | 43.5994 | 875.04  |        |         |            |  |
| S 29 Decachlorobiphenyl CAS fi:          |        |                |                  |         |         |        |         |            |  |
| 20.120                                   | 20.130 | -0.010         | 278337           | 57.1944 | 1147.89 |        |         |            |  |
| 25 Aroclor-1254 CAS #: 11097-69-1        |        |                |                  |         |         |        |         |            |  |
| 13.653                                   | 13.670 | -0.017         | 1745S            | 50.9977 | 1023.52 | 80.00- | 120..00 | 100..00(H) |  |
| 14.547                                   | 14.563 | -0.016         | 19602            | 60.9391 | 1223.05 | 99.75- | 139.75  | 112..28    |  |
| 14.990                                   | 15.003 | -0.013         | 13683            | 57.2394 | 1148.80 | 77.94- | 117..94 | 78.38      |  |
| 15.333                                   | 15.350 | -0.017         | 10581            | 59.6787 | 1197.75 | 46.79- | 86.79   | 60.61      |  |
| 16.013                                   | 16.033 | -0.020         | 15396            | 54.0147 | 1084.08 | 86.38- | 126.38  | 88.19      |  |
| Average of Peak Concentrations - 1135.44 |        |                |                  |         |         |        |         |            |  |

UP3. C L H

00082

Data File: \chem\hpl.i\8082r0917.b\E2989949.D  
Report Date: 26-Sep-2002 14:51

#### QC Flag Legend

H - Operator selected an alternate compound hit.

Date ; 26-SEP-2002 10J12

Client ID: L94S38-5

Sample Info: L94538-5

Volume Injected <u>2,0

Column phase: RTX-CLPesticides 2

Instrument: hpl.i

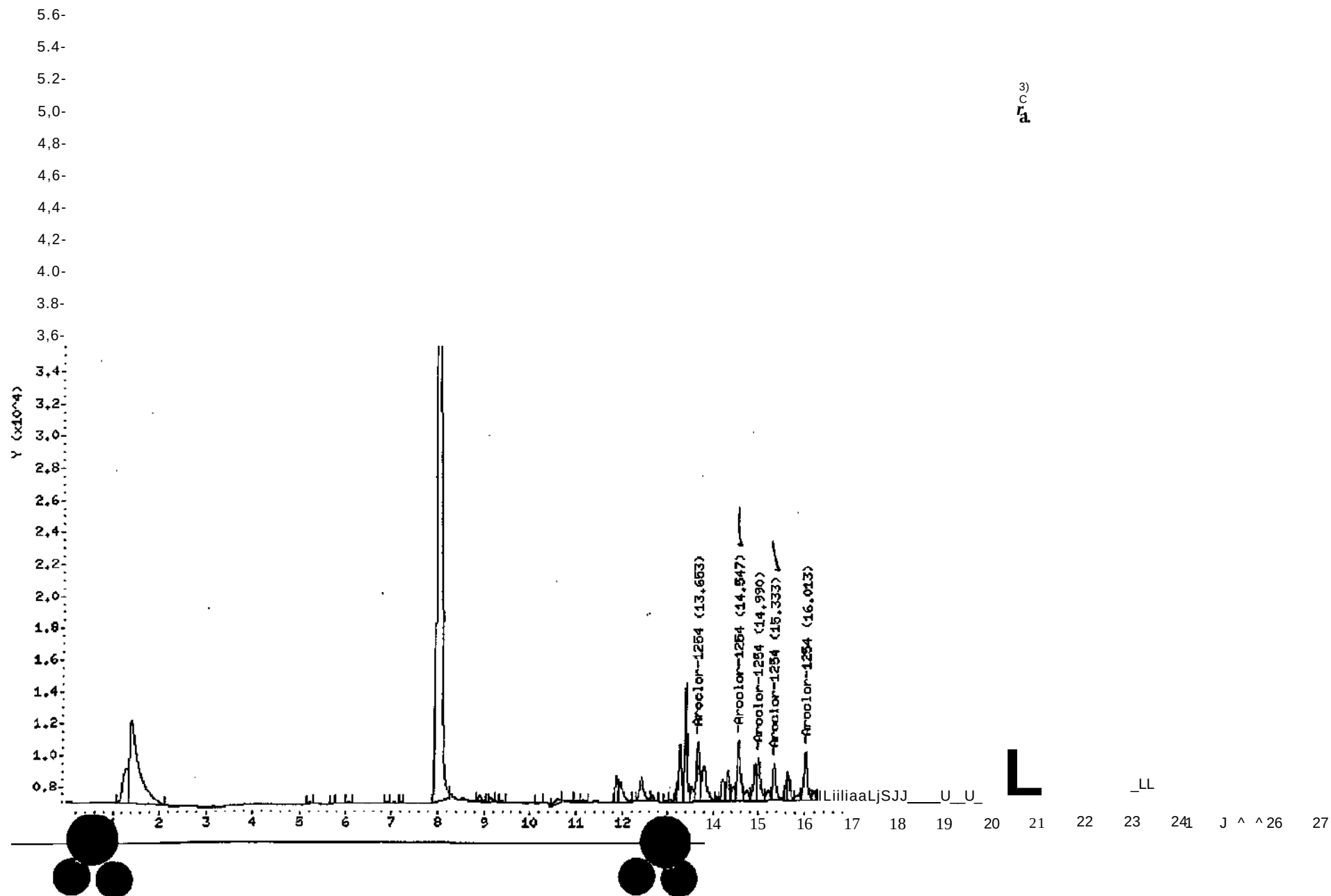
Operator: CPW

Column diameter: 0,32

T3<

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00  
00  
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/chem/hpl, i/8082r0917.b/E2989949.D



Friend Inc.

Data File: /chem/hpl.i/8082r0917.b/E2989949.D  
Method: /chem/hpl.i/8082r0917.b/8082\_PCBsec.M  
Sample Info: L94538-5  
Misc Info: WG32900,02-004  
Analysis Date: 26-SEP-2002 10:12  
Sample Matrix: SOIL  
File Number: 9949

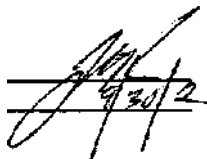
|                 |         |
|-----------------|---------|
| Dilution Factor | 10.0000 |
| Sample Weight   | 10.9748 |
| Final Volume    | 10.0000 |
| Total Solid     | 45.4000 |

Analytes (ug/Kg)

|                      |         |
|----------------------|---------|
| Aroclor-1016         | 0.00    |
| Aroclor-1221         | 0.00    |
| Aroclor-1232         | 0.00    |
| Aroclor-1242         | 0.00    |
| Aroclor-1254         | 1135.44 |
| Aroclor-1260         | 0.00    |
| Aroclor-1248         | 0.00    |
| Tetrachloro-m-xylene | 87.20%  |
| Decachlorobiphenyl   | 114.39% |

Analyst: CPW  
Report Date: 09/26/2002 14:51

Supervisor: \_\_\_\_\_  
Date: \_\_\_\_\_



Thru-Put Systems, Inc

Data file : \chem\hp3.x\1254FCONFIRMa.b\E3956217.D  
 Lab Smp Id: L94538-5 Client Smp ID: L94538-5  
 Inj Date 26-SEP-2002 11:53  
 Operator CPW Inst ID: hp3.i  
 Smp Info L94538-5  
 Misc Info CONFIRMATION  
 Comment  
 Method \chem\hp3.i\1254FCONFIRMa.b\8082\_PCBsec.M  
 Meth Date 26-Sep-2002 14:54 Administra Quant Type: ESTD  
 Cal Date 25-SEP-2002 09:08 Cal File: E3956172.D  
 Als bottle 1  
 Dil Factor 10.00000  
 Integrator: Falcon Compound Sublist: 1254.sub  
 Target Version: 3.40 Sample Matrix: SOIL  
 Processing Host: TARGET3

Concentration Formula:  $\text{Amt} * \text{DF} * \{(\text{Vf} / \text{Ws}) * \text{Uf}\} / \text{Ts} * 1000$

| Name | Value  | Description                    |
|------|--------|--------------------------------|
| DF   | 10.000 | Dilution Factor                |
| Vf   | 10.000 | Final volume                   |
| Ws   | 10.975 | Weight of sample extracted (g) |
| Uf   | 0.100  | Unit Correction Factor         |
| Ts   | 45.400 | Total Solid                    |

|                                  |                      |        | CONCENTRATIONS |         |         |         |            |        |
|----------------------------------|----------------------|--------|----------------|---------|---------|---------|------------|--------|
|                                  |                      |        | ON-COL         |         | FINAL   |         |            |        |
| RT                               | EXP RT               | DLT RT | RESPONSE       | ( ug/L) | (ug/Kg) | TARGET  | RANGE      | RATIO  |
| .....                            |                      |        | .....          | .....   | .....   | .....   |            |        |
| \$ 1                             | Tetrachloro-m-xylene |        |                |         | CAS ft: |         |            |        |
| 9.690                            | 9.717                | -0.027 | 375501         | 64.7193 | 1298.92 |         |            |        |
| 25 Aroclor-1254                  |                      |        |                |         | CAS #:  |         | 11097-69-1 | .      |
| 14.570                           | 14.597               | -0.027 | 19683          | 67.9258 | 1363.27 | 80.00-  | 120.00     | 100.00 |
| 15.093'                          | 15.123               | -0.030 | 31083          | 64.5889 | 1296.30 | 152.01- | 192.01     | 157.92 |
| 15.900                           | 15.927               | -0.027 | 27409          | 67.5591 | 1355-91 | 129-B4- | 169-B4     | 139.25 |
| 16.263                           | 16.290               | -0.027 | 13549          | 60.0832 | 1205-B7 | 60.29-  | 100.29     | 68.84  |
| 16.807                           | 16.837               | -0.030 | 26248          | 65.5695 | 1315.98 | 120.35- | 160.35     | 133.35 |
| Average of Peak Concentrations « |                      |        |                |         | 1307.47 |         |            |        |
| \$ 29                            | Decachlorobiphenyl   |        |                |         | CAS (f: |         |            |        |
| 21.300                           | 21.327               | -0.027 | 297785         | 66.7127 | 1338.93 |         |            |        |



Data File: /chem/typ3.1/1254CONFIRM.b/E3  
Date: 26-SEP-2002 11:53  
File ID: L94538-5  
File Info: L94538-5  
Volume Injected (uL): 2.0  
Column phase: RTX-OLPesticides 1

| Y <x10 <sup>5</sup> > |    |    |   |
|-----------------------|----|----|---|
| 0                     |    |    | 0 |
| (SI                   | p. | V] | ∞ |

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Tetrachloro-m-xylene <9.690> S

-Aroclor-1254 (14.570)  
- -Aroclor-1254 <15.093> \*-  
-Aroclor-1254 <15.900)  
-Aroclor-1254 <16.263> 11^  
-Aroclor-1254 <16.807)

"3— \* ^ \

3"  
W

Decachlorobiphenyl <21.300)

Friend Inc.

**t\***

Data File: /chem/hp3.i/1254FCONFIRMa.b/E3956217.D  
Method: /chem/hp3.i/l254FCONFIRMa.b/8082\_PCBsec.M  
Sample Info: L94538-5  
Misc Info: CONFIRMATION  
Analysis Date: 26-SEP-2002 11:53  
Sample Matrix: SOIL  
File Number: 6217

|                 |         |
|-----------------|---------|
| Dilution Factor | 10.0000 |
| Sample Weight   | 10.9748 |
| Final Volume    | 10.0000 |
| Total Solid     | 45.4000 |

Analytes (ug/Kg)

|                      |         |
|----------------------|---------|
| Aroclor-1254         | 1307.47 |
| Tetrachloro-m-xylene | 129.44% |
| Decachlorobiphenyl   | 133.43% |

Analyst: CPW  
Report Date: 09/26/2002 15:01

**ft** Supervisor:  
Date:

ID  
PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO,

L94538-6

Lab Name: Contract:  
 Lab Code: Case No. : SAS No. : SDG No. : AAA925  
 Matrix: (soil/water) SOIL Lab Sample ID: L94538-6  
 Sample wt/vol: 10.7 (g/mL) G Lab File ID: E2989950  
 % Moisture: -e~/S, | decanted: (Y/N) N Date Received: 09/25/2  
 Extraction: (SepF/Cont/Sonc) SONC Date Extracted: 09/25/2  
 Concentrated Extract Volume: iQQOp (uL) Date Analyzed: 09/26/2  
 Injection Volume: . 2.0(uL) Dilution Factor: 10.0  
 GPC Cleanup: (Y/N) N pH: 7.0 Sulfur Cleanup: (Y/N) N

| CAS NO.    | COMPOUND        | CONCENTRATION UNITS:<br>(ug/L or ug/Kg) UG/KG | Q |
|------------|-----------------|-----------------------------------------------|---|
| 12674-11-2 | -Aroclor- 1016  | <b>no</b> 0.11                                |   |
| 1104-28-2  | -Aroclor- 1221" | <b>33 0</b> S-rSa-                            |   |
| 11141-16-5 | -Aroclor- 1232" |                                               |   |
| 53469-21-9 | -Aroclor- 1242" | <sup>110</sup> -frrl                          |   |
| 11097-69-1 | -Aroclor- 1254" | 219.76                                        |   |
| 11096-82-5 | -Aroclor- 1260" |                                               |   |
|            | -Aroclor- 1248" |                                               |   |

/C/SS/OZL

» Thru-Put Systems, Inc.

Data file : \chem\hpl.i\8082r0917.b\E2989950.D  
Lab Smp Id: L94538-6 Client Smp ID: L94538-6  
Inj Date 26-SEP-2002 10:43 Inst ID: hpl.i  
Operator : CPW  
Smp Info : L94538-6  
Misc Info : WG32900,02-004  
Comment :  
Method : \chem\hpl.i\8082r0917.b\8082\_PCBsec.M  
Meth Date : 26-Sep-2002 14:49 Administra Quant Type: ESTD  
Cal Date : 17-SEP-.2002 16:43 Cal File: E2989834.D  
Als bottle: 1  
Dil Factor: 10.00000  
Integrator: Falcon Compound Sublist: PCB.sub  
Target Version: 3.40 Sample Matrix: SOIL  
Processing Host: TARGET3

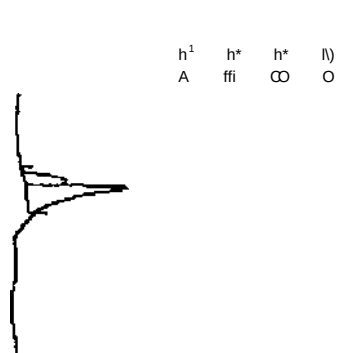
Concentration Formula: Amt \* DF \* ((Vf / Ws) \* Uf) / Ts \* 1000

| Name | Value   | Description                    |
|------|---------|--------------------------------|
| DF   | 10.000  | Dilution Factor                |
| Vf   | .10.000 | Final volume                   |
| Ws   | 10.682  | Weight of sample extracted (g) |
| Uf   | 0.100   | Unit Correction Factor         |
| Ts   | 81.900  | Total Solid                    |

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|                                  |        |                      |  | CONCENTRATIONS |         |         |            |        |        |
|----------------------------------|--------|----------------------|--|----------------|---------|---------|------------|--------|--------|
|                                  |        |                      |  | ON-COL         |         | FINAL   |            |        |        |
| RT                               | EXP RT | DLT RT               |  | RESPONSE       | ( ug/L) | (ug/Kg) | TARGET     | RANGE  | RATIO  |
|                                  |        |                      |  |                |         |         |            |        |        |
| \$                               | 1      | Tetrachloro-m-xylene |  |                |         | CAS «:  |            |        |        |
| 7.977                            | 7.997  | -0.020               |  | 322734         | 44.9485 | 513.79  |            |        |        |
|                                  |        |                      |  |                |         |         |            |        |        |
| S                                | 29     | Decachlorobiphenyl   |  |                |         | CAS #:  |            |        |        |
| 20.120                           | 20.130 | -0.010               |  | 266769         | 55.0105 | 628.B0  |            |        |        |
|                                  |        |                      |  |                |         |         |            |        |        |
|                                  | 25     | Aroclor-1254         |  |                |         | CAS tt: | 11097-69-1 |        |        |
| 13.650                           | 13.670 | -0.020               |  | 3489           | 5.04096 | 57.62   | 80.00-     | 120.00 | 100.00 |
| 14.543                           | 14.563 | -0.020               |  | 2645           | 22.5835 | 258.14  | 99.75-     | 139.75 | 75. ei |
| 14.987                           | 15.003 | -0.016               |  | 1769           | 25.9865 | 297.04  | 77.94-     | 117.94 | 50.70  |
| 15.330                           | 15.350 | -0.020               |  | 2654           | 1B.3092 | 209.2B  | 46.79-     | 85.79  | 76.07  |
| 16.010                           | 16.033 | -0.023               |  | 4561           | 24.2061 | 276.69  | 86.3B-     | 126.3B | 130.73 |
| Average of Peak Concentrations - |        |                      |  | 219.76         |         |         |            |        |        |

» kLi^F



| Y <x10"4> |    |    |   |    |   |    |    |   |   |    |   |    |    |     |   |
|-----------|----|----|---|----|---|----|----|---|---|----|---|----|----|-----|---|
| to.       | ro | ro | 0 | ro | * | OS | (0 | 0 | . | ro | * | *  | en | CS1 | + |
|           |    |    |   |    |   |    |    |   |   |    |   |    |    |     |   |
|           | 03 |    |   |    |   |    |    |   |   |    |   | CD | ●  | *   |   |



Tetrachloro-m-xylene (7.977)

n-Aroclor-1248 (11.883) --tfe

£5f\*4WBrlMft8<»3Wte> - **V**  
£ -Aroolor-1254 (13.650) L

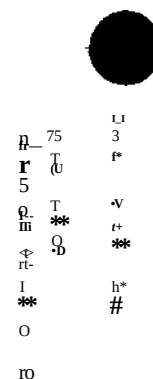
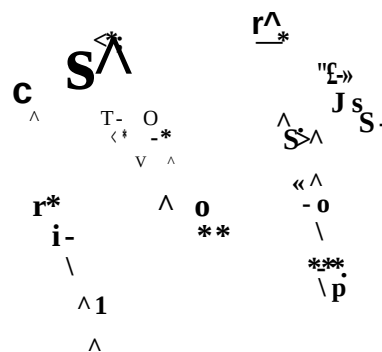
ft -Aroolor-1254 (14.543)

i. -Aroolor-1254 (15.330)+

•-A^8?o^l2i§^4<^!l839L

-ftroclor-1260 (16.737) •-

r-Aroclor-1260 (17.220) •\_



**Decachlorobiphenyl (20.120)**

Friend Inc.

Data File: /chem/hpl.i/8082r0917.b/E2989950.D  
Method: /chem/hpl.i/8082r0917.b/8082\_PCBsec.M  
Sample Info: L94538-6  
Misc Info: WG32900,02-004  
Analysis Date: 26-SEP-2002 10:43  
Sample Matrix: SOIL  
File Number: 9950

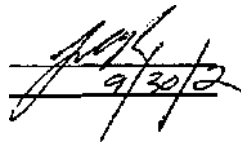
|                 |         |
|-----------------|---------|
| Dilution Factor | 10.0000 |
| Sample Weight   | 10.6819 |
| Final Volume    | 10.0000 |
| Total Solid     | 81.9000 |

Analytes (ug/Kg)

|                      |         |
|----------------------|---------|
| Aroclor-1016         | 0.00    |
| Aroclor-1221         | 0.00    |
| Aroclor-1232         | 0.00    |
| Aroclor-1242         | 0.00    |
| Aroclor-1254         | 219.76  |
| Aroclor-1260         | 0.00    |
| Aroclor-1248         | 0.00    |
| Tetrachloro-m-xylene | 89.90%  |
| Decachlorobiphenyl   | 110.02% |

Analyst: CPW  
Report Date: 09/26/2002 14:51

Supervisor:  
Date:



Thru-Put Systems, Inc.

Data file \chem\hp3.i\1254FCONFIRMa.b\E3956218.D  
 Lab Smp Id L94538-6 Client Smp ID: L94538-6  
 Inj Date 26-SEP-2002 12:24  
 Operator CPW Inst ID: hp3.i  
 Smp Info L94538-6  
 Misc Info CONFIRMATION  
 Comment  
 Method \chem\hp3.i\1254FCONFIRMa.b\8082\_PCBsec.M  
 Meth' Date 26-Sep-2002 14:54 Administra Quant Type: ESTD  
 Cal Date 25-SEP-2002 09:08 Cal File: E3956172.D  
 Als bottle 1  
 Dil Factor 10.00000  
 Integrator Falcon  
 Target Version: 3.40  
 Processing Host: TARGET3  
 Compound Sublist: 1254.sub  
 Sample Matrix: SOIL

Concentration Formula:  $\text{Amt} * \text{DF} * ((\text{Vf} / \text{Ws}) * \text{Uf}) / \text{Ts} * 1000$

| Name | Value  | Description                    |
|------|--------|--------------------------------|
| DF   | 10.000 | Dilution Factor                |
| Vf   | 10.000 | Final volume                   |
| Ws   | 10.682 | Weight of sample extracted (g) |
| Uf   | 0.100  | Unit Correction Factor         |
| Ts   | 81.900 | Total Solid                    |

| CONCENTRATIONS                 |        |        |        |          |         |          |            |        |        |
|--------------------------------|--------|--------|--------|----------|---------|----------|------------|--------|--------|
|                                |        |        | ON-COL |          | FINAL   |          |            |        |        |
| RT                             | EXP RT | DLT RT | RT     | RESPONSE | ( ug/L) | (ug/Kg)  | TARGET     | RANGE  | RATIO  |
| .....                          |        |        |        |          |         |          |            |        |        |
| \$ 1 Tetrachloro-m-xylene      |        |        |        |          |         | CAS «    |            |        |        |
| 9.690                          | 9.717  | -0.027 |        | 388020   | 66.8771 | 764.44   |            |        |        |
| <hr/>                          |        |        |        |          |         |          |            |        |        |
| 25 Aroclor-1254                |        |        |        |          |         | CAS #    | 11097-69-1 |        |        |
| 14.570                         | 14.597 | -0.027 |        | 4571     | 15.7745 | 180.31   | 80.00-     | 120.00 | 100.00 |
| 15.097                         | 15.123 | -0.026 |        | 6055     | 12.5820 | 143.82   | 152.01-    | 192.01 | 132.47 |
| 15.903                         | 15.927 | -0.024 |        | 5798     | 14.2912 | 163.36   | 129.84-    | 169.84 | 126.84 |
| 16.263                         | 16.290 | -0.027 |        | 4939     | 21.9021 | 250.35   | 60-29-     | 100-29 | 108.05 |
| 16.807                         | 16.837 | -0.030 |        | 7843     | 19.5924 | 223.95   | 120-35-    | 160-35 | 171.58 |
| Average of Peak Concentrations |        |        |        |          |         | . 192.36 |            |        |        |
| <hr/>                          |        |        |        |          |         |          |            |        |        |
| \$ 29 Decachlorobiphenyl       |        |        |        |          |         | CAS tt   |            |        |        |
| 21.303                         | 21.327 | -0.024 |        | 316778   | 70.9677 | 811.20   |            |        |        |
| <hr/>                          |        |        |        |          |         |          |            |        |        |

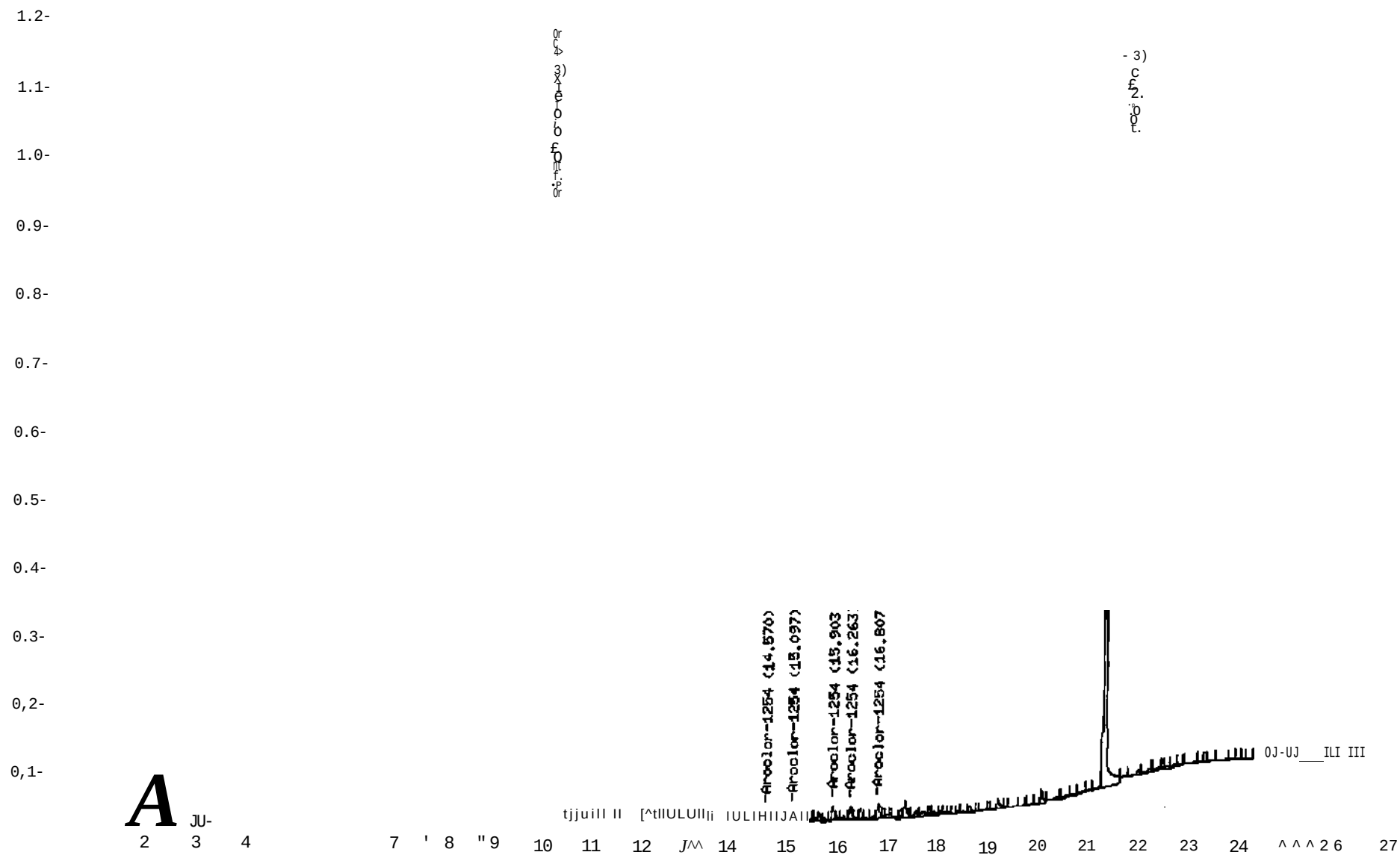
Instrument: hp3.i

Operator: CPU

Column diameter: 0,32

0  
0  
0

/chem/hp3.i/1254FC0NFIRMa.b/E3956218.D



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Friend Inc.

Data File: /chem/hp3.i/1254FCONFIRMa.b/E3956218.D  
Method: /chem/hp3.i/1254FCONFIRMa.b/8082\_PCBsec.M  
Sample Info: L94538-6  
Misc Info: CONFIRMATION  
Analysis Date: 26-SEP-2002 12:24  
Sample Matrix: SOIL  
File Number: 6218

|                 |         |
|-----------------|---------|
| Dilution Factor | 10.0000 |
| Sample Weight   | 10.6819 |
| Final Volume    | 10.0000 |
| Total Solid     | 81.9000 |

Analytes {ug/Kg)

|                      |         |
|----------------------|---------|
| Aroclor-1254         | 192.36  |
| Tetrachloro-m-xylene | 133.75% |
| Decachlorobiphenyl   | 141.94% |

Analyst: CPW  
Report Date: 09/26/2002•15 : 02

Supervisor:  
Date:

00095

ID  
PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO

L94538-7



Lab Name:

Contract:

Lab Code:

Case No. :

SAS No. :

SDG No. : AAA925

Matrix: (soil/water) SOIL

Lab Sample ID: L94538-7

Sample wt/vol: 10.2 (g/mL) G

Lab File ID: E2989951

% Moisture: -0" \i-3 decanted: (Y/N) N

Date Received: 09/25/2

Extraction: (SepF/Cont/Sonc) SONC

Date Extracted:09/25/2

Concentrated Extract Volume: JCOOO (uL)

Date Analyzed: 09/26/2

Injection Volume: • 2.0(uL)

Dilution Factor: 10.0

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

Sulfur Cleanup: (Y/N) N

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

|            |              |             |   |
|------------|--------------|-------------|---|
| 12674-11-2 | Aroclor-1016 | ilu 0.12    | U |
| 1104-28-2  | Aroclor-1221 | •Z^C -0.24- | U |
| 11141-16-5 | Aroclor-1232 | ' ^ 0.12    | U |
| 53469-21-9 | Arocior-1242 |             | u |
| 11097-69-1 | Aroclor-1254 | 1014.51     | u |
| 11096-82-5 | Aroclor-1260 | '20 JXJL3J  | u |
|            | Aroclor-1248 | tail        |   |

WI&IC-L

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Thru-Put Systems, Inc.

Data file : \chem\hpl.i\8082r0917.b\E2989951.D  
 Lab Smp Id: L94538-7 Client Smp ID: L94538-7  
 Inj Date : 26-SEP-2002 11:14  
 Operator : CPW Inst ID: hpl.i  
 Smp Info : L94538-7  
 Misc Info : WG32900,02-004  
 Comment :  
 Method : \chem\hpl.i\8082r0917.b\8082\_PCBsec.M  
 Meth Date : 26-Sep-2002 14:49 Administra Quant Type: ESTD  
 Cal Date : 17-SEP-2002 16:43 Cal File: E2989834.D  
 Als bottle: 1  
 Dil Factor: 10.00000  
 Integrator: Falcon Compound Sublist: PCB.sub  
 Target Version: 3.40 Sample Matrix: SOIL  
 Processing Host: TARGET3

Concentration Formula:  $\text{Amt} * \text{DF} * ((\text{Vf} / \text{Ws}) * \text{Uf}) / \text{Ts} * 1000$

| Name | Value  | Description                |
|------|--------|----------------------------|
| DF   | 10.000 | Dilution Factor            |
| Vf   | 10.000 | Final volume               |
| Ws   | 10.231 | Weight of sample extracted |
| Uf   | 0.100  | Unit Correction Factor     |
| Ts   | 80.700 | Total Solid                |

| CONCENTRATIONS                           |        |        |    |          |         |         |        |        |           |
|------------------------------------------|--------|--------|----|----------|---------|---------|--------|--------|-----------|
|                                          |        |        |    | ON-COL   |         | FINAL   |        |        |           |
| RT                                       | EXP RT | DLT RT | RT | RESPONSE | ( ug/L) | (ug/Kg) | TARGET | RANGE  | RATIO     |
| \$ 1 Tetrachloro-m-xylene CAS ft:        |        |        |    |          |         |         |        |        |           |
| 7.970                                    | 7.997  | -0.027 |    | 346383   | 47.8323 | 579.36  |        |        |           |
| \$ 29 Decachlorobiphenyl CAS ft:         |        |        |    |          |         |         |        |        |           |
| 20.120                                   | 20.130 | -0.010 |    | 347802   | 70.3086 | 851.60  |        |        |           |
| 25 Aroclor-1254 ' CAS ft: 11097- 69-1    |        |        |    |          |         |         |        |        |           |
| 13.653                                   | 13.670 | -0.017 |    | 30980    | 95.4839 | 1156.53 | 80.00- | 120 00 | 100 00(H) |
| 14.547                                   | 14.563 | -0.016 |    | 29814    | 84.0380 | 1017.89 | 99.75- | 139 75 | 96 24     |
| 14.987                                   | 15.003 | -0.016 |    | 20560    | 75.2792 | 911.80  | 77.94- | 117 94 | 66 37     |
| 15.333                                   | 15.350 | -0.017 |    | 18726    | 102.186 | 1237.70 | 46.79- | 86 79  | 60 45     |
| 16.010                                   | 16.033 | -0.023 |    | 18228    | 61.8059 | 748.61  | 86.38- | 126 38 | 58 84     |
| Average of Peak Concentrations • 1014.51 |        |        |    |          |         |         |        |        |           |

Report Date: 26-Sep-2002 14:51

# 2#

Flag Legend

H - Operator selected an alternate compound hit

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*u*

00098



Friend Inc.

\* .  
Data File: /chem/hpl.i/8082r0917.b/E2989951.D  
Method: /chem/hpl.i/8082r0917.b/8082\_PCBsec.M  
Sample Info: L94538-7  
Misc Info: WG32900,02-004  
Analysis Date: 26-SEP-2002 11:14  
Sample Matrix: SOIL  
File Number: 9951

|                 |         |
|-----------------|---------|
| Dilution Factor | 10.0000 |
| Sample Weight   | 10.2306 |
| Final Volume    | 10.0000 |
| Total Solid     | 80.7000 |

Analytes (ug/Kg)

|                      |         |
|----------------------|---------|
| Aroclor-1016         | 0.00    |
| Aroclor-1221         | 0.00    |
| Aroclor-1232         | 0.00    |
| Aroclor-1242         | 0.00    |
| Aroclor-1254         | 1014.51 |
| Aroclor-1260         | 0.00    |
| Aroclor-1248         | 0.00    |
| Tetrachloro-m-xylene | 95.66%  |
| Decachlorobiphenyl   | 140.62% |

S»

Analyst: CPW  
Report Date: 09/26/2002 14:51

Supervisor:  
Date:

*19/30/2*

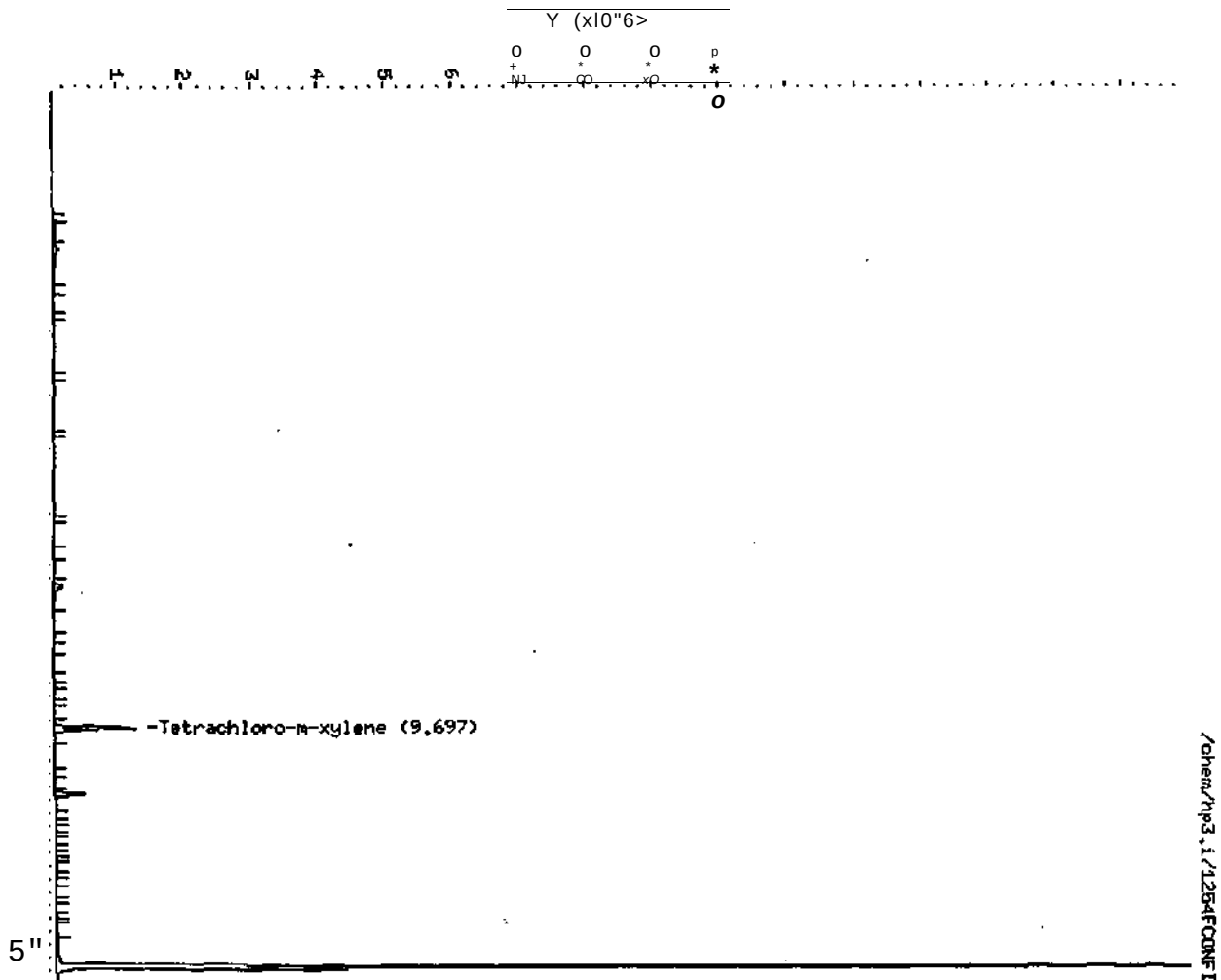
Thru-Put Systems, Inc

Data file : \chem\hp3.i\1254FCONFIRMa.b\E3956219.D  
 Lab Smp Id: L94538-7 Client Smp ID: L94538-7  
 Inj Date : 26-SEP-2002 12:55  
 Operator : CPW Inst ID: hp3.i  
 Smp Info : L94538-7  
 Misc Info : CONFIRMATION  
 Comment :  
 Method : \chem\hp3.i\1254FCONFIRMa.b\8082\_PCBsec.M  
 Meth Date : 26-Sep-2002 14:54 Administra Quant Type: ESTD  
 Cal Date : 25-SEP-2002 09:08 Cal File: E3956172.D  
 Als bottle: 1  
 Dil Factor: 10.00000  
 Integrator: Falcon  
 Target Version: 3-40 Compound Sublist: 1254.sub  
 Processing Host: TARGET3 Sample Matrix: SOIL

Concentration Formula:  $\text{Amt} * \text{DF} * ((\text{Vf} / \text{Ws}) * \text{Uf}) / \text{Ts} * 1000$

| Name | Value  | Description                |
|------|--------|----------------------------|
| DF   | 10.000 | Dilution Factor            |
| Vf   | 10.000 | Final volume               |
| Ws   | 10.231 | Weight of sample extracted |
| Uf   | 0.100  | Unit Correction Factor     |
| Ts   | 80.700 | Total Solid                |

| CONCENTRATIONS                   |                      |        |    |          |                   |               |         |        |        |
|----------------------------------|----------------------|--------|----|----------|-------------------|---------------|---------|--------|--------|
| RT                               | EXP RT               | DLT RT | RT | RESPONSE | ON-COL ( ug/L)    | FINAL (ug/Kg) | TARGET  | RANGE  | RATIO  |
| "                                | .....                | -..... |    | .....    |                   |               | .....   |        |        |
| S 1                              | Tetrachloro-m-xylene |        |    |          |                   | CAS #:        |         |        |        |
| 9.697                            | 9.717                | -0.020 |    | 372332   | 64.1732           | 777.28        |         |        |        |
|                                  |                      |        |    |          |                   |               |         |        |        |
| 25 Aroclor-1254                  |                      |        |    |          | CAS #: 11097-69-1 |               |         |        |        |
| 14.573                           | 14.597               | -0.024 |    | 23279    | 80.3356           | 973.05        | 60.00-  | 120.00 | 100.00 |
| 15.097                           | 15.123               | -0.026 |    | 38005    | 78.9724           | 956.53        | 152.01- | 192.01 | 163.26 |
| 15.903                           | 15.927               | -0.024 |    | 33073    | 81.5200           | 987.39        | 129.84- | 169.84 | 142.07 |
| 16.267                           | 16.290               | -0.023 |    | 19035    | 84.4109           | 1022.41       | 60.29-  | 100.29 | 81.77  |
| 16.810                           | 16.837               | -0.027 |    | 32852    | 82.0668           | 994.01        | 120.35- | 160.35 | 141.12 |
| Average of Peak Concentrations • |                      |        |    |          |                   | 986.68        |         |        |        |
|                                  |                      |        |    |          |                   |               |         |        |        |
| S 29                             | Decachlorobiphenyl   |        |    |          |                   | CAS 8:        |         |        |        |
| 21.300                           | 21.327               | -0.027 |    | 305212   | 68.3766           | 828.20        |         |        |        |



.-Aroclor-1254 (14.573)  
 -Aroclor-1254 (15,097)  
 -Aroclor-1264 (15,903)  
 ::-Aroclor-1254 (16,267)  
 E-Aroclor-1254 (16.810)

3 •v

-Decachlorobiphenyl (21,300)

# .

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Friend Inc.



Data File: /chem/hp3.i/l254FCONFIRMa.b/E3956219.D  
Method: /chem/hp3.i/l254FCONFIRMa.b/8082\_PCBsec-M  
Sample Info: L94538-7  
Misc Info: CONFIRMATION  
Analysis Date: 26-SEP-2002 12:55  
Sample Matrix: SOIL  
File Number: 6219

|                 |         |
|-----------------|---------|
| Dilution Factor | 10.0000 |
| Sample Weight   | 10.2306 |
| Final Volume    | 10.0000 |
| Total Solid     | 80.7000 |

Analytes (ug/Kg)

|                      |         |
|----------------------|---------|
| Aroclor-1254         | 986.68  |
| Tetrachloro-m-xylene | 128.35% |
| Decachlorobiphenyl   | 136.75% |

Analyst: CPW  
Report Date: 09/26/2002 15:02

Supervisor:  
Date:

»

ID  
PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO-

L94538-8

Lab Name: Contract: .

Lab Code: Case No. : SAS No. : SDG No. : AAA925

Matrix: (soil/water) SOIL Lab Sample ID: L94538-8

Sample wt/vol: 10.9 (g/mL) G Lab File ID: E2989952

% Moisture: -9-13.? decanted: (Y/N) N Date Received: 09/25/2

Extraction: (SepF/Cont/Sonc) SONC Date Extracted: 09/25/2

Concentrated Extract Volume: jQOOO (uL) Date Analyzed: 09/26/2

Injection Volume: . 2.0 (uL) Dilution Factor: 10.0

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

| CAS NO.    | COMPOUND     | CONCENTRATION UNITS:<br>(ug/L or ug/Kg) UG/KG | Q                     |
|------------|--------------|-----------------------------------------------|-----------------------|
| 12674-11-2 | Aroclor-1016 |                                               | U<br>U<br>U<br>U<br>U |
| 1104-28-2  | Aroclor-1221 | no 0.11                                       |                       |
| 11141-16-5 | Aroclor-1232 |                                               |                       |
| 53469-21-9 | Aroclor-1242 |                                               |                       |
| 11097-69-1 | Aroclor-1254 | 273.27                                        |                       |
| 11096-82-5 | Aroclor-1260 |                                               | U<br>U                |
|            | Aroclor-1248 | no -frr*±<br>J&JL<br>TojSs/o^                 |                       |

Thru-Put Systems, Inc

Data file \chem\hpl.i\8082r0917.b\E2989952.D  
Lab Smp Id L94538-8 Client Smp ID: L94538-8  
Inj Date 26-SEP-2002 11:46  
Operator CPW Inst ID: hpl.i  
Smp Info L94538-8  
Misc Info WG32900,02-004  
Comment  
Method \chem\hpl.i\8082r0917.b\8082\_PCBsec.M  
Meth Date 26-Sep-2002 14:49 Administra Quant Type: ESTD  
Cal Date 17-SEP-2002 16:43 Cal File: E2989834.D  
Als bottle 1  
Dil Factor 10.00000  
Integrator Falcon Compound Sublist: PCB.sub  
Target Version: 3.40 Sample Matrix: SOIL  
Processing Host: TARGET3

Concentration Formula: Amt \* DF \* ((Vf / Ws) \* Uf) / Ts \* 1000

| Name | Value  | Description                    |
|------|--------|--------------------------------|
| DF   | 10.000 | Dilution Factor                |
| Vf   | 10.000 | Final volume                   |
| Ws   | 10.923 | Weight of sample extracted (g) |
| Uf   | 0.100  | Unit Correction Factor         |
| Ts   | 86.200 | Total Solid                    |

CONCENTRATIONS

| RT                               | EXP RT       | DLT RT               | ON-COL           | FINAL   | TARGET RANGE | RATIO                    |
|----------------------------------|--------------|----------------------|------------------|---------|--------------|--------------------------|
|                                  |              |                      | RESPONSE ( ug/L) | ug/Kg)  |              |                          |
| 5                                | 1            | Tetrachloro-m-xylene | CAS th           |         |              |                          |
| 7.973                            | 7.997        | -0.024               | 377088           | 51.5764 | 547.76       |                          |
| \$                               | 29           | Decachlorobiphenyl   | CAS ft:          |         |              |                          |
| 20.123                           | 20.130       | -0.007               | 33B210           | 68.4978 | 727.48       |                          |
| 25                               | Aroclor-1254 | CAS #:               | 11097-69-1       |         |              |                          |
| 13.647                           | 13.670       | -0.023               | 5029             | 10.1074 | 107.35       | 80.00- 120.00 100.00(MH) |
| 14.540                           | 14.563       | -0.023               | 3316             | 24.1012 | 255.97       | 99.75- 139.75 65.94      |
| 14.9B3                           | 15.003       | -0.020               | 4095             | 32.0881 | 340.79       | 77.94- 117.94 81.43      |
| 15.330                           | 15.350       | -0.020               | 5321             | 32.2278 | 342.27       | 46.79- 86.79 105.61      |
| 16.010                           | 16.033       | -0.023               | 6714             | 30.1293 | 319.99       | 86.38- 126.38 133.51     |
| Average of Peak Concentrations - |              |                      | 273.27           |         |              |                          |

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Data File: \chem\hpl.i\8082r0917.b\E2989952 .D  
Report Date: 26-Sep-2002 14:51

#### QC Flag Legend

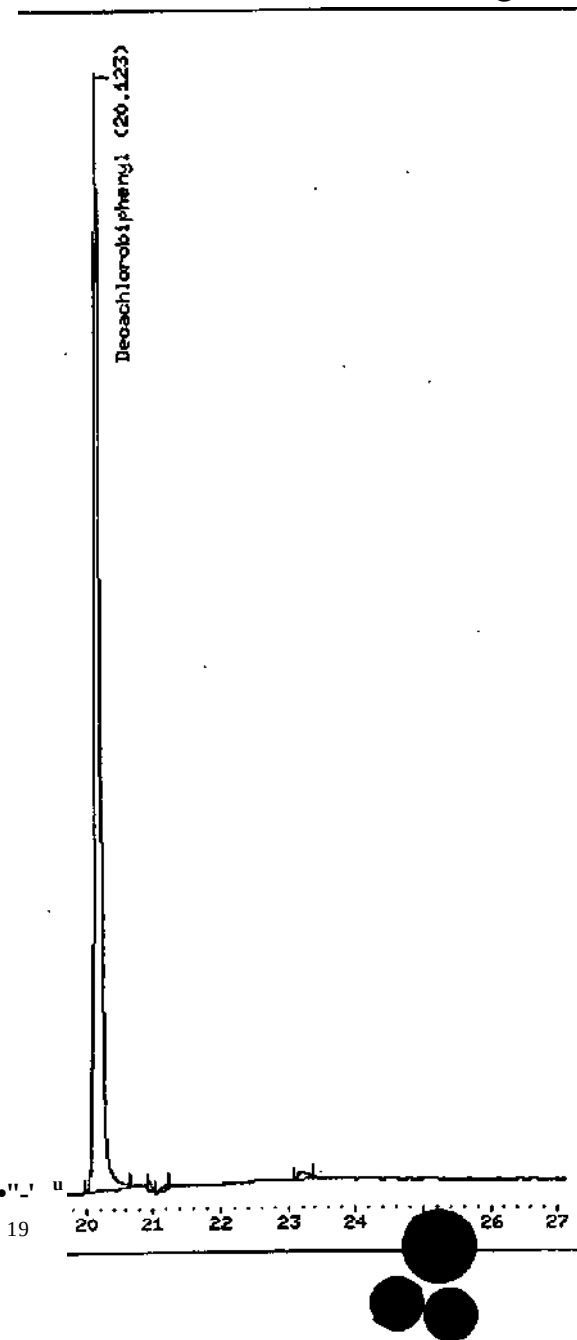
M - Compound response manually integrated.  
H - Operator selected an alternate compound hit.

Column phase: RTX-CLPesticides 2

Column diameter; 0,32

C  
C  
C

/chem/hpl.i.8032r0917.b/E2989952.D



Friend Inc.

Data File: /chem/hpl.i/8082r0917.b/E2989952.D  
Method: /chem/hpl.i/8082r0917.b/8082\_PCBsec  
Sample Info: L94538-8  
Misc Info: WG32900,02-004  
Analysis Date: 26-SEP-2002 11:46  
Sample Matrix: SOIL  
File Number: 9952

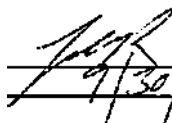
|                 |         |
|-----------------|---------|
| Dilution Factor | 10.0000 |
| Sample Weight   | 10.9232 |
| Final Volume    | 10.0000 |
| Total Solid     | 86.2000 |

Analytes (ug/Kg)

|                      |         |
|----------------------|---------|
| Aroclor-1016         | 0.00    |
| Aroclor-1221         | 0.00    |
| Aroclor-1232         | 0.00    |
| Aroclor-1242         | 0.00    |
| Aroclor-1254         | 273.27  |
| Aroclor-1260         | 0.00    |
| Aroclor-1248         | 0.00    |
| Tetrachloro-m-xylene | 103.15% |
| Decachlorobiphenyl   | 137.00% |

Analyst: CPW  
Report Date: 09/26/2002 14:51

Supervisor:  
Date:



**f**

Thru-Put Systems, Inc

Data file : \chem\hp3.i\1254FCONFIRMa.b\E3956220.D  
 Lab Smp Id L94538-8 Client Smp ID: L94538-8  
 Inj Date 26-SEP-2002 13:26  
 Operator CPW Inst ID: hp3-i  
 Smp Info L94538-8  
 Misc Info CONFIRMATION  
 Comment  
 Method \chem\hp3.i\1254FCONFIRMa.b\8082\_PCBsec.M  
 Meth Date 26-Sep-2002 14:54 Administra Quant Type: ESTD  
 Cal Date 25-SEP-2002 09:08 Cal File: E3956172.D  
 Als bottle 1  
 Dil Factor 10.00000  
 Integrator Falcon Compound Sublist: 1254.sub  
 Target Version: 3.40 Sample Matrix: SOIL  
 Processing Host: TARGET3

Concentration Formula:  $\text{Amt} * \text{DF} * ((\text{Vf} / \text{Ws}) * \text{Uf}) / \text{Ts} * 1000$

| Name | Value  | Description                    |
|------|--------|--------------------------------|
| DF   | 10.000 | Dilution Factor                |
| Vf   | 10.000 | Final volume                   |
| Ws   | 10.923 | Weight of sample extracted (g) |
| Uf   | 0.100  | Unit Correction Factor         |
| Ts   | 86.200 | Total Solid                    |

**3»**

| CONCENTRATIONS                   |        |        |          |         |                   |         |        |        |  |
|----------------------------------|--------|--------|----------|---------|-------------------|---------|--------|--------|--|
|                                  |        |        | ON-COL   |         | FINAL             |         |        |        |  |
| RT                               | EXP RT | DLT RT | RESPONSE | { ug/L) | (ug/Kg)           | TARGET  | RANGE  | RATIO  |  |
| S 1 Tetrachloro-m-xylene         |        |        |          |         | CAS #:            |         |        |        |  |
| 9.693                            | 9.717  | -0.024 | 418831   | 72.1875 | 766.66            |         |        |        |  |
| 25 Aroclor-1254                  |        |        |          |         | CAS #: 11097-69-1 |         |        |        |  |
| 14.577                           | 14.597 | -0.020 | 3971     | 13.7039 | 145-54            | 80.00-  | 120.00 | 100.00 |  |
| 15.100                           | 15.123 | -0.023 | 6365     | 13.2261 | 140.47            | 152.01- | 192.01 | 160.29 |  |
| 15.907                           | 15.927 | -0.020 | 5407     | 13-3275 | 141.54            | 129.84- | 169.84 | 136.16 |  |
| 16.267                           | 16.290 | -0.023 | 5435     | 24.1016 | 255.97            | 60.29-  | 100.29 | 136.87 |  |
| 16.810                           | 16.837 | -0.027 | 8895     | 22.2204 | 235.99            | 120.35- | 160.35 | 224.00 |  |
| Average of Peak Concentrations « |        |        |          |         | 183.90            |         |        |        |  |
| \$ 29 Decachlorobiphenyl         |        |        |          |         | CAS #:            |         |        |        |  |
| 21.303                           | 21.327 | -0.024 | 338550   | 75.8453 | 605.51            |         |        |        |  |

Data File: \chem\hp3.i\1254FCONFIRMa.b\E3956220.D  
Report Date: 26-Sep-2002 15:02

QC Flag Legend

R - Spike/Surrogate failed recovery limits.



Data File: •'chem/hp3.i/1254FC0NFIRHa.b/E3956220.D

Date : 26-SEP-2002 13:26

Client ID: L9453S-8

Sample Info: L94538-8

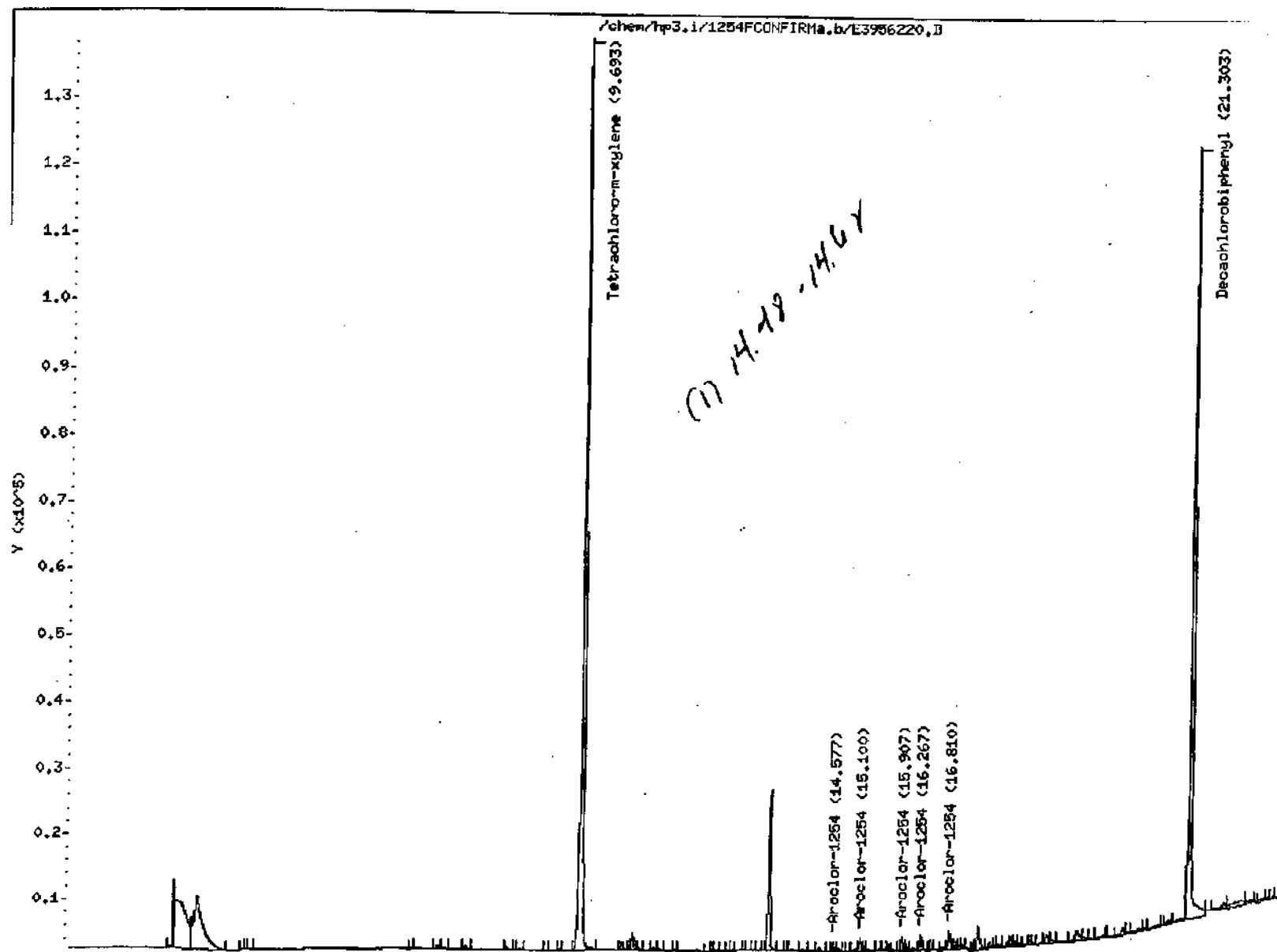
Volume Injected (uL): 2.0

Column phase: RTX-CLPesticides 1

Instrument: hpS.i

Operator: CPU

Column diameter: 0.32



Friend Inc.

Data File: /chem/hp3.i/1254FCONFIRMa.b/E3956220.D  
Method: /chem/hp3.i/1254FCONFIRMa.b/8082\_PCBsec.M  
Sample Info: L94538-8  
Misc Info: CONFIRMATION  
Analysis Date: 26-SEP-2002 13:26  
Sample Matrix: SOIL  
File Number: 6220

|                 |         |
|-----------------|---------|
| Dilution Factor | 10.0000 |
| Sample Weight   | 10.9232 |
| Final Volume    | 10.0000 |
| Total Solid     | 86.2000 |

Analytes (ug/Kg)

|                      |         |
|----------------------|---------|
| Aroclor-1254         | 183.90  |
| Tetrachloro-m-xylene | 144.37% |
| Decachlorobiphenyl   | 151.69% |

Analyst: CPW  
Report Date: 09/26/2002 15:02

Supervisor:  
Date:

| pl/12/02     | RTX-CLPEST 1<br>pc ON COLUMN |        |        |         |       |         | UG/L IN<br>WATER | CRDL<br>(UG/L) |
|--------------|------------------------------|--------|--------|---------|-------|---------|------------------|----------------|
| Instrument#3 | Run#1                        | Run #2 | Run #3 | Average | SD    | SD*6.95 | IDL              |                |
| PCB 1016     | 99.14                        | 100.48 | 98.05  | 99.22   | 1.21  | 8.44    | 0.1              | 1.0            |
| PCB 1221     | 200.36                       | 193.87 | 196.82 | 197.02  | 3.25  | 22.6    | 0.2              | 2.0            |
| PCB 1232     | 97.97                        | 96.72  | 99.17  | 97.95   | 1.22  | 8.51    | 0.1              | 1.0            |
| PCB 1242     | 99.14                        | 100.08 | 101.34 | 100.19  | 1.10  | 7.67    | 0.1              | 1.0            |
| PCB 1248     | 101.82                       | 101.01 | 99.76  | 100.86  | 1.04  | 7.22    | 0.1              | 1.0            |
| PCB 1254     | 99.63                        | 100.10 | 99.13  | 99.62   | 0.487 | 3.39    | 0.1              | 1.0            |
| PCB 1260     | 100.74                       | 100.76 | 101.10 | 100.87  | 0.199 | 1.39    | 0.1              | 1.0            |

| 01/12/02     | RTX-CLPEST 2<br>PG ON COLUMN |        |        |         |       |         | UG/L IN<br>WATER | CRDL<br>(UG/L) |
|--------------|------------------------------|--------|--------|---------|-------|---------|------------------|----------------|
| Instrument#3 | Run#1                        | Run #2 | Run #3 | Average | SD    | SD*6.95 | IDL              |                |
| PCB 1016     | 106.01                       | 105.20 | 106.90 | 106.04  | 0.850 | 5.91    | 0.1              | 1.0            |
| PCB 1221     | 202.83                       | 203.02 | 204.03 | 203.29  | 0.642 | 4.46    | 0.1              | 2.0            |
| PCB 1232     | 105.99                       | 105.07 | 104.41 | 105.16  | 0.796 | 5.53    | 0.1              | 1.0            |
| PCB 1242     | 104.27                       | 105.07 | 108.17 | 105.84  | 2.06  | 14.3    | 0.1              | 1.0            |
| PCB 1248     | 101.79                       | 101.90 | 101.19 | 101.63  | 0.379 | 2.64    | 0.1              | 1.0            |
| PCB 1254     | 101.02                       | 103.64 | 105.02 | 103.23  | 2.03  | 14.1    | 0.1              | 1.0            |
| PCB 1260     | 102.25                       | 102.84 | 103.11 | 102.74  | 0.437 | 3.04    | 0.1              | 1.0            |

00010

ID  
PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

L94363-2

Lab Name: Contract: .

Lab Code: Case No. : SAS No. : SDG No.: AAA923

Matrix -. (soil /water) SOIL Lab Sample ID: L94363-2

Sample wt/vol: 10.8 (g/mL) G Lab File ID: E2989923

% Moisture: -£-/<?• 6= decanted: (Y/N) N Date Received: 09/23/2

Extraction: (SepF/Cont/Sonc) SONC Date Extracted: 09/24/2

Concentrated Extract Volume: iOOoo (uL) Date Analyzed: 09/25/2

Injection Volume: 2.0 (uL) Dilution Factor: 10.0

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

| CAS NO.    | COMPOUND     | CONCENTRATION UNITS:                          |              | Q |
|------------|--------------|-----------------------------------------------|--------------|---|
|            |              | (ug/L or ug/Kg)                               | UG/KG        |   |
| 12674-11-2 | Aroclor-1016 | no ..Q-^ri<br>1549.70<br>/to 0.11<br>no 0.ii. | // O 0;11"   | u |
| 1104-28-2  | Aroclor-1221 |                                               | •JjiO UT'Z.3 | u |
| 11141-16-5 | Aroclor-1232 |                                               |              | u |
| 53469-21-9 | Aroclor-1242 |                                               |              | u |
| 11097-69-1 | Aroclor-1254 |                                               |              |   |
| 11096-82-5 | Aroclor-1260 |                                               |              | u |
|            | Aroclor-1248 |                                               |              | u |

/CAP/DD-

f

Organic Extractions

#

Notebook:

jmm

Patie: l3g<l' WG#^22L^S

Extracted By: ^V&

sur. Rf: mmmmmmmm •

Date Extracted: %&fflSM<ya&\$i&f

Analysis:

Matrix:

Spike Ref: \*'' •\*>

fl<sub>ft</sub> r^/'~Yi J^

| I.D.     | Customer | Int. Size | Fin. Vol | Sr. Amt | Spk Amt | Bottle # | pH 5-9 | Emulsion | Clean-ups |
|----------|----------|-----------|----------|---------|---------|----------|--------|----------|-----------|
| MB84     |          | 10.4202   | 10ml     | 1ml     |         |          |        |          |           |
| QC84     |          | 10.1963   |          |         | Ind pcd |          |        |          |           |
| QC84pcb  |          | 10.0086   |          |         | Ind pcd |          |        |          | 1,2,3     |
| L94365-1 |          | 10.0476   |          |         |         |          |        |          |           |
| -2       |          | 10.7183   |          |         | Ind pcd |          |        |          |           |
| -3       |          | 10.2470   |          |         | ↓       |          |        |          |           |
| L94365-1 |          | 10.4557   |          |         |         |          |        |          |           |
| L94365-1 |          | 10.7180   |          |         |         |          |        |          | 1,2,3     |
| L94365-1 |          | 10.2153   |          |         |         |          |        |          |           |
| -2       |          | 10.2091   |          |         |         |          |        |          |           |
| -3       |          | 10.0602   |          |         |         |          |        |          |           |
| L94365-2 |          | 10.2102   |          |         |         |          |        |          |           |
| -4       |          | 10.6583   |          |         |         |          |        |          |           |
| -6       |          | 10.1907   |          |         |         |          |        |          |           |
| L94365-2 | AAA Env  | 10.8420   |          |         |         |          |        |          |           |
| -4       |          | 10.0534   |          |         |         |          |        |          |           |
| -6       |          | 10.2548   |          |         |         |          |        |          |           |
| -8       |          | 10.7849   |          |         |         |          |        |          |           |
| -10      |          | 10.0941   |          |         |         |          |        |          |           |
| -12      |          | 10.0478   |          |         |         |          |        |          |           |

Extracts Relinquished to:

00256

Comments: Clean-up Methods: 1. 3665 H<sub>2</sub>SO<sub>4</sub> 2. 3620A fiorisil. 3. 3660A Hg

M

Cot

R83677  
R-21  
9/25

"VN<^0

Page Up.      w a \* < W X j

sur.  $R \ll \cdot : mm \& mmm Bm \setminus$

$$\text{spe } \underline{R^{mmmmmm}}$$
$$\text{spe } \underline{R^{mmmmmm}}$$

Matrix: 

| I.D.     | Customer | Int. Size | Fin. Vol | Sr. Amt | Spk Amt | Bottle # | pH 5-9 | Emulsion | Clean-ups |
|----------|----------|-----------|----------|---------|---------|----------|--------|----------|-----------|
| M1887    |          | 10.0371   | 10ml     | 1ml     |         |          |        |          | 42.3      |
| Q087     |          | 10.0993   |          |         | 1ml     |          |        |          |           |
| L94588-1 | AAA Env  | 10.3669   |          |         |         |          |        |          |           |
| -2       |          | 10.9291   |          |         |         |          |        |          |           |
| -3       |          | 10.7080   |          |         |         |          |        |          |           |
| -4       |          | 10.4935   |          |         |         |          |        |          |           |
| -5       |          | 10.9749   |          |         |         |          |        |          |           |
| -6       |          | 10.6819   |          |         |         |          |        |          |           |
| -7       |          | 10.2306   |          |         |         |          |        |          |           |
| -8       |          | 10.9232   |          |         |         |          |        |          |           |



Comments: Clean-up Methods:1. 3665 H<sub>2</sub>SO<sub>4</sub>. 2. 3620A florisil. 3. 3660AHg

4-<-(

00257  $r^{\wedge}df -$   
 $\leq tf -$

WET CHEMISTRY TOTAL SOLIDS N

¥

**Notebook : 02-066**

**Start Date : 24-SEP-02 16:41**

End Date : 21-SEP-02 16:41

Start Date : 24-SEP-02 16:41  
End Date : 21-SEP-02 16:41  
«\*.,... M - sn \*\*\_ »•- £? g sag k««« \*»«elt> ^,wult •\*• \*»!

ComftiefttS t

Start:24-SEP-02 16:41 CLP 3.0"  
Stop :24-SEP-02 16:41

Comments :  
Start:24-SEP'-62 14:41 ... aVS.U  
Stop :24-SEP\*02 16:41

Cwwwnte  $t$

```
mmi'A.....stert:24-SEP-b2 14:*1 | CtP'i.O"
'          Stop :24-SEP-02 16:41
```

\*\*\*\*\* \* §1a<lf-\_\_\_\_\_.  
j^MW^f'' Start:24-SEP»02 16:41 "CLP 3.0"  
Stop :24-SEP-D2 16:41

ir~r2B2TT054l J1332T

**-u—\$:mr i.sw ^ w "**

M i'way.....u u ' i';W'''

1—£W "1.24^8 \*^Htt<sup>l,w</sup>

.....tas—

.....%

- **c r**

**Calculations:**     **Final Results \* (fnl - initial) x 1000000**

wgt      wgt

```
mis o> sample
```

Analyst Signature \_\_\_\_\_

 $\wedge \bullet \vee$ 
$$- / D q b T \quad \wedge$$

**Manager      Signature**

| t? | T | Date |
|----|---|------|
|----|---|------|

255B  
24K 10/27/02

m

WET CHEMISTRY TOTAL SOLIDS HOTEBOC\*

Page: 77 1 of 1

Notebook : 02-066

Start Date : 25-SEP-02 20:01

End Date : 25-SEP-02 20:01

Analysis

Sample 3\*0. Date Time

Aflst

taftt Hethod

DisH#

V\*b\*> initial tettefttl 3rdMth 5th\*6th 7th&8th \*M0tfc Final

(«tft) <• Ueight lfeHftt- Weight ifcfigkt Weight .Result Hpd Unlta

mm-i. . . . . Start:25-SEP-6a 26:01 '-' "dP 3.0"

' Stop :25-SEP-02 20:01

ConWAtft t

WW3&-4. . . . Start:25-SEP-02 20:6l CLP 3.0

Stop :25-SEP-02 20:01

Comments t

t»538»& - Start:25-SEP-02 20:01 "CLP 3.0

' Stop :25-SEP-02 20:01 -.

Comments ;

t W S M " " " " StBrt:2i>-SEP-62 26:01 ' ' CLP O

Stop i25\*SEP-02 20i01

Domttents t

rott-y. . . . . start:25-SEP-62 26:6l ' CtP !\*<i "

Stop :25-SEP-Q2 20:01

Cottftfnts. ,:

IW5&-&' "" Start:25-SEP-62 20-.0l ' "" CLP 4.6

Stop ;25-SEP-02 20:01

86326604' ' ' stert:25-SEP^0Z 26:oi "- 'CLP 4.0

" ,-/ Stop ;25-SEP\*02 20:01 'h

- \ " Stop :25-SEP\*02 20t01 \*

#'.\*' or

.....67.5

- — 5 T 4 ~ ..... k

.....WW—" :—X

" a'6.7.....l

^••';"•86.2'

<sup>1</sup> :ot6i" w ; -k"

-2—S'JBW....t.atte \$:m...."

Calculations: Final Results = (fnl - initial) x 1000000

wgt ugt

.mis of sample



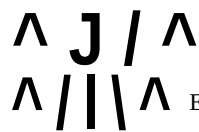
/^Analyst Signature—

Vbatf

Manager Signature

Date





ECT.CON INC.

Environmental and Computer  
Technology Consultants

## Data Validation Report

|                        |                                                              |
|------------------------|--------------------------------------------------------------|
| SDG#                   | 94081                                                        |
| Validation Report Date | April 28, 2003                                               |
| Validation Guidance    | USEPA Region 2 Guidelines for Data Review SW 846 Method 8082 |
| Client Name            | Cummings-Riter                                               |
| Project Name           | Viacom/Horseheads                                            |
| Laboratory             | Friend Laboratory Inc.                                       |
| Method(s) Utilized     | SW 846 8082                                                  |
| Analytical Fraction    | PCBs                                                         |

### Samples/Matrix:

| Date Sampled | Sample ID    | Laboratory ID | PCBs | Matrix |
|--------------|--------------|---------------|------|--------|
| 9/16/02      | A-B-SS-B-001 | 94081-1       | X    | Solid  |
| 9/16/02      | A-B-S-W-001  | 94081-4       | X    | Solid  |
| 9/16/02      | A-B-SS-W-001 | 94081-5       | X    | Solid  |
| 9/16/02      | A-B-S-E-001  | 94081-6       | X    | Solid  |
| 9/16/02      | A-B-SS-E-001 | 94081-7       | X    | Solid  |

Analytical data in this report were screened to determine analytical limitations of the data based on specific quality control criteria. This screening assumes analytical results are correct as reported and merely provides an interpretation of the reported quality control results. A minimum of 10% of laboratory calculations has been verified as part of this validation. Specific findings on analytical limitations are presented in this report. Annotated Form Is or spreadsheets for samples reviewed are included after the Data Assessment Findings. Form Is for the MS/MSD samples and spreadsheets are not annotated.

### SUMMARY

The sample set for Viacom/Horsehead consists of five solid field samples. These samples were analyzed for the parameters as provided above. The findings presented in this review of the analytical data assume that the information presented by the analytical laboratory is correct. This review is identified as a false positive/false negative review, and therefore, does not include the review of some quality control (QC) items. Those included in the review are listed below.

The polychlorinated biphenyl (PCBs) findings are based upon the assessment of the following:

False Positives/False Negatives Validation

- \* • Data Completeness
- \* • Holding Times
- \* • Calibration and GC Performance
- \* • Blanks
- \* • Analytical Sequence Check
- \* • Target Compound Identification
- Compound Quantitation and Reported Detection Limits
- \* • Chromatogram Quality
- \* Criteria were met for this evaluation item.

This evaluation was conducted in accordance with USEPA Region II SOP No. HW-23B (May 2002), USEPA CLP National Functional Guidelines for Organic Data Review and the analytical method. Findings from this evaluation should be considered when using the analytical data. This report presents a summary of the data qualifications based on the review of the aforementioned evaluation criteria. This is followed by annotated Form Is/ spreadsheets. Finally, the worksheets used to perform the evaluation are provided.

**FINDINGS****Polychlorinated Biphenyls (PCBs)****1. Compound Quantitation**

The percent difference between columns exceeded the 25% quality control limit. For the following samples and compounds, qualify PCB results as indicated in the table below. Samples were qualified based on SOP HW-23, Section 12.6.

| <b>Sample</b> | <b>Compound</b> | <b>% Difference</b> | <b>Qualifier</b> |
|---------------|-----------------|---------------------|------------------|
| A-B-SS-E-001  | Aroclor 1254    | 27.1%               | <b>J</b>         |
| A-B-SS-W-001  | Aroclor 1254    | 29.4%               | <b>J</b>         |

**NOTES****Polychlorinated Biphenyls (PCBs)****Completeness**

The USEPA Region II SOP No. HW-23B has the following sections that are not applicable to this project because it is a false positive/false negative review:

- Surrogate Recovery (Form 2)
- Laboratory Control Sample
- Matrix Spikes (Form 3)
- Contamination
- GC Apparatus and Materials
- Extraction Techniques for Sample Preparation
- Field Duplicates

The cooler temperature upon receipt at the laboratory was 1 C. Data are not qualified upon this basis.

### **Calibration**

The laboratory used linear regression to calculate PCB results. The use of linear regression is permissible for SW-846 methodologies. The laboratory met the acceptance criteria specified in Section 7.5.2 of Method 8000B (r value greater than or equal to 0.99).

Data summary forms (including calibration factors) for the initial and continuing calibration is not provided for the second column except for Aroclor 1254. The second column is used only for fingerprint confirmation, therefore, the laboratory does not provide the calibration factor information. Because Aroclor 1254 was identified as a constituent of concern, the data summary information for the second column is provided for the continuing calibration. Data are not qualified on this basis.

The percent difference (%D) per peak for multi-standard Aroclors are provided. For SW 846, the laboratory used the average Aroclor concentration to determine the %D. Data are not qualified because the average value is used.

The percent difference (%D) for calibration standards (first column) Aroclor 1260 (9/18/02 18:15) 21.2% and Aroclor 1260 (9/18/02 22:55) 18.8% were greater than the control limit of 15%. These standards were not associated with any project samples. Data are not qualified on this basis. The percent difference (%D) for calibration standard (second column) Aroclor 1254 (9/19/02 19:10) 15.6% was greater than the control limit of 15%. Since second column is not used for quantitation, data are not qualified.

### **Retention Time**

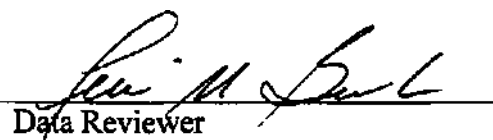
Retention time windows are not determined by the use of three standards for single standard calibration Aroclors. The center of the retention time window is defined as the retention time of the midpoint standard from the initial calibration. For the multi-standard calibration Aroclors, the center of the retention time window is the mean of the retention time generated from each standard. The retention time windows are the mean + 0.1 minutes. Data are not qualified on this basis.

Retention time windows are not provided for the second column except for Aroclor 1254. The second column is used only for fingerprint confirmation, therefore, the laboratory does not provide the retention time window information. Because Aroclor 1254 was identified as a constituent of concern, the retention time information for the second column is provided. Data are not qualified on this basis.

**Compound Quantitation**

Samples were analyzed and reported at a dilution due to the presence of target compounds. Dilutions for samples are presented below. Reporting limits were adjusted for percent solids and dilutions.

|                                                         |     |
|---------------------------------------------------------|-----|
| A-B-SS-B-001, A-B-S-W-001,<br>A-B-SS-W-001, A-B-S-E-001 | 10x |
| A-B-SS-E-001                                            | 50x |

  
Data Reviewer

\* . / < . .  
Date

## **Glossary of Data Qualifiers**

|          |                   |                                                                                                                        |
|----------|-------------------|------------------------------------------------------------------------------------------------------------------------|
| <b>U</b> | Not Detected.     | The associated number indicates approximate sample concentration necessary to be detected.                             |
| UJ       | Not Detected.     | Quantitation limit may be inaccurate or imprecise.                                                                     |
| J        | Analyte Present.  | Reported value may not be accurate or precise.                                                                         |
| N        | Consider Present. | Tentative identification. Special methods may be needed to confirm its presence or absence in future sampling efforts. |
| R        | Unusable Result.  | Analyte may or may not be present in the sample.                                                                       |
| UR       | Unusable Result.  | Analyte may or may not be present in the sample.                                                                       |

^ \ I / ^

ECT.CON INC.

^f I ^ ^ ^ ^ Environmental and Computer  
I Technology Consultants

*Annotated Form 1's*  
*(Spreadsheet)*

# FLT

F R I E N D  
LABORATORY  
I • N • C

32 ITHACA STREET  
TELEPHONE (607) 565-3500

WAVERLY, NY 14892-1532  
FAX (607) 565-4083

< #

Date: 19-SEP-2002

Lab Sample ID: L94081-1

AAA Environmental  
Peter Porter  
6679 Moore Road  
Syracuse, NY 13211

Sample Source: VIACOH/ HORSE HEADS #19208  
Origin: A-B-SS-B-OOI  
Description: COMPOSITE  
Sampled.. On: 16-SEP-02 16:45 by CLIENT  
Date Received: 17-SEP-02 09:18  
P. 'OV N O : N/A

| Analysis Performed      | Result | Units | Detection Limit | Date Analyzed   | Method   | Notebook Reference |
|-------------------------|--------|-------|-----------------|-----------------|----------|--------------------|
| Total Solids            | 79.2   |       |                 | 17-SEP-02 00:00 | CLP 3.0  | 02-066-73          |
| EPA 8082                |        |       |                 |                 |          |                    |
| PCB 1016                | u      | ug/kg | 63              | 19-SEP-02 13:53 | EPA 8082 | 02-004-9884        |
| PCS 1221                | U      | ug/kg | 130             | 19-SEP-02 13:53 | EPA 8082 | 02-004-9884        |
| PCB 1232                | U      | ug/kg | 63              | 19-SEP-02 13:53 | EPA 8082 | 02-004-9884        |
| PCB 1242                | U      | ug/kg | 63              | 19-SEP-02 13:53 | EPA 8082 | 02-004-9834        |
| PCB 1248                | U      | ug/kg | 63              | 19-SEP-02 13:53 | EPA 8082 | 02-004-9884        |
| PCB 1254                | 98     | ug/kg | 63              | 19-SEP-02 13:53 | EPA 8082 | 02-004-9884        |
| PCB 1260                | U      | ug/kg | 63              | 19-SEP-02 13:53 | EPA 8082 | 02-004-9884        |
| Extraction Information: |        |       |                 | 17-SEP-02 00:00 | EPA 3550 | 02-044-82          |
| Surrogate Recovery:     |        |       |                 |                 |          |                    |
| Tetrachloro-m-xylene    | 78     |       |                 |                 |          | 02-004-9884        |
| Dechlorobiphenyl        | 94     |       |                 |                 |          | 02-004-9684        |

Results calculated on a dry weight basis.

Approved by:

Lab Director

Page 1 of 1  
NY 10252 HJ 73168 PA 68180 EPA NY 00033

QC

KEY: HO o/ U = None Detected < = less than ug/L = micrograms per liter (equivalent to parts per billion)  
mg/L = milligram per liter (equivalent to parts per million) mg/kg = milligrams per kilogram (equivalent to parts per million)  
= analyte was detected in the method or trip blank J = result estimated below the quantitation limit

^ ^ K Information in this report is accurate to the best of our knowledge and ability. In no event shall our liability exceed the cost of these services. Your samples will be discarded after 14 days unless we are advised otherwise.



32 ITHACA STREET  
TELEPHONE (607) 565-3500

WAVERLY, NY 14892-1532  
FAX (607) 565-4083

Date: 19-SEP-2002

Lab Sample ID: L94081-4

AAA Environmental  
Peter Porter  
6679 Moore Road  
Syracuse, NY 13211

Sample Source: VACOMHORSEHEADS #19208  
Origin: A-B-S-U-OOI  
Inscription: COMPOSITE  
Sampled On: 16-SEP-02 16:20 by CLIENT  
Date Received: 17-SEP-02 09:ia  
P.O. No: N/A

| Analysis Performed | Result | Units | Detection Limit | Date Analyzed   | Method   | Notebook Reference |
|--------------------|--------|-------|-----------------|-----------------|----------|--------------------|
| Total Solids       | 68.6   |       |                 | 17-SEP-02 00:00 | CLP 3.0  | 02-066-73          |
| EPA 8082           |        |       |                 |                 |          |                    |
| PCB 1016           | U      | ug/kg | 71              | 19-SEP-02 14:24 | EPA 8082 | 02-004-9885        |
| PCB 1221           | U      | ug/kg | 140             | 19-SEP-02 14:24 | EPA 8082 | 02-004-9885        |
| PCB 1232           | U      | ug/kg | 71              | 19-SEP-02 14:24 | EPA 8082 | 02-004-9885        |
| PCB 1242           | U      | ug/kg | 71              | 19-SEP-02 14:24 | EPA 8082 | 02-004-9885        |
| PCB 1248           | U      | ug/kg | 71              | 19-SEP-02 14:24 | EPA 8082 | 02-004-9885        |
| PCB 1254           | 480    | ug/kg | 71              | 19-SEP-02 14:24 | EPA 8082 | 02-004-9885        |
| PCB 1260           | U      | ug/kg | 71              | 19-SEP-02 14:24 | EPA 8082 | 02-004-9885        |

Extraction Information:

|                      |    |   |  |                 |          |             |
|----------------------|----|---|--|-----------------|----------|-------------|
| Surrogate Recovery:  |    |   |  | 17-SEP-02 00:00 | EPA 3550 | 02-044-82   |
| Tetrachloro-m-xylene | 81 | X |  |                 |          | 02-004-9885 |
| Decachlorobiphenyl   | 90 | X |  |                 |          | 02-004-9885 |

Results calculated on a dry weight basis.

Approved by:   
Lab Director

Page 1 of 1  
NY 10252 NJ 73168 PA 68180 EPA NY 00033

QC: <

KEY: ND = None Detected < = less than ug/L = micrograms per liter (equivalent to parts per billion)  
mg/L = milligram per liter (equivalent to parts per million) mg/kg = milligrams per kilogram (equivalent to parts per million)  
J = analyte was detected in the method or trip blank J = result estimated below the quantitation limit

Information in this report is accurate to the best of our knowledge and ability. In no event shall our liability exceed the services. Your samples will be discarded after 14 days unless we are advised otherwise.





32 ITHACA STREET  
TELEPHONE (607) 565-3500

WAVERLY, NY 14892-1532  
FAX (607) 565-4083

Date: 19-SEP-2002

Lab Sample ID: L94081-5

AAA Environmental  
Peter Porter  
6679 Moore Road  
Syracuse, NY 13211

Sample Source: VACCW/HORSEHEADS #19208  
Origin: A-B-SS\*W-QOI  
Description: COMPOSITE  
Sampled On: 16SEP;02 16:35 by CLIENT  
Date Received: 177SEPT02-09:18  
P.O. No.: vi/k-^?%)'..''..'

| Analysis Performed      | Result | Units | Detection Limit | Date Analyzed   | Method   | Notebook Reference |
|-------------------------|--------|-------|-----------------|-----------------|----------|--------------------|
| Total Solids            | 88.9   |       |                 | 17-SEP-02 00:00 | CLP 3.0  | 02-066-73          |
| EPA 8082                |        |       |                 |                 |          |                    |
| PCB 1016                | U      | ug/kg | 51              | 19-SEP-02 14:55 | EPA 8082 | 02-004 -9886       |
| PCB 1221                | U      | ug/kg | 100             | 19-SEP-02 14:55 | EPA 8082 | 02-004 -9886       |
| PCB 1232                | U      | ug/kg | 51              | 19-SEP-02 14:55 | EPA 8082 | 02-004 -9886       |
| PCB 1242                | U      | ug/kg | 51              | 19-SEP-02 14:55 | EPA 8082 | 02-004 -9886       |
| PCB 1248                | U      | ug/kg | 51              | 19-SEP-02 14:55 | EPA 8082 | 02-004 -9886       |
| PCB 1254                | 580    | ug/kg | 51              | 19-SEP-02 14:55 | EPA 8082 | 02-004 -9886       |
| PCB 1260                | U      | ug/kg | 51              | 19-SEP-02 14:55 | EPA 8082 | 02-004 -9886       |
| Extraction Information: |        |       |                 |                 |          |                    |
|                         |        |       |                 | 17-SEP-02 00:00 | EPA 3550 | 02-044-82          |
| Surrogate Recovery:     |        |       |                 |                 |          |                    |
| Tetrachloro-m-xylene    | 72     |       |                 |                 |          | 02-004-9886        |
| Dechlorobiphenyl        | 88     |       |                 |                 |          | 02-004-9886        |

V

Results calculated on a dry weight basis.

Approved by:   
Lab Director

Page 1 of 1  
NY 10252 NJ 73168 PA 68180 EPA NY 00033

KEY: NO U = None Detected < = less than ug/L = micrograms per liter (equivalent to parts per billion)  
ms/L = milligram per liter (equivalent to parts per million) mg/kg = milligrams per kilogram (equivalent to parts per million)  
= analyte was detected in the method or trip blank J = result estimated below the quantitation limit

Information in this report is accurate to the best of our knowledge and ability, in no event shall our liability exceed the cost of our services. Your samples will be discarded after 14 days unless we are advised otherwise.

# EH

F R I E N D  
LABORATORY

32 ITHACA STREET  
TELEPHONE (607) 565-3500

WAVERLY, NY 14892-1532  
FAX (607) 565V4083

Date: 19-SEP-2002

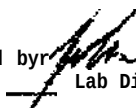
Lab Sample ID: L94081-6

AAA Environmental  
Peter Porter  
667 9 Moore Road  
Syracuse, NY 13211

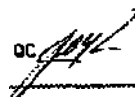
Sample Source: VIACOM/HORSEHEADS #19208  
Origin: A-B-S-E-001  
Description: COMPOSITE  
Sampled On: 16-SEP-02 17:10 by CLIENT  
Date Received: 17-SEP-02 09:18  
P.O. No: N/A

| Analysis Performed      | Result | Units | Detection Limit | Date Analyzed   | Method   | Notebook Reference |
|-------------------------|--------|-------|-----------------|-----------------|----------|--------------------|
| Total Solids            | 68,7   | X     |                 | 17-SEP-02 00:00 | CLP 3.0  | 02-066-73          |
| EPA 8032                |        |       |                 |                 |          |                    |
| PCB 1016                | U      | ug/kg | 68              | 19-SEP-02 11:48 | EPA 8082 | 02-004-9880        |
| PCB 1221                | U      | ug/kg | 140             | 19-SEP-02 11:48 | EPA 8082 | 02-004-9880        |
| PCB 1232                | U      | ug/kg | 68              | 19-SEP-02 11:48 | EPA 8082 | 02-004-9880        |
| PCB 1242                | U      | ug/kg | 68              | 19-SEP-02 11:48 | EPA 8082 | 02-004-9880        |
| PCB 1248                | U      | ug/kg | 68              | 19-SEP-02 11:48 | EPA 8082 | 02-004-9880        |
| PCB 1254                | 2200   | ug/kg | 68              | 19-SEP-02 11:48 | EPA 8082 | 02-004-9880        |
| PCB 1260                | U      | ug/kg | 68              | 19-SEP-02 11:48 | EPA 8032 | 02-004-9880        |
| Extraction Information: |        |       |                 | 17-SEP-02 00:00 | EPA 3550 | 02-044-82          |
| Surrogate Recovery:     |        |       |                 |                 |          |                    |
| Tetrachloro-m-xylene    | 68     | X     |                 |                 |          | 02-004-9880        |
| Decachlorobiphenyl      | 85     | %     |                 |                 |          | 02-004-9880        |

Results calculated on a dry weight basis.

Approved by:   
Lab Director

Page 1 of 1  
NY 102S2 HJ 73168 PA 68180 EPA NY 00033

QC 

KEY: ND = None Detected < = less than ug/L = micrograms per liter (equivalent to parts per billion)  
mg/L = milligram per liter (equivalent to parts per million) mg/kg = milligrams per kilogram (equivalent to parts per million)  
= analyte was detected in the method or trip blank J = result estimated below the quantitation limit

Information in this report is accurate to the best of our knowledge and ability. In no event shall our liability exceed that of the services provided. Your samples will be discarded after 14 days unless we are advised otherwise.

# HI

LABORATORY

32 ITHACA STREET  
TELEPHONE (607) 565-3500WAVERLY, NY 14692-1532  
PAX (607) 565-4083

Date: 20-SEP-2002

W<sup>A</sup>S<sup>S</sup> Lab Sample ID: L94081-7AAA Environmental  
Peter Porter  
6679 Moore Road  
Syracuse, NY 13211Sample Source: VIACOMHORSEHEADS #19208  
Origin: A-B-SS-E-OOI  
Description: COMPOSITE  
Sampled On: 16-SEP-02 17:05 by CU|Nt;  
Date Received: 17-SEP-02 09:18  
P.O. NO : N/A

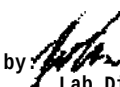
| Analysis Performed      | Result   | Units | Detection Limit | Date Analyzed   | Method   | Notebook Reference |
|-------------------------|----------|-------|-----------------|-----------------|----------|--------------------|
| Total Solids            | 72.4     |       |                 | 17-SEP-02 00:00 | CLP 3.0  | 02-066-73          |
| EPA 8082                |          |       |                 |                 |          |                    |
| PCB 1016                | U        | ug/kg | 330             | 19-SEP-02 17:31 | EPA 8082 | 02-004-9891        |
| PCB 1221                | U        | ug/kg | 670             | 19-SEP-02 17:31 | EPA 8082 | 02-004-9891        |
| PCB 1232                | U        | ug/kg | 330             | 19-SEP-02 17:31 | EPA 8082 | 02-004-9891        |
| PCB 1242                | U        | ug/kg | 330             | 19-SEP-02 17:31 | EPA 8082 | 02-004-9891        |
| PCB 1248                | U        | ug/kg | 330             | 19-SEP-02 17:31 | EPA 8082 | 02-004-9891        |
| PCB 1254                | 13000 rT | ug/kg | 330             | 19-SEP-02 17:31 | EPA 8082 | 02-004-9891        |
| PCB 1260                | U        | ug/kg | 330             | 19-SEP-02 17:31 | EPA 8082 | 02-004-9891        |
| Extraction Information: |          |       |                 |                 |          |                    |
|                         |          |       |                 | 17-SEP-02 00:00 | EPA 3550 | 02-044-82          |
| Surrogate Recovery:     |          |       |                 |                 |          |                    |
| Tetrachloro-m-xylene    | 95       |       |                 |                 |          | 02-004-9891        |
| Decachlorobiphenyl      | no       |       |                 |                 |          | 02-004-9891        |

&gt;&gt;

TMB  
4/24/03

Results calculated on a dry weight basis.

Page 1 of 1

Approved by:   
Lab Director

NY 10252 NJ 73168 PA 68180 EPA NY 00033



KEY: NO o/ U = None Detected < = less than ug/L = micrograms per liter (equivalent to parts per billion)  
mg/C = milligram per liter (equivalent to parts per million) mg/kg = milligrams per kilogram (equivalent to parts per million)  
= analyte was detected in the method or trip blank = result estimated below the quantitation limit

tion in this report is accurate to the best of our knowledge and ability. In no event shall our liability exceed the cost  
ervices. Your samples will be discarded after 14 days unless we are advised otherwise.

\*

Λ\Λ/**L**/Λ**r**

ECT.CON INC.

ΛΛΛ I \ Λ Λ Λ Environmental and Computer  
I Technology Consultants

• #

*Support Documentation*



4 ^

*COC*



%

T7 T T ONE RESEARCH CIRCLE  
J? JL^ J. WAVERLY NY 14892-1532  
f R I E H~lj Telephone (607) 565 3500  
LABORATORY Fax <607) 565-4083

CLIENT: /IA^ £wvrfioNwe\*JTAi\_  
ADDRESS: 0H - S x T g ^ T i j ^ y  
e?^ I ^ ^ J V T S  
PHONE: FAX:

INVOICE TO:  
ADDRESS:

Sample Site:, sj^ Ob\*t/fw<SeH &<?\$

PROJECT NO. / NAME

COPY TO:  
ADDRESS:

'lk-0 J€cT

P.O. #

• q u o  
|ac | < (/>

DATE & TIME OF  
SAMPLE COLLECTION

SAMPLE DESCRIPTION

NUMBER OF  
CONTAINERS

ANALYSES / TESTS REQUESTED 1 • ^ ^ ' ^ ^ I U M B E R

fo-2.

\*

p06^ ^IJ S°x:<-

USE ONLY

->-3.1=3

Description: Grab <£omposita) Other  
Matrix: DW WW MW Soil Air Other

£ a \*\*(<>\*\*\* 4- Sort- 5A\*^"-S-

X

pCS'S x^ ^>G^(\_

Description: GrabCComposit^ Other  
Matrix: DW WW MW Soil Air Other

\*

PCS'S or^ ^ a \_

Description: Grab (£ompositeX)ther  
Matrix: DW WW MW Soil Air Other

\*\*A -"e»-S-£-oov

\*

fC-S'S \*\*\* Sost-

<?A«f0e-

Description: Grab flSTmppsit^Qther  
Matrix: DW WW MW Soil Air Other  
! | | | 1 1 T | | j |

RELINQUISHED BY

DATE /TIME

ACCEPTED BY

DATE/TIME

NOTES TO LABORATORY

SAMPLER | \_\_\_\_\_

A < •

- & & -

HJ17/0-2-

W 3/17/1, MW 4i££

SUSPECTED CONTAMINATION LEVEL

NONE SUGT MODERATE HIGH (please circle)

NONE SLIGHT MODERATE HIGH (please circle)

. .

*Laboratory Case Narrative*

. #







F R I E N D  
LABORATORY  
I • N • C

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## Laboratory Validation and Usability Assessment

Project: **AAA Environmental**  
**Viacom/Horseheads 19208**  
**Sampled September 16, 2002**

---

The data reported in this package have been reviewed for compliance with QC acceptance limits as specified in the method cited for each analysis.

These statistical limits are typically based on historical laboratory data for a given sample matrix, and will not exceed any default limits specified by the method. CLP acceptance limits are also considered.

The following Quality Control operations are considered in the validation of reported results:

Holding times, surrogate recovery, spiked sample recovery, duplicates/spiked duplicate precision, tuning criteria, internal standard variation, continuing calibration variation, reference (check) sample recovery, and instrument, method, trip and field blanks. The appropriate frequency for each operation is also considered.

Every effort has been made to report data that is compliant with the EPA methodology cited for each analysis. In cases where the laboratory was unable to meet all method requirements prior to sample expiry, either due to the nature of the sample or other technical difficulty, results are reported with qualification with the understanding that qualified results may not be suitable for compliance purposes. The internal technical review is based on the USEPA Contract Laboratory Program *National Functional Guidelines for Organic Review* (EPA 540/R-94/012, February 1994) and *National Functional Guidelines for Inorganic Review* (EPA 540/R-94/013, February 1994).

### Validation

Five site samples and a matrix spike/matrix spike duplicate set were received on September 17, 2002, with ice. The temperature, as received, was 1°C.

## PCB

Site samples were analyzed by EPA method 8082 for PCBs with a two-microliter injection volume.

RTX-CLPesticides 1 and RTX-CLPesticides 2 capillary columns, 0.32 mm ID, with purge packed inlets and electronic pressure control are used on an Hewlett-Packard 5890 series II with dual ECD and an HP 7673 autosampler with simultaneous injection. Data is collected with HP Chemstation software and processed by Thruput with Target software. If a peak is detected within the retention time window of a target compound, second-column confirmation is performed. Column RTX-CLPesticides 2 was used for the primary analysis. Column RTX-CLPesticides 1 was used to confirm only the fingerprint, not the quantitation. Form 10B's are provided in order to verify pattern recognition.

PCB 1254 was detected in each of the site samples. Second-column analysis confirmed the presence of these targets. No PCBs were detected in the method blank.

Surrogate recoveries were within limits for the site samples.

Site sample A-B-SS-B-001 was spiked in duplicate. Recoveries were above the acceptance limits for the MS, within limits for PCB 1260 in the MSD, and below the limit for PCB 1016 in the MSD. Since the MSD also had low surrogate recoveries, an extraction error isolated to the MSD is suspected. Results for site sample A-B-SS-B-001 should be considered as estimated.

Precision as indicated by RPD was above the acceptance limits. Since the results for site sample A-B-SS-B-001 had already been qualified due to the matrix spike recovery, no further qualification was made.

One blank spike was associated with the site samples. Blank spike recoveries were within the acceptance limits.

No other analytical difficulties were encountered.

## Usability Assessment

All reported data were found to be valid and usable within the EPA National Functional Validation guidelines except those that were qualified in this Laboratory Validation.

Laboratory validation and  
Usability assessment conducted by: C&A^Ji&tk /LK&ZJFC

Date: October 9, 2002

Elizabeth A. Keator  
Quality Assurance

• »

# Worksheets



A

SEPA Region II  
846 Method 8082

STANDARD OPERATING PROCEDURE

Date: May, 2002  
SOP HW-23B, Rev.1.0

#-£>-\*\$-\$- <=>] ^atfl -1, \*, 5.

YES NO N/A

PACKAGE COMPLETENESS AND DELIVERABLES

CASE NUMBER: \C>9] SDG# ? V ^ O '

LAB: YTi'pAA ^IrrscV^ T^^X J inC SITE: \li\*6i Sofa lEpS&>&&a/s.

1 • 0 Data Completeness and Deliverables

1.1 Has all the data been submitted in CLP deliverable format?

A

1.2 Have any missing deliverables been received and added to the data package?

J\_L J

ACTION: Call lab for explanation/resubmittal of any missing deliverables. If lab cannot provide them, note the effect on review of the data in the reviewer narrative.

\*

2.0 Cover Letter, SDG Narrative

2.1 Is a laboratory narrative or cover letter present?

J

2.2 Are the case number and/or SDG number contained in the narrative or cover letter?

/  
1^1

3 - 0 Data Validation Checklist

3.1 Does this data package contain:

Water data?

Waste data?

Soil/solid data?

YES NO N/A

POLYCHLORINATED BIPHEMYLS

1.0 Traffic Reports and Laboratory Narrative

1.1 Are traffic report and chain-of-custody forms present for all samples?

rvf' \_\_\_\_\_

ACTION: If no, contact lab for replacement of missing or illegible copies.

1.2 Do the traffic reports, chain-of-custody forms or SDG narrative indicate any problems with sample receipt, condition of the samples, analytical problems or special circumstances affecting the quality of the data? \_\_\_\_\_

jdT

ACTION: If any sample analyzed as a soil, other than TCLP, contains 50%-90% water, all data should be qualified as estimated, "J." If a soil sample, other than TCLP, contains more than 90% water, non detects shall be qualified as unusable, "R."

/VscJ.\*er T3?>\*-p ' Q- ^  
L

ACTION: If samples were not iced or if the ice was melted upon arrival at the laboratory and the temperature of the cooler was elevated (> 10° C), flag all positive results "J" and all non-detects "UJ".

2.0 Holding Times

2.1 Have any PCB technical holding times, determined from date of collection to date of extraction, been exceeded?

— x l

Water and waste samples for PCB analysis must be extracted within 1 days of the date of collection. Extracts must be analyzed within 40 days of the date of extraction. Soils and solid samples must be extracted within 14 days of collection and analyzed within 40 days of extraction.

Cd>llfieJ""&/'  
1 ||L<E>'-'

ACTION: If technical holding times are exceeded, flag all positive results as estimated, "J," and sample quantitation limits "UJ" and document in the narrative that holding times were exceeded. If analyses were done more than 14 days beyond holding time, either on the first analysis or upon re-analysis, the reviewer must use

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c'tlnlt>'Λm  
A A C U 7 ^ . /  
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'//W^i

## STANDARD OPERATING PROCEDURE

PA Region II  
46 Method 8082

Date: May, 2002  
SOP HW-23B, Rev.1,0

YES NO N/A

professional judgement to determine the reliability of the data and the effects of additional storage on the sample results. At a minimum, all the data should at least be qualified "J", but the reviewer may determine that non-detects are unusable, "R."

3 - ° Surrogate Recovery (Form II) *fJlk A\*\* iAnji, -f- IJL\* ' ^Uui-^*

3.1 Were the recoveries of tetrachloro-m-xylene (TCMX) and decachlorobiphenyl (DCB) presented on CLP Surrogate Recovery Summary forms (Form II), or equivalent, for each of the following matrices?

- a. Water/Waste
- b. Soil/Solid

3.2 Are all the PCB samples listed on the appropriate surrogate recovery form for each of the following matrices?

- a. Water ^
- b. Waste \_L L\_\_\_\_\_J^
- c. Soil/Solid J J\_\_\_\_\_ -AB-

ACTION: Call lab for explanation/resubmittals.  
If missing deliverables are unavailable, document the effect in the data assessment.

3.3 Did the laboratory provide their developed in-house Surrogate recoveries?

v/

ACTION: If no, use 70 -130% recovery to qualify in section 3.4 below.

3.4 Were surrogate recoveries of TCMX or DCB outside of the laboratory-established upper (UCL) or lower (LCL) control limits for any sample or blank?

v/

ACTION: Circle all outliers in red.

ACTION: No qualification is done if surrogates are diluted out. If recovery for both surrogates is

\*

## STANDARD OPERATING PROCEDURE

USEPA Region II  
SW846 Method 8082

Date: May, 2002  
SOP HW-23B, Rev. 1.0

YES NO N/A

below the LCL, but above 10%, flag all results for that sample "J". If recovery is < 10% for either surrogate, qualify positive results "J" and flag non-detects "R". If recovery is above the UCL for both surrogates qualify positive values "J".

Note: DCB is used when PCBs are determined as Aroclors. DCB is the internal standard when determining PCB congeners and TCMX the surrogate.

3.5 Were surrogate retention times (RT) within the windows established during the initial 5-point analysis? i\_L \_\_\_\_\_ /

ACTION: If the RT limits are not met, the analysis may be qualified unusable (R) for that sample on the basis of professional judgement. However, flag positive hits as estimate (J) if confirmed by GC/MS analysis.

3.6 Are there any transcription/calculation errors between raw data and Form II? J\_I \_\_\_\_\_ /A

ACTION: If large errors exist, call lab for explanation/resubmittal. Make any necessary corrections and document the effect in data assessments.

#### 4.0 Laboratory Control Sample Jj/l j2x XoXo\*- t / \*XtJk\*- - JjL 0 \ Q\*^/

4.1 Are raw data and percent recoveries present for all Laboratory Control samples as required by Method 8000B {section 8.5} and Method 8082 {section 8.4.2)? /.

Verify that QC check samples were extracted and analyzed by the same procedures used for the actual samples.

ACTION: If any Laboratory Control Sample data are missing, call the lab for explanation/resubmittals. Make note in the data assessment.

NOTE: For aqueous samples., an additional QC check sample must be prepared and analyzed when any analyte in a matrix spike fails the required acceptance criteria (see section 5.3 below). The additional QC check sample must contain each analyte that failed in the MS analysis.

YES NO N/A

Note: When the results for matrix spike analysis indicates a problem due to sample matrix effects, the LCS results are used to verify the laboratory can perform the analysis in a clean sample.

4.2 Were Laboratory Control Samples analyzed at the required concentration for all analytes of interest as specified in Method 8000B (sec.8.5)?

ACTION: If Laboratory Control Samples were not analyzed at the required concentration or the required frequency, make note in the data assessment and use professional judgement to determined the affect on the data.

4.3 Were the LCS recoveries within the laboratory's in-house per cent recoveries (if not available, use 70 - 130%)   [ ]  

|     |                                               |   |   |         |
|-----|-----------------------------------------------|---|---|---------|
| 4.4 | If no, were <u>Laboratory Control Samples</u> |   |   |         |
|     | re-analyzed?                                  | J | I | t<br>y. |

Note: Corrective action must be taken when one or more of the analytes of interest fail the QC acceptance criteria (Method 8000B, section 8.7.4)

**ACTION:** If QC check samples were not re-analyzed, or a general system problem is indicated by repeated failure to meet the QC acceptance criteria specified in the method, make note in the data assessment and use professional judgement to determine the effect on the data.

5 - 0 Matrix Spikes (Form III)  $M(V)_{ikr} = Q_{ik} \wedge J_{kr} A_{ij} f_{idw} V_{dcM} - J_{ik} M_{chU}^A$

5.1 Are all data for one matrix spike and matrix duplicate (unspiked) pair (MS/Dup) or matrix spike/matrix duplicate (MS/MSD) present and complete for each matrix Method 8082 (section 8.4.1)?

NOTE: For soil and waste samples showing detectable amounts of organics, the lab may substitute replicate samples in place of the matrix spike (see Method 8000B-40, section 8.5.3)).

5.2 Have MS/Dup or MS/MSD results been summarized on modified CLP Form III? , ,

ACTION: If any data are missing take action as specified in section 3.2 above.

5.3 Were matrix spikes analyzed at the required frequency



## STANDARD OPERATING PROCEDURE

USEPA Region II  
SW846 Method 8082

Date: May, 2002  
SOP HW-23B, Rev.1.

YES NO N/A

for each of the following matrices? (One MS/Dup, MS/MSD must be performed for every 20 samples of similar matrix or concentration level. Laboratories analyzing one to ten samples per month are required to analyze at least one MS per month (Method 8000B-39 (section 8.5))).

a. Water

b. Waste

c. Soil/Solid

LL\_\_\_\_\_l^

ACTION: If any MS/Dup or MS/MSD data are missing, take the action specified in 3.2 above.

- 5.4 Were the 70 - 130% recoveries used to compare the matrix spike recoveries, or did the lab use the optional QC acceptance criteria discussed in Method 8000B-40(section 8.5.3.1)?

List the criteria used and make note in data assessment.

Criteria used\_\_\_\_\_.

- 5.5 Was the matrix spike prepared at the proper spike concentration? (Method 8000B, section 8.5.1-8.5.2)

i /

For aqueous organic extractable, the spike concentration should be prepared according options in: Method 8000B-40, (section 8.5.1 and 8.5.2).

ACTION: No action is taken based on MS or replicate data alone. However, using informed professional judgement, the data reviewer may use the matrix spike or laboratory replicate results in conjunction with other QC criteria and determine the need for some qualification of the data. In some instances it may be determined that only the replicate or spiked samples are affected. Alternatively, the data may suggest that the laboratory is having a systematic problem with one or more analytes, thereby affecting all associated samples.

6.0 Blanks (Form IV)

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« \*

YES NO N/A

6.1 Was reagent blank data reported on CLP equivalent Method Blank Summary form(s) (Form IV)?

A -

6.2 Frequency of Analysis: Has a reagent blank been analyzed for every 20 (or less) samples of similar matrix or concentration or each extraction batch?

U -

ACTION: If any blank data are missing, take action as specified above (section 3.2) . If blank data is not available, reject (R) all associated positive data. However, using professional judgement, the data reviewer may substitute field blank data for missing method blank data.

6.3 Chromatography: review the blank raw data - chromatograms, quant reports or data system printouts.

Is the chromatographic performance (baseline stability) for each instrument acceptable for PCBs?

ACTION: Use professional judgement to determine the effect on the data.

## 7.0 Contamination

NOTE: "Water blanks", "distilled water blanks" and "drilling water blanks" are validated like any other sample and are not used to qualify the data. Do not confuse them with the other QC blanks discussed below.

7.1 Do any method/instrument/reagent/cleanup blanks have positive results for PCBs? When applied as described below, the contaminant concentration in these blanks are multiplied by the sample Dilution Factor and corrected for % moisture when necessary.

7.2 Do any field/rinse blanks have positive PCB results? Wk ^u-b^tb^U-oIX^----- -U-

ACTION: Prepare a list of the samples associated with each of the contaminated blanks. (Attach a separate sheet.)

NOTE: All field blank results associated to a particular group of samples (may exceed one per case or one per day) may be used to qualify data.

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YES NO N/A

Blanks may not be qualified because of contamination in another blank. Field blanks must be qualified for surrogate, or calibration QC problems.

ACTION: Follow the directions in the table below to qualify sample results due to contamination. Use the largest value from all the associated blanks.

|                                      |                                             |                                          |
|--------------------------------------|---------------------------------------------|------------------------------------------|
| Sample cone > EDL but < 5<br>x blank | Sample cone < EDL & is <<br>5 x blank value | Sample cone > EDL & > 5<br>x blank value |
| Flag sample result with a<br>"U"     | Report EDL & qualify<br>"U"                 | No qualification is<br>needed            |

NOTE: If gross blank contamination exists, all data in the associated samples should be qualified as unusable (R).

7.3 Are there field/rinse/equipment blanks associated with every sample? *fV>\; (^UCLLLCUC\* tfir-fyxs VT\*>><\*. ' ' U. •*

ACTION: For low level samples, note in data assessment that there is no associated field/rinse/equipment blank. Exception: samples taken from a drinking water tap do not have associated field blanks.

## 8.0 GC Apparatus and Materials *fj A ~ W J''\*\*\*- ^ / If^2\* ~\*\*\*\*\*!\*'!*

8.1 Was the proper gas chromatographic capillary column used for the analysis of PCBs?

Action: Check raw data, instrument logs, or contact the lab to determine what type of columns were used. (Method 8082, section 4.2) *\_j\_i \_ » /*

.2 Indicate the specific type of narrow bore or wide bore (.53 mm ID, fused silica GC columns, such as DB-608 and DB-1701 or equivalent).

column 1: \_\_\_\_\_ ^

column 2:

ACTION: Note any changes to the suggested materials in section 8.1 above in the data assessment. Also note the impact (positive or negative) such , changes have on the analytical results.

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YES NO N/A

9.0 Calibration and GC Performance

9.1 Are the following Gas Chromatograms and Data Systems Printouts for both columns present for all samples, blanks, MS, replicates?

- |                                        |              |
|----------------------------------------|--------------|
| a. Samples                             | I            |
| b. All blanks                          | I            |
| c. Matrix spike samples                | J_L _____ ^  |
| d. 5 pt. initial calibration standards | &f — —       |
| e. calibration verification standards  | *L           |
| f. Laboratory Control samples (LCS)    | J_L _____ iZ |

ACTION: If no, take action specified in 3.2 above.

9.2 Are data summary forms (containing calibration factors or response factors) for the initial 5 pt. calibration and daily calibration verification standards present and complete for each column and each analytical sequence?

Note: Calibration Aroclor mixtures other than 1016/1260 may be used (as per approved project QA plan)

NOTE: If internal standard calibration procedure is used (Method 8000B-15(section 7.4.2.2)), then response factors must be used for %RSD calculations and compound quantitation. If, external standard calibration procedures are used (Method 8000B-16 (section 7.4.2.1)), then calibration factors must be used. The internal standard approach is highly recommended for PCB congener analysis.

ACTION: If any data are missing or it cannot be determined how the laboratory calculated calibration factors or response factors, contact the lab for explanation/resubmittals. Make necessary corrections and note any problems in the data assessment.

9.3 Are there any transcription/calculation errors between raw data and data summary forms?

— SA

ACTION: If large errors exist, call lab for

YES NO N/A

explanation/resubmittal, make necessary corrections and document the effect in data assessments.

- 9.4 Are standard retention time-(RT) windows for each PCB peak of interest presented on modified CLP summary forms? ✓

ACTION: If any data are missing, or it cannot be determined how RT windows were calculated, call the lab for explanation/resubmittals. Note any problems in the data assessment.

NOTE: Retention time windows for all PCBs are established using retention times from three calibration standards analyzed during the entire analytical sequence (Method 8000B, section 7.6).

Best results are obtained using retention times which span the entire sequence; i.e., using the calibration verification/continuing calibration standards analyzed every 12 hours.

- 9.5 Were RT windows on the confirmation column established using three standards as described above? u y

NOTE RT windows for the confirmation column should be established using a 3 pt. calibration, preferably spanning the entire analytical sequence as described in 9.4 above. If RT windows on one column are tighter than the other, this may result in false negatives when attempting to identify compounds in the samples. o\*

ACTION Note potential problems, if any, in the data assessment. fe cont

- 9.6 Do all standard retention times in each level of the initial 5 pt. calibrations for PCBs fall within the windows established during the initial calibration sequence? A

ACTION i If no, all samples in the entire analytical sequence are potentially affected. Check to see if three standard spanning the entire sequence were used to obtained RT windows. If the lab used three standards, from the 5 pt., RT windows may be too tight. If so, RT windows should be recalculated as per Msthod 8081B-15 (section 7.4.6).

ii. Alternatively, check to see if the chromatograms contain peaks



YES NO N/A

within an expanded window surrounding the expected retention times.

If no peaks are found and the surrogates are visible, non-detects are valid. If peaks are present but cannot be discerned through pattern recognition or by using revised RT windows, qualify all positive results and non-detects as unusable, "R".

- 9.7 Has the linearity criteria for the initial calibration standards been satisfied for both columns? (% RSD must be < 20.0% for all analytes).

ACTION: If no, qualify all associated positive results generated during the entire analytical sequence "J" and all non-detects "UJ". When RSD > 90%, flag all non-detect results for that analyte "R" (unusable).

^ \_ \_

ryo-Q'

- 9.8 Does the calibration verification/continuing Calibration standard contain the PCB peaks of interest, analyzed on each working day, prior to sample analyses (Method 8082, sections 7.6.2)?

J \_ \_

- 9.9 Has a calibration verification/continuing calibration standard been analyzed after every 10 samples and at the end of each analytical sequence (Method 8082, section 7.6.2)

✓

ACTION: If no, take action as specified in section 3. above.

- 9.10 Has the percent difference (%D) exceeded  $\pm 15\%$  for any PCB analyte in any calibration verification/Continuing calibration standard?

jd \_\_\_\_\_

- 9.11 Has a new 5 pt. initial calibration curve been generated for those PCB analytes which failed in the calibration verification/continuing calibration standard (8000B, section 7.7.3), and all samples which followed the out-of-control calibration verification/standard continuing calibration Standard?

\_ \_

ACTION: If the %D for any analyte exceeded the  $\pm 15\%$  criterion and the instrument was not recalibrated for those analytes, qualify positive results for all associated samples (those which followed the out-of-control standard) "J" and sample quantitation limits "UJ". If the %D was > 90%

|C?CP° C°i\

E\*/.\*E•\

/•5/e/ 2

IBU&

lql^c

jd. &y^

J3&)

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YES NO N/A

for any analyte, qualify non-detects "R",  
unusable.

- 9.12 Have retention time (RT) windows been properly calculated for each analyte of interest (Method 8000B, section 7.6), using RTs from the associated calibration verification/continuing standard?

✓

ACTION: If no, take action specified in section 3.2 above

- 9.13 Do all standard retention times for each calibration verification/continuing calibration standard fall within the windows established during the initial calibration sequence?

- 9.14 Do all standard retention times for each mid-concentration standard (analyzed after every 10 samples) fall within the daily RT windows

**J**

ACTION: if the answer to either 9.13 or 9.14 above is no, check the chromatograms of all samples which followed the last in-control standard. All samples analyzed after the last in-control standard must be re-injected, if initial analysis indicated the presence of the specific analyte that exceeded the retention time criteria. If samples were not re-analyzed, document under Contract Non-compliance in the Data Assessment.

Reviewer has two options to determine how to qualify questionable sample data. First option is to determine if possible peaks are present within daily retention time window. If no possible peaks are found, non-detects are valid. If possible peaks are found (or interference), qualify positive hits as presumptively present "NJ" and non-detects are rejected "R". Second option is to use the ratio of the retention time of the analyte over the retention time of either surrogate. The passing criteria is  $\pm 0.06$  RRT units of the RRT of the standard component. Reject "R" all questionable analytes exceeding criteria, and "NJ" all other positive hits.

For any multi-response analytes, retention time windows should be used but analyst and reviewer should rely primarily on pattern recognition or use option 2 specified in paragraph above.

- 9.15 Are there any transcription/calculation errors

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YES NO N/A

between raw data and data summary forms?

U -

ACTION: If large errors exists, call lab for explanation/resubmittal, make any necessary corrections and document the effect in data assessments under "Conclusions".

10.0 Analytical Sequence Check (Form VIII-PEST)

10.1 Have all samples been listed on CLP Form VTII or equivalent, and are separate forms present for each column?

ACTION: If no, take action specified in 3.2 above.

10.2 Was the proper analytical sequence followed for each initial calibration and subsequent analyses?

ACTION: If no, use professional judgement to determine the severity of the effect on the data and qualify it accordingly. Generally, the effect is negligible unless the sequence was grossly altered or the calibration was also out of limits.

10.3 Were the TCMX/DCB surrogate RTs for the samples within the mean surrogate RT from the initial calibration?

Action: If no, see "Action" in section 9.14 above

11.0 Extraction Techniques for Sample Preparation *tdfir- "fo-v -i-\*-\-1- + false - \Ft\_u\Ev^*

Method 8081B permits a variety of extraction techniques to be used for sample preparation. Which extraction procedure was used?

1. Aqueous samples:

1. Separatory funnel (Method 3510)
2. Continuous liquid-liquid extraction (Method 3520)
3. Solid phase extraction (Method 3535)
4. Other

JL

LL

2. Solid samples:

1. Soxhlet (Method 3540)

JL



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YES NO N/A

2. Automated Soxhlet (Method 3541) J\_J
3. Pressurized fluid (Method 3545)
4. Microwave extraction (Method 3546)
5. Ultrasonic extraction (Method 3550) I\_1
6. Supercritical fluid (Method 3562) \_LJ
7. Other

### 11.1 Extract Cleanup - Efficiency Verification (Form IX)

11.1.1 Method 8082 (section 7.2) references method 3660 (sulfur) and 3665A (sulfuric acid) to use for Cleaning extracts. Were one or both method used? J\_J

ACTION: If no, take action specified in 3.2 above. If data suggests cleanup was not performed, make note in the data assessment.

NOTE: Method 3620A, Florisil, may be used per approved project QA plan. The method does not list which analytes and surrogate(s) to use to verify column efficiency. The reviewer must check project plan to verify method used as well as the correct PCB list. If not stated or available, use the CLP listing or accept what the laboratory used.

11.2 Are all samples listed on modified CLP PCBs Florisil/Cartridge Check Form? J\_L

ACTION: If no, take action specified in 3.2 above.

11.3 Was GPC Cleanup (method 3640A) performed? f1 \_\_\_\_\_

NOTE: GPC cleanup is not required and is optional. The reviewer should check Project Plan to verify requirement.

11.4 Were the same PCB analytes used in calibration used to check the efficiency of the cleanup procedures? J\_L ^/ \_\_\_\_\_

11.5 Are percent recoveries (% R) of the PCBs and surrogate compounds used to check the efficiency of the cleanup procedures within lab's in-house QC limits (use 70-130% if not available) J\_L

70-130% for GPC calibration?

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YES NO N/A

Qualify only the analyte(s) which fail the recovery criteria as follows:

ACTION If % R are < 80%, qualify positive results "J" and quantitation limits "UJ". Non-detects should be qualified "R" if zero %R was obtained for PCBs. Use professional judgement to qualify positive results if recoveries are greater than the upper limit.

12.0 PCB Identification

12.1 Has CLP Form X or equivalent, showing **retention time** data for positive results on the two GC columns, been completed for every sample in which a PCB was detected?

Jj

ACTION: If no, take action specified in 3.2 above, or compile a list comparing the retention times for all sample hits on the two columns.

12.2 Are there any transcription/calculation errors between raw data and data summary forms (initial calibration summaries, calibration verification summaries, analytical sequence summaries, GPC and cleanup verification forms)?

U \_

ACTION: If large errors exist, call lab for explanation/resubmittal, make necessary corrections and note error in the data assessment.

12.3 Are retention times <RT) of sample compounds within the established RT windows for both columns/analyses?

ACTION: Qualify as unusable (R) all positive results which were not confirmed by second GC column analysis. Also qualify "R", unusable, all positive results not within RT windows unless associated standard compounds are similarly biased. The reviewer should use professional judgement to assign an appropriate quantitation limit.

12.4 Check chromatograms for false negatives, especially if RT windows on each column were established differently.  
Were there any false negatives?

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YES NO N/A

ACTION: Use professional judgement to decide if the compound should be reported. If there is reason to believe that peaks outside retention RT windows should be reported, make corrections to data summary forms (Form I) and note in data assessment.

12.5 Was GC/MS confirmation provided when sample concentration was sufficient ( $> 10 \text{ ug/ml}$ ) in the final extract? \_>/

ACTION: Indicate with red pencil which Form I results were confirmed by GC/MS and also note in data assessment.

12.6 Is the percent difference (%D) calculated for the positive sample results on the two GC columns  $<25.0\%$ ?

NOTE: The method requires quantitation from one column. The second column is to confirm the presence of an analyte. It is the reviewer's responsibility to verify from the project plan what the lab was required to report. If the lab was required to report concentrations from both columns, continue with validation for % Difference. If required, but not reported, either contact the lab for results or calculate the concentrations from the calibration. If not required, skip this section. Document actions in Data Assessment.

ACTION: If the reviewer finds neither column shows interference for the positive hits, the data should be qualified as follows:

\*1-  
1.

| <u>% Difference</u>                | <u>Qualifier</u> |
|------------------------------------|------------------|
| 0-25%                              | none             |
| 26-70%                             | "J"              |
| 71-100%                            | "NJ"             |
| $>100\%$ *                         | "R"              |
| 100-200% (Interference detected)** | "NJ"             |
| $>50\%$ (PCBs value is $<CRQL$ )   | "U"              |

When the reported PCBs value is  $<CRQL$  and the %D is  $>50\%$ , raise the value to the CRQL and qualify with "U" (non-detect).

\* Check the chromatogram. If pattern is confirmed qualify "J". If pattern is mixed, has interference, or the PCB cannot be positively determined due to weathering, qualify "JN".

YES NO N/A

If PCB can not be confirmed, qualify the PCB as "R".

When the reported %D is 100-200% but interference is detected in either column, qualify the data with "NJ".

### 13.0 Compound Quantitation and Reported Detection Limits

13.1 Are there any transcription/calculation errors in Form I results? Check at least two positive values. Were any errors found?

NOTE: Single-peak PCBs results can be checked for rough agreement between quantitative results obtained on the two GC columns. The reviewer should use professional judgement to decide whether a much larger concentration obtained on one column versus the other indicates the presence of an interfering compound. If an interference is suspected, the lower of the two values should be reported and qualified according to section 12.6 above. This necessitates a determination of an estimated concentration on the confirmation column. The narrative should indicate that the presence of interferences has led to the quantitation of the second column confirmation results.

13.2 Are the EDLs (Estimated Detection Limits) adjusted to reflect sample dilutions and, for soils, % moisture?

ACTION: If errors are large, call lab for explanation/resubmittal, make any necessary corrections and document effect in data assessments.

ACTION: When a sample is analyzed at more than one dilution, the lowest EDLs are used (unless a QC exceedance dictates the use of the higher EDL data from the diluted sample analysis). Replace concentrations that exceed the calibration range in the original analysis by crossing out the value on the original Form I and substituting it with data from the analysis of diluted sample. Specify which Form I is to be used, then draw a red "X" across the entire page of all Form I's that should not be used, including any in the summary package.

✓ — —  
6"  
$$\frac{10 \times 10}{21.409} \times .1$$
$$\frac{68.7 \times 10^6}{-6}$$

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YES NO N/A

ACTION: EDLs affected by large, off-scale peaks should be qualified as unusable, "R". If the interference is on-scale, the reviewer can provide a modified EDL flagged "UJ" for each affected compound.

14.0 Chromatogram Quality

14.1 Were baselines stable?

14.2 Were any electropositive displacement  
(negative peaks) or unusual peaks seen?

ACTION: Note all system performance problems in the data assessment.

15.0 Field Duplicates „<sup>^</sup>P <sup>^</sup>I<sup>^</sup>M-'MpiU/-

15.1 Were any field duplicates submitted for  
PCB analysis?

IN-

ACTION: Compare the reported results for field duplicates and calculate the relative percent difference.

ACTION: Any gross variation between field duplicate results must be addressed in the reviewer narrative. However, if large differences exist, the identity of the field duplicates is questionable. An attempt should be made to determine the proper identification of field duplicates.

4C  
PCB METHOD BLANK SUMMARY

EPA SAMPLE NO

MB82

Name -. Contract  
Lab Code: Case No.: SAS No. SDG No.: AAA916  
Lab Sample ID: MB82 Lab File ID: E2989859  
Matrix (soil/water) SOIL Extraction: (SepF/Cont/Sonc/Other) SONC  
Sulfur Cleanup (Y/N) N Date Extracted: 09/17/2  
Date Analyzed (1): 09/18/2 Date Analyzed (2)  
Time Analyzed (1) : 1433 Time Analyzed (2)  
Instrument ID (1) : HP1 Instrument ID (2) : \-P3  
GC Column (1): RTX-CLPESTICIDES 2 ID: 0.32 (mm)  
GC Column (2) : RTX-CLPtST 1 ID: D.3 z ^ m )

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

| EPA<br>SAMPLE NO. | LAB<br>SAMPLE ID     | DATE<br>ANALYZED 1 | DATE<br>ANALYZED 2 |
|-------------------|----------------------|--------------------|--------------------|
| 01                | QC82                 | 09/18/2            |                    |
| 02                | L94080-1RE           | 09/18/2            |                    |
| 03                | L94080-2             | 09/18/2            |                    |
| 04                | L94080-3RE           | 09/18/2            |                    |
| 05                | L94080-4             | 09/18/2            |                    |
| 06                | L94081-1RE           | 09/18/2            |                    |
| 07                | L94081-4RE           | 09/18/2            |                    |
| 08                | L94081-5RE           | 09/18/2            |                    |
| 09                | L94081-6RE           | 09/18/2            |                    |
| 10                | L94081-7R            | 09/18/2            |                    |
| 11                | WWW L94081-1MSR      | 09/18/2            |                    |
| 12                | 1 1H0DH L94081-1MSDR | 09/18/2            |                    |
| 13                |                      |                    |                    |
| 14                | L^MoS>- >            | LqtAOSI-           | U                  |
| 15                | L^i^0SI- M           | Lq^OSi-M           |                    |
| 16                | L^MOSI-              | L^MQ8i-.S          |                    |
| 17                | LSM0gl-^1>L.         | Lqu.o^-\-ii>L.     |                    |
| 18                | L^mcS> -l M5         | Lflgofr-lMS        |                    |
| 19                | LSli\0%\-iteSX>      | Lqg08\ - \MSD      |                    |
| 20                |                      |                    |                    |
| 21                |                      |                    |                    |
| 22                |                      |                    |                    |
| 23                |                      |                    |                    |
| 24                |                      |                    |                    |
| 25                |                      |                    |                    |
| 26                |                      |                    |                    |

COMMENTS:

3F  
SOIL PCB BLANK SPIKE RECOVERY  
SW846/8082

Lab name: K.FRIEND LABORATORY, INC.

Reference: 02-004-9860

Lab code: 102\*

Date analyzed: 09/18/02

Matrix Spike - Lab Sample No.: QC 82

Date Extracted: 09/17/02

| COMPOUND | SWKE<br>ADDED<br>(ug/kg) | SAMPLE<br>CONCENTRATION<br>(ug/kg) | MS<br>CONCENTRATION<br>(ug/kg) | MS<br>%<br>REC | # | QC<br>LIMITS<br>REC |
|----------|--------------------------|------------------------------------|--------------------------------|----------------|---|---------------------|
| KB 1016  | 249                      | 0.00                               | 190                            | 77             |   | 50-114              |
| PCB 1260 | 249                      | 0.00                               | 199                            | 80             |   | 10-127              |

# Column to be used to flag recovery values with an asterisk

\* Values outside of QC limits

Spike Recovery: 0 out of 2 outside limits

COMMENTS:

FORM III - PCB

00005

ID  
PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

-MB82

Name:

Contract:

^ ^

Lab Code: Case No. : SAS No. : SDG No.: AAA916

Matrix: (soil/water) SOIL

Lab Sample ID; MB82

Sample wt/vol: 20.1 (g/mL) G

Lab File ID: E2989859

% Moisture: 0 decanted: (Y/N) N

Date Received: 09/17/2

Extraction: (SepF/Cont/Sonc) SONC

Date Extracted: 09/17/2

Concentrated Extract Volume: 10000 (uL)

Date Analyzed: 09/18/2

Injection Volume: .2.0(uL)

Dilution Factor: 1.0

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

Sulfur Cleanup: (Y/N) N

| CAS NO. | COMPOUND | CONCENTRATION UNITS:<br>(ug/L or ug/Kg) UG/KG | Q |
|---------|----------|-----------------------------------------------|---|
|---------|----------|-----------------------------------------------|---|

12674-11-2---Aroclor-1016  
1104-28-2---Aroclor-1221"  
11141-16-5---Aroclor-1232"  
53469-21-9---Aroclor-1242"  
11097-69-1---Aroclor-1254"  
11096-82-5---Aroclor-1260"  
---Aroclor-1248"

•5"~G-re0 U  
/O Q~&r U  
^--OrOu U  
^^-rOtf u  
j'p-retr u  
^~ix^eo-ju  
tofalld?~

\*



Thru-Put Systems, Inc.

Data file : \chem\hpl.i\8082r0917.b\E2989859.D  
Lab Smp Id: MB82 Client Smp ID: MB82  
Inj Date : 18-SEP-2002 14:33  
Operator : CPW Inst ID: hpl.i  
Smp Info : MB82  
Misc Info :  
Comment :  
Method : \chem\hpl.i\8082r0917.b\8082\_PCBsec.M  
Meth Date : 19-Sep-2002 07:17 Administra Quant Type: ESTD  
Cal Date : 17-SEP-2002 16:43 Cal File: E2989834.D  
Als bottle: 1 QC Sample: BLANK  
Dil Factor: 1.00000  
Integrator: Falcon Compound Sublist: PCB.sub  
Target Version: 3.40 Sample Matrix: SOIL  
Processing Host: TARGET3

Concentration Formula:  $\text{Amt} * \text{DF} * ((\text{Vf} / \text{Ws}) * \text{Uf}) / \text{Ts} * 1000$

| Name | Value   | Description                     |
|------|---------|---------------------------------|
| DF   | 1.000   | Dilution Factor                 |
| Vf   | 10.000  | Final volume                    |
| Ws   | 20.065  | Weight of sample extracted' (g) |
| Uf   | 0.100   | Unit Correction Factor          |
| Ts   | 100.000 | Total Solid                     |

|        |        | CONCENTRATIONS       |                  |         |              |       |
|--------|--------|----------------------|------------------|---------|--------------|-------|
|        |        | ON-COL               | FINAL            |         |              |       |
| RT     | EXP RT | DLT RT               | RESPONSE ( ug/L) | (ug/Kg) | TARGET RANGE | RATIO |
| S      | 1      | Tetrachloro-m-xylene |                  | CAS ft: |              |       |
| 8.017  | 7.997  | 0.020                | 3543802          | 382.198 | 190.48       |       |
| S      | 29     | Decachlorobiphenyl   |                  | CAS fl; |              |       |
| 20.133 | 20.130 | 0.003                | 2274174          | 397.705 | 198.21       |       |



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Tetrachloro-m-xylene (8.017)

$$\begin{array}{ccc} \begin{array}{c} 0 \\ \bullet \\ 3 \end{array} & \begin{array}{c} 0 \\ 9 \\ 0 \end{array} & \begin{array}{c} \ll \\ 3 \\ \gg \\ \text{I} \\ \text{C} \\ 3 \end{array} \end{array}$$

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Decachlorobiphenyl (20.133)

Friend Inc.

Data File: /chem/hpl.i/8082r0917.b/E2989859.D  
Method: /chem/hpl.i/8082r0917.b/8082\_PCBsec.M  
Sample Info: MB82  
Misc Info:  
Analysis Date: 18-SEP-2002 14:33  
Sample Matrix: SOIL  
File Number: 9859

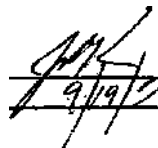
Dilution Factor 1.0000  
Sample Weight 20.0649  
Final Volume 10.0000  
Total Solid 100.0000

Analytes (ug/Kg)

|                      |        |
|----------------------|--------|
| Aroclor-1016         | 0.00   |
| Aroclor-1221         | 0.00   |
| Aroclor-1232         | 0.00   |
| Aroclor-1242         | 0.00   |
| Aroclor-1254         | 0.00   |
| Aroclor-1260         | 0.00   |
| Aroclor-1248         | 0.00   |
| Tetrachloro-m-xylene | 76.44% |
| Decachlorobiphenyl   | 79.54% |

Analyst: CPW  
Report Date: 09/19/2002 07:38

Supervisor:  
Date:



FORM 6  
PCB INITIAL CALIBRATION DATA

**f**

^J>nh Namp-  
 ^ k b Code: Case No. : Contract: SAS No. : SDG No. : AAA916  
 ^^instrument ID: HP1 Calibration Date(s): 09/17/2 09/17/2  
 GC Column: RTX.-CLPESTICIDES 2 ID: 0.32 (mm)  
 LAB FILE ID: RF10: E2989834 RF50: E2989835 RF100: E2989836  
 RF250: E2989843 RF500: E2989838

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| COMPOUND             |     | RF10  | RF50  | RF100 | RF250 | RF500 |
|----------------------|-----|-------|-------|-------|-------|-------|
| Aroclor-1016         |     | 401.3 | 365.1 | 438.0 | 493.9 | 404.2 |
|                      | (2) | 136.5 | 147.3 | 177.8 | 191.1 | 175.4 |
|                      | (3) | 135.2 | 120.4 | 144.0 | 140.8 | 117.2 |
|                      | (4) | 140.8 | 136.7 | 181.1 | 189.3 | 184.3 |
|                      | (5) | 201.4 | 165.9 | 179.7 | 207.5 | 203.2 |
| Aroclor-1221         |     |       |       |       | 86.2  |       |
|                      | (2) |       |       |       | 64.3  |       |
|                      | (3) |       |       |       | 307.9 |       |
|                      | (4) |       |       |       |       |       |
|                      | (5) |       |       |       |       |       |
| Aroclor-1232         |     |       |       |       | 283.3 |       |
|                      | (2) |       |       |       | 161.5 |       |
|                      | (3) |       |       |       | 221.6 |       |
|                      | (4) |       |       |       | 97.5  |       |
|                      | (5) |       |       |       | 57.9  |       |
| Aroclor-1242         |     |       |       |       | 352.7 |       |
|                      | (2) |       |       |       | 515.2 |       |
|                      | (3) |       |       |       | 225.6 |       |
|                      | (4) |       |       |       | 162.9 |       |
|                      | (5) |       |       |       | 195.6 |       |
| Aroclor-1254         |     | 316.9 | 313.4 | 305.2 | 308.2 | 343.4 |
|                      | (2) | 288.2 | 317.8 | 319.7 | 345.8 | 442.7 |
|                      | (3) | 190.1 | 233.8 | 239.2 | 278.8 | 384.7 |
|                      | (4) | 148.5 | 164.1 | 178.0 | 186.5 | 230.4 |
|                      | (5) | 253.9 | 263.2 | 271.9 | 294.5 | 392.1 |
| Aroclor-1260         |     | 334.4 | 269.7 | 334.8 | 384.6 | 340.0 |
|                      | (2) | 358.5 | 290.3 | 352.0 | 415.1 | 365.1 |
|                      | (3) | 227.9 | 170.5 | 206.4 | 246.1 | 209.2 |
|                      | (4) | 234.8 | 173.2 | 208.2 | 246.2 | 210.6 |
|                      | (5) | 364.1 | 280.0 | 381.6 | 496.5 | 440.9 |
| Aroclor-1248         |     |       |       |       | 278.0 |       |
|                      | (2) |       |       |       | 163.4 |       |
|                      | (3) |       |       |       | 213.4 |       |
|                      | (4) |       |       |       | 186.5 |       |
|                      | (5) |       |       |       | 304.2 |       |
| Tetrachloro-m-xylene |     | 3613  | 5109  | 8081  | 7743  | 8808  |
| Decachlorobiphenyl   |     | 3029  | 3502  | 5170  | 5257  | 6283  |

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FORM 6  
PCB INITIAL CALIBRATION DATA

Lab Name: \_\_\_\_\_ Contract: \_\_\_\_\_  
 Lab Code: \_\_\_\_\_ Case No.: \_\_\_\_\_ SAS No.: \_\_\_\_\_ SDG No.: AAA916  
 Instrument ID: HP1 Calibration Date(s): 09/17/2 09/17/2  
 GC Column: RTX-CLPESTICIDES 2 ID: 0.32 (mm)  
 RF1000: E2989839

| COMPOUND             |     | RF100( | CURVE | COEFFI<br>A0 | CENTS<br>A1 | %RSD<br>OR R~2 |
|----------------------|-----|--------|-------|--------------|-------------|----------------|
| Aroclor-1016         |     | 366.0  | LINR  | -18.105188   | 2.688e-003  | 0.991          |
|                      | (2) | 161.5  | LINR  | -9.4133819   | 6.109e-003  | 0.997          |
|                      | (3) | 100.6  | LINR  | -18.332671   | 9.78e-003   | 0.993          |
|                      | (4) | 162.6  | LINR  | -9.1394188   | 6.01e-003   | 0.995          |
| Aroclor-1221         | (5) | 201.8  | LINR  | 2.94297360   | 4.926e-003  | 1.000          |
|                      |     |        | LINR  | 0.00000000   | 1.159e-002  | 1.000          |
|                      | (2) |        | LINR  | 0.00000000   | 1.555e-002  | 1.000          |
|                      | (3) |        | LINR  | 0.00000000   | 3.248e-003  | 1.000          |
|                      | (4) |        | LINR  |              |             |                |
|                      | (5) |        | LINR  |              |             |                |
| Aroclor-1232         |     |        | LINR  | 0.00000000   | 3.53e-003   | 1.000          |
|                      | (2) |        | LINR  | 0.00000000   | 6.191e-003  | 1.000          |
|                      | (3) |        | LINR  | 0.00000000   | 4.512e-003  | 1.000          |
|                      | (4) |        | LINR  | 0.00000000   | 1.025e-002  | 1.000          |
| Aroclor-1242         | (5) |        | LINR  | 0.00000000   | 1.727e-002  | 1.000          |
|                      |     |        | LINR  | 0.00000000   | 2.835e-003  | 1.000          |
|                      | (2) |        | LINR  | 0.00000000   | 1.941e-003  | 1.000          |
|                      | (3) |        | LINR  | 0.00000000   | 4.432e-003  | 1.000          |
|                      | (4) |        | LINR  | 0.00000000   | 6.138e-003  | 1.000          |
| Aroclor-1254         | (5) |        | LINR  | 0.00000000   | 5.111e-003  | 1.000          |
|                      |     | 296.1  | LINR  | -6.4375383   | 3.29e-003   | 0.994          |
|                      | (2) | 434.5  | LINR  | 16.6006465   | 2.262e-003  | 0.997          |
|                      | (3) | 371.6  | LINR  | 21.3460443   | 2.623e-003  | 0.995          |
|                      | (4) | 190.9  | LINR  | 4.45851132   | 5.219e-003  | 1.000          |
| Aroclor-1260         | (5) | 352.0  | LINR  | 11.6581973   | 2.751e-003  | 0.994          |
|                      |     | 329.3  | LINR  | -5.1814212   | 3.014e-003  | 0.998          |
|                      | (2) | 358.9  | LINR  | -3.4590831   | 2.769e-003  | 0.998          |
|                      | (3) | 210.0  | LINR  | -3.5269711   | 4.748e-003  | 0.998          |
|                      | (4) | 214.3  | LINR  | -2.0615020   | 4.659e-003  | 0.998          |
| Aroclor-1248         | (5) | 480.7  | LINR  | 11.3530028   | 2.078e-003  | 0.998          |
|                      |     |        | LINR  | 0.00000000   | 3.596e-003  | 1.000          |
|                      | (2) |        | LINR  | 0.00000000   | 6.12e-003   | 1.000          |
|                      | (3) |        | LINR  | 0.00000000   | 4.686e-003  | 1.000          |
|                      | (4) |        | LINR  | 0.00000000   | 5.361e-003  | 1.000          |
|                      | (5) |        | LINR  | 0.00000000   | 3.287e-003  | 1.000          |
| Tetrachloro-m-xylene |     | 7679   | LINR  | 5.59456943   | 1.219e-004  | 0.991          |
| Decachlorobiphenyl   |     | 5238   | LINR  | 4.64742762   | 1.888e-004  | 0.999          |

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Thru-Put Systems, Inc

Data file : \chem\hpl.i\8082r0917.b\E2989827.D  
 Lab Smp Id: ~~STD11660~~ Client Smp ID: STD11660  
 Inj Date : 17-SEP-2002 13:04  
 Operator : CPW Inst ID: hpl.i  
 Smp Info : 10PPB 1660  
 Misc Info :  
 Comment :  
 Method : \chem\hpl.i\8082r0917.b\8082\_PCBsec.M  
 Meth Date : 18-Sep-2002 08:00 Administra Quant Type: ESTD  
 Cal Date : 17-SEP-2002 16:43 Cal File: E2989834.D  
 Als bottle: 1 Calibration Sample, Level: 1  
 Dil Factor: 1.00000  
 Integrator: Falcon Compound Sublist: 1660.sub  
 Target Version: 3.4 0 Sample Matrix: WATER  
 Processing Host: TARGET3

Concentration Formula: Amt \* DF \* Vt / Vo

|           | Name      | Value    | Description     |
|-----------|-----------|----------|-----------------|
|           | DF        | 1.000    | Dilution Factor |
|           | Vt        | 5.000    | FinalVolume     |
| <b>fe</b> | <b>Vo</b> | 1000.000 | SampleVolume    |

| AMOUNTS                   |        |        |          |                 |                |         |            |           |  |
|---------------------------|--------|--------|----------|-----------------|----------------|---------|------------|-----------|--|
| RT                        | EXP RT | DLT RT | RESPONSE | CAL-AMT ( ug/L) | ON-COL I ug/L) | TARGET  | RANGE      | RATIO     |  |
|                           | — —    | -..... | .....    | .....           | .....          | .....   | .....      |           |  |
| 26 Aroclor-1260           |        |        |          |                 | CAS            | ft:     | 11096-82-5 |           |  |
| 14.927                    | 14.943 | -0.016 | 3344     | 10.0000         | 4.90           | 80.00-  | 120.00     | 100.001M) |  |
| 15.340                    | 15.353 | -0.013 | 35B5     | 10.0000         | 6.47           | 87.23-  | 127.23     | 107.21    |  |
| 16.190                    | 16.207 | -0.017 | 2279     | 10.0000         | 7.29           | 44.03-  | 84.03      | 68.15     |  |
| 16.747                    | 16.767 | -0.020 | 2348     | 10.0000         | 8.as           | 45.69-  | 85.69      | 70.22     |  |
| 17.233                    | 17.247 | -0.014 | 3641     | 10.0000         | 18.92          | 112.78- | 152.78     | 108.88    |  |
| Average of Peak Amounts . |        |        |          |                 | 9.29           |         |            |           |  |
|                           |        |        |          |                 |                |         |            |           |  |
| 20 Aroclor-1016           |        |        |          |                 | CAS            | tt:     | 12674-11-2 |           |  |
| 10.193                    | 10.207 | -0.014 | 4013     | 10.0000         |                | 80.00-  | 120.00     | 100.00(M) |  |
| 10.707                    | 10.713 | -0.006 | 1365     | 10.0000         |                | 14.45-  | 54.45      | 34.01     |  |
| 11.890                    | 11.900 | -0.010 | 1352     | 10.0000         |                | 8.36-   | 48.36      | 33.69     |  |
| 11.970                    | 11.977 | -0.007 | 140S     | 10.0000         |                | 20.90-  | 60.90      | 35.09     |  |
| 12.673                    | 12.693 | -0.020 | 2014     | 10.0000         | 12.86          | 24.49-  | 64.49      | 50.19     |  |
| Average of Peak Amounts . |        |        |          |                 | 12.9           |         |            |           |  |

Data File: \chem\hpl.i\8082r0917.b\E2989827.D  
Report Date: 18-Sep-2002 08:07

|        |        | AMOUNTS              |          |         |         |        |       |       |  |
|--------|--------|----------------------|----------|---------|---------|--------|-------|-------|--|
|        |        | CAL-AMT              |          | ON-COL. |         |        |       |       |  |
| RT     | EXP RT | DLT RT               | RESPONSE | { ug/L) | ( ug/L) | TARGET | RANGE | RATIO |  |
|        |        |                      |          |         |         |        |       |       |  |
| \$     | 1      | Tetrachloro-m-xylene |          |         |         | CAS #: |       |       |  |
| 7.973  | 7.997  | -0.024               | 15611    | 4.00000 | 6.51    |        |       |       |  |
|        |        |                      |          |         |         |        |       |       |  |
| \$     | 29     | Decachlorobiphenyl   |          |         |         | CAS #: |       |       |  |
| 20.113 | 20.130 | -0.017               | 11565    | 4.00000 | 9.22    |        |       |       |  |

### QC Flag Legend

M - Compound response manually integrated.

Lab Name: FRIEND LABORATORY, INC.

Contract:

mm

b Code: 10252 Case No.: \_\_\_\_\_ SAS No.: \_\_\_\_\_ SDG No.: AAA

Instrument ID: HP1

Column: RTX-CLPest2 ID: 0.32 (mm)

Date(s) Analyzed: 09/17/02 09/17/02

File Numbers: 9827-9843

| COMPOUND             | Peak # | RT OF STANDARDS |        |          |          |          |           | MEAN RT | RTWI FROM | SIDOW L TO |
|----------------------|--------|-----------------|--------|----------|----------|----------|-----------|---------|-----------|------------|
|                      |        | 10 ppb          | 50 ppb | 1100 ppb | 1250 ppb | 1500 ppb | 11000 ppb |         |           |            |
| PCB1016              | 1*     | 10.19           | 10.20  | 10.20    | 10.20    | 10.21    | 10.21     | 10.20   | 10.10     | 10.30      |
|                      | 2*     | 10.71           | 10.71  | 10.71    | 10.71    | 10.71    | 10.71     | 10.71   | 10.61     | 10.81      |
|                      | 3*     | 11.89           | 11.89  | 11.90    | 11.90    | 11.90    | 11.90     | 11.90   | 11.80     | 12.00      |
|                      | 4      | 11.97           | 11.98  | 11.98    | 11.98    | 11.98    | 11.98     | 11.98   | 11.88     | 12.08      |
|                      | 5      | 12.67           | 12.68  | 12.68    | 12.68    | 12.69    | 12.69     | 12.68   | 12.58     | 12.78      |
| PCB 1221             | 1*     |                 |        |          | 8.79     |          |           | 8.79    | 8.69      | 8.89       |
|                      | 2*     |                 |        |          | 9.12     |          |           | 9.12    | 9.02      | 9.22       |
|                      | 3*     |                 |        |          | 9.27     |          |           | 9.27    | 9.17      | 9.37       |
| PCB 1232             | 1*     |                 |        |          | 9.27     |          |           | 9.27    | 9.17      | 9.37       |
|                      | 2*     |                 |        |          | 10.20    |          |           | 10.20   | 10.10     | 10.30      |
|                      | 3*     |                 |        |          | 11.19    |          |           | 11.19   | 11.09     | 11.29      |
|                      | 4      |                 |        |          | 11.47    |          |           | 11.47   | 11.37     | 11.57      |
|                      | 5      |                 |        |          | 11.97    |          |           | 11.97   | 11.87     | 12.07      |
| PCB 1242             | 1*     |                 |        |          | 10.20    |          |           | 10.20   | 10.10     | 10.30      |
|                      | 2*     |                 |        |          | 11.19    |          |           | 11.19   | 11.09     | 11.29      |
|                      | 3*     |                 |        |          | 11.47    |          |           | 11.47   | 11.37     | 11.57      |
|                      | 4      |                 |        |          | 12.68    |          |           | 12.68   | 12.58     | 12.78      |
|                      | 5      |                 |        |          | 13.29    |          |           | 13.29   | 13.19     | 13.39      |
| PCB 1248             | 1*     |                 |        |          | 11.19    |          |           | 11.19   | 11.09     | 11.29      |
|                      | 2*     |                 |        |          | 11.90    |          |           | 11.90   | 11.80     | 12.00      |
|                      | 3*     |                 |        |          | 12.68    |          |           | 12.68   | 12.58     | 12.78      |
|                      | 4      |                 |        |          | 13.21    |          |           | 13.21   | 13.11     | 13.31      |
|                      | 5      |                 |        |          | 13.29    |          |           | 13.29   | 13.19     | 13.39      |
| PCB 1254             | 1*     | 13.67           | 13.67  | 13.67    | 13.67    | 13.67    | 13.67     | 13.67   | 13.57     | 13.77      |
|                      | 2*     | 14.56           | 14.56  | 14.56    | 14.56    | 14.56    | 14.56     | 14.56   | 14.46     | 14.66      |
|                      | 3*     | 15.01           | 15.01  | 15.01    | 15.01    | 15.00    | 15.00     | 15.01   | 14.91     | 15.11      |
|                      | 4      | 15.34           | 15.35  | 15.35    | 15.35    | 15.35    | 15.35     | 15.35   | 15.25     | 15.45      |
|                      | 5      | 16.02           | 16.03  | 16.03    | 16.03    | 16.03    | 16.03     | 16.03   | 15.93     | 16.13      |
| PCB 1260             | 1*     | 14.93           | 14.93  | 14.94    | 14.94    | 14.94    | 14.94     | 14.94   | 14.84     | 15.04      |
|                      | 2*     | 15.34           | 15.34  | 15.35    | 15.35    | 15.35    | 15.35     | 15.35   | 15.25     | 15.45      |
|                      | 3*     | 16.19           | 16.19  | 16.20    | 16.20    | 16.20    | 16.21     | 16.20   | 16.10     | 16.30      |
|                      | 4      | 16.75           | 16.75  | 16.76    | 16.76    | 16.76    | 16.77     | 16.76   | 16.66     | 16.86      |
|                      | 5      | 17.23           | 17.23  | 17.24    | 17.24    | 17.25    | 17.25     | 17.24   | 17.14     | 17.34      |
| Tetrachloro-m-xylene |        | 7.97            | 7.99   | 8.00     | 7.99     | 8.00     | 8.00      | 7.99    | 7.89      | 8.09       |
| Decachlorobiphenyl   |        | 20.11           | 20.12  | 20.13    | 20.13    | 20.13    | 20.13     | 20.13   | 20.03     | 20.23      |

\* Denotes required peaks

Retention time windows are + 0.1 minutes for all compounds.

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Lab Name: FRIEND LABORATORY, INC.

Contract:

Lab Code: 10252 Case No.:

SAS No.:

SDGNo.:AAA

IfcH&amp;T\$&gt;

instrument ID: HP3

GC Column: RTX-CLPest1 ID: 0.32 (mm)

Date(s) Analyzed: 09/19/02

File Numbers: 6149

3&amp;^fWk

| COMPOUND             | AMOUNT<br>(ng) | PEAK | RT    | RT WINDOW |       | CALIBRATION<br>FACTOR |
|----------------------|----------------|------|-------|-----------|-------|-----------------------|
|                      |                |      |       | FROM      | TO    |                       |
| PCB 1254             | 250 PPB        | 1*   | 14.62 | 14.52     | 14.72 | 260.72                |
|                      |                | 2*   | 15.14 | 15.04     | 15.24 | 397.02                |
|                      |                | 3*   | 15.95 | 15.85     | 16.05 | 307.45                |
|                      |                | 4    | 16.31 | 16.21     | 16.41 | 217.85                |
|                      |                | 5    | 16.86 | 16.76     | 16.96 | 330.96                |
| Tetrachloro-m-xylene | 300 PPB        |      | 9.73  | 9.63      | 9.83  | 5361.44               |
| Decachlorobiphenyl   | 301 PPB        |      | 21.35 | 21.25     | 21.45 | 3867.94               |

\* Denotes required peaks

Single injections of the low standard are made to establish approximate retention times and instrument sensitivity. Five point calibrations are performed if a multipeak component is detected in a sample.

Alternate column confirmation is run if a pesticide or PCB is detected in a site sample.

#

Thru-Put Systems, Inc

Data file \chem\hp3.i\1254FCONFIRMa.b\E3956149.D  
 Lab Smp Id 1254SJD- Client Smp ID: 1254STD  
 Inj Date -SEP-2002 13:57  
 Operator CPW Inst ID: hp3.i  
 Smp Info 250PPB 1254  
 Misc Info CONFIRMATION  
 Comment  
 Method \chem\hp3.i\1254FCONFIRMa.b\8082\_PCBsec.M  
 Meth Date 20-Sep-2002 06:59 Administra Quant Type: ESTD  
 Cal Date 19-SEP-2002 13:57 Cal File: E3956149.D  
 Als bottle 1 Calibration Sample, Level: 4  
 Dil Factor 1.00000  
 Integrator Falcon Compound Sublist: 1254.sub  
 Target Version: 3.40 Sample Matrix: WATER  
 Processing Host: TARGET3

Concentration Formula: Amt \* DF \* Vt / Vo

| Name                 | Value    | Description     |
|----------------------|----------|-----------------|
| DF                   | 1.000    | Dilution Factor |
| <sup>^</sup><br>B Vt | 5.000    | Final Volume    |
|                      | 1000.000 | Sample Volume   |

| AMOUNTS                   |                      |        |          |                    |                   |         |        |           |  |
|---------------------------|----------------------|--------|----------|--------------------|-------------------|---------|--------|-----------|--|
| RT                        | EXP RT               | DLT RT | RESPONSE | CAL-AMT<br>( ug/L) | ON-COL<br>( ug/L) | TARGET  | RANGE  | RATIO     |  |
| <hr/>                     |                      |        |          |                    |                   |         |        |           |  |
| \$ 1                      | Tetrachloro-m-xylene |        |          |                    | CAS fl:           |         |        |           |  |
| 9.730                     | 9.730                | 0.000  | 1608432  | 300.000            | 300.00            |         |        | (M)       |  |
| <hr/>                     |                      |        |          |                    |                   |         |        |           |  |
| 25                        | Aroclor-1254         |        |          |                    | CAS #: 11097-69-1 |         |        |           |  |
| 14.617                    | 14.617               | 0.000  | 65181    | 250.000            | 250.00            | 80.00-  | 120.00 | 100.00(M) |  |
| 15.140                    | 15.140               | 0.000  | 992S5    | 250.000            | 250.00            | 146.75- | 186.75 | 152.28    |  |
| 15.947                    | 15.947               | 0.000  | 76B63    | 250.000            | 250.00            | 122.83- | 162.83 | 117.92    |  |
| 16.307                    | 16.307               | 0.000  | 54462    | 250.000            | 250.00            | 57.51-  | 97.51  | 83.56     |  |
| 16.563                    | 16.863               | 0.000  | 82739    | 250.000            | 250.00            | 118.07- | 158.07 | 126.94    |  |
| Average of Peak Amounts - |                      |        |          |                    | 250               |         |        |           |  |
| <hr/>                     |                      |        |          |                    |                   |         |        |           |  |
| \$ 29                     | Decachlorobiphenyl   |        |          |                    | CAS tti           |         |        |           |  |
| 21.347                    | 21.347               | 0.000  | 1160381  | 300.000            | 300.00            |         |        | (M)       |  |

Friend Inc.

Data File /chem/hpl.i/8082r0917.b/E2989895.D  
Method /chem/hpl.i/8082r0917.b/8082\_PCBsec.M  
Sample Info 250PPB 1254  
Misc Info  
Analysis Date 19-SEP-2002 19:36  
Sample Matrix: WATER  
File Number: 9895

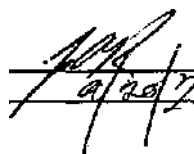
Dilution Factor: 1.0000  
Sample Volume: 1000.0000  
Final Volume: 5.0000

Analytes (ug/L)

|                      |        |
|----------------------|--------|
| Aroclor-1254         | 220.14 |
| Tetrachloro-m-xylene | 0.00%  |
| Decachldrobiphenyl   | 0.00%  |

Analyst: CPW  
Report Date: 09/20/2002 06:44

Supervisor:  
Date:





7E  
PCB CALIBRATION VERIFICATION SUMMARY

Lab Name: FRIEND LABORATORY. INC. Contract: \_\_\_\_\_  
Lab Code: 10252 Case No.: \_\_\_\_\_ SAS No.: \_\_\_\_\_ SDG No.: AAA

Sample Name: 250PPB1660  
File Name: E2989858.D  
Instrument ID: HP1.I  
GC Column: RTX-CLPesticides 2

ID: 0.32 (mm)  
Analysis Date: 09/18/02  
Analysis Time: 1401

| COMPOUND             | PEAK | RT    | RT WINDOW<br>FROM TO | CALC<br>AMOUNT | TRUE<br>AMOUNT | %D      |
|----------------------|------|-------|----------------------|----------------|----------------|---------|
| Aroclor-1016         |      | 10.21 | 10.10 10.30          | 290.85         | 250.00         | C3G3EZ  |
| Aroclor-1016         |      | 10.72 | 10.61 10.81          | 246.67         | 250.00         | 1.33    |
| Aroclor-1016         |      | 11.90 | 11.80 12.00          | 307.89         | 250.00         | 23.18   |
| Aroclor-1016         |      | 11.98 | 11.88 12.08          | 273.24         | 250.00         | 9.30    |
| Aroclor-1016         |      | 12.69 | 12.58 12.78          | 256.52         | 250.00         | 2.61    |
| Aroclor-1260         |      | 14.94 | 14.84 15.04          | 296.92         | 250.00         |         |
| Aroclor-1260         |      | 15.35 | 15.25 15.45          | 289.30         | 250.00         | i5J2zz> |
| Aroclor-1260         |      | 16.21 | 16.10 16.30          | 298.85         | 250.00         | 19.54   |
| Aroclor-1260         |      | 16.76 | 16.66 16.86          | 292.16         | 250.00         | 16.86   |
| Aroclor-1260         |      | 17.25 | 17.14 17.34          | 263.15         | 250.00         | 5.26    |
| Tetrachloro-m-xylene |      | 8.00  | 7.89 8.09            | 301.18         | 300.00         | 0.39    |
| Decachlorobi phenyl  |      | 20.13 | 20.03 20.23          | 306.99         | 300.00         | 2.33    |

\* QC LIMITS: %D of amounts in the Continuing Calibration must be  
less than or equal to 15%.

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Rec  
1260  
CP 100230  
2SD ...<\*>!.  
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'/,p •• 1 VtoJZ^Sbj\*,\* -- /s. 17%

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7E  
PCB CALIBRATION VERIFICATION SUMMARY

Lab Name: FRIEND LABORATORY, INC. Contract: \_\_\_\_\_  
Lab Code: 10252 Case No.: \_\_\_\_\_ SAS No.: \_\_\_\_\_ SDG No.: AAA

Sample Name: 250PPB 1660  
File Name: E2989866.D  
Instrument ID: HP1.I  
GC Column: RTX-CLPesticides 2

ID: 0.32 (mm)

Analysis Date: 09/18/02

Analysis Time: 1815

| COMPOUND             | PEAK | RT    | RTWINDOW |       | CALC<br>AMOUNT | TRUE<br>AMOUNT | %D    |
|----------------------|------|-------|----------|-------|----------------|----------------|-------|
| Aroclor-1016         |      | 10.21 | 10.10    | 10.30 | 279.25         | 250.00         | 11.70 |
| Aroclor-1016         |      | 10.72 | 10.61    | 10.81 | 267.51         | 250.00         | 7.00  |
| Aroclor-1016         |      | 11.90 | 11.80    | 12.00 | 326.74         | 250.00         | 30.70 |
| Aroclor-1016         |      | 11.98 | 11.88    | 12.08 | 287.35         | 250.00         | 14.94 |
| Aroclor-1016         |      | 12.68 | 12.58    | 12.78 | 255.78         | 250.00         | 2.31  |
| Aroclor-1260         |      | 14.94 | 14.84    | 15.04 | 306.93         | 250.00         | 22.77 |
| Aroclor-1260         |      | 15.35 | 15.25    | 15.45 | 306.04         | 250.00         | 22.42 |
| Aroclor-1260         |      | 16.20 | 16.10    | 16.30 | 316.74         | 250.00         | 26.70 |
| Aroclor-1260         |      | 16.76 | 16.66    | 16.86 | 304.00         | 250.00         | 21.60 |
| Aroclor-1260         |      | 17.25 | 17.14    | 17.34 | 283.69         | 250.00         | 13.48 |
| Tetrachloro-m-xylene |      | 8.01  | 7.89     | 8.09  | 315.26         | 300.00         | 5.09  |
| Decachlorobiphenyl   |      | 20.13 | 20.03    | 20.23 | 330.97         | 300.00         | 10.32 |

\* QC LIMITS: %D of amounts in the Continuing Calibration must be  
less than or equal to 15%.

$1 / (E, E) \sim \lambda^{u, p} s_t$

$$\frac{303}{303-250} \times \frac{250}{250} \times 100 = 21.2\%$$

21.2%

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Thru-Put Systems, Inc.

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Data file : \chem\hpl.i\8082r0917.b\E2989858.D  
Lab Smp Id: CC166001 Client Smp ID: CC166001  
Inj Date : 1B-SEP-2002 14j01  
Operator : TFfl Inst ID: hpl.i  
Smp Info : 250PPB 1660  
Misc Info :  
Comment  
Method : \chem\hpl.i\8082r0917.b\8082\_PCBsec.M  
Meth Date : 19-Sep-2002 07:17 Administra Quant Type: ESTD  
Cal Date : 17-SEP-2002 16:43 Cal File: E2989834.D  
Als bottle: 1 Continuing Calibration Sample  
Dil Factor: 1.00000  
Integrator: Falcon Compound Sublist: 1660.sub  
Target Version: 3.40 Sample Matrix: WATER  
Processing Host: TARGET3

Concentration Formula: Amt \* DF \* Vt / Vo

| Name | Value    | Description     |
|------|----------|-----------------|
| DF   | 1.000    | Dilution Factor |
| Vt   | 5.000    | FinalVolume     |
| Vo   | 1000.000 | SampleVolume    |

| AMOUNTS                   |        |         |          |         |                   |              |        |        |  |
|---------------------------|--------|---------|----------|---------|-------------------|--------------|--------|--------|--|
|                           |        |         | CAL-AMT  |         | ON-COL            |              |        |        |  |
| RT                        | EXP RT | DLT RT  | RESPONSE | < ug/D  | ( ug/L)           | TARGET-RANGE |        | RATIO  |  |
| "                         | ————   | = ————— | .....    | .....   | .....             | .....        |        |        |  |
| 26 Aroclor-1260           |        |         |          |         | CAS #: 11096-82-5 |              |        |        |  |
| 14.943                    | 14.943 | 0.000   | 100230   | 250.000 | 296.92            | 80.00-       | 120.00 | 100.00 |  |
| 15.353                    | 15.353 | 0.000   | 105731   | 250.000 | 289.30            | 88.18-       | 128.18 | 105.49 |  |
| 16.207                    | 16.207 | 0.000   | 63689    | 250.000 | 298.85            | 42.93-       | 82.93  | 63.54  |  |
| 16.763                    | 16.767 | -0.004  | 63150    | 250.000 | 292.16            | 41.14-       | 81.14  | 63.01  |  |
| 17.250                    | 17.247 | 0.003   | 121190   | 250.000 | 263.15            | 108.65-      | 148.65 | 120.91 |  |
| Average of Peak Amounts « |        |         |          |         | 288               |              |        |        |  |
| 20 Aroclor-1016           |        |         |          |         | CAS *i 12674-11-2 |              |        |        |  |
| 10.210                    | 10.207 | 0.003   | 114927   | 250.000 | 290.85            | 80.00-       | 120.00 | 100.00 |  |
| 10.717                    | 10.713 | 0.004   | 41919    | 250.000 | 246.67            | 16.92-       | 56.92  | 36.47  |  |
| 11-903                    | 11.900 | 0.003   | 33355    | 250.000 | 307.89            | 10.29-       | 50.29  | 29.02  |  |
| 11.980                    | 11.977 | 0.003   | 46984    | 250.000 | 273.24            | 24.51-       | 64.51  | 40.88  |  |
| 12.690                    | 12.693 | -0.003  | 51480    | 250.000 | 256.52            | 26.73-       | 66.73  | 44.79  |  |
| Average of Peak Amounts - |        |         |          |         | 275               |              |        |        |  |

0013S

Data File: \chem\hpl.i\8082r0917.b\E2989858.D  
Report Date: 19-Sep-2002 07:38

|        |        |                      |          | AMOUNTS |         |        |       |       |  |
|--------|--------|----------------------|----------|---------|---------|--------|-------|-------|--|
|        |        |                      |          | CAL-AMT | ON-COL  |        |       |       |  |
| RT     | EXP RT | DLT RT               | RESPONSE | ( ug/L) | ( ug/L) | TARGET | RANGE | RATIO |  |
| \$     | 1      | Tetrachloro-m-xylene |          |         |         | CAS #: |       |       |  |
| 8.000  | 7.997  | 0.003                | 2772737  | 300.000 | 301.18  |        |       |       |  |
| S      | 29     | Decachlorobiphenyl   |          |         |         | CAS #: |       |       |  |
| 20.133 | 20.130 | 0.003                | 1740644  | 300.000 | 306.99  |        |       |       |  |

7E  
PCB CALIBRATION VERIFICATION SUMMARY

0\* Lab Name: FRIEND LABORATORY, INC. Contract: \_\_\_\_\_  
Lab Code: 10252 Case No.: \_\_\_\_\_ SAS No.: \_ \_ \_ SDG No.: AAA

Sample Name: 250PPB 1660  
File Name: E2989875.D  
Instrument ID: HP1.I  
GC Column: RTX-CLPesticides 2

ID: 0.32 (mm)  
Analysis Date: 09/18/02  
Analysis Time: 2255

| COMPOUND             | PEAK | RT    | RTW   | ADJ W | CALC AMOUNT | TRUE AMOUNT | %D       |
|----------------------|------|-------|-------|-------|-------------|-------------|----------|
| Aroclor-1016         | 1    | 10.20 | 10.10 | 10.30 | 291.25      | 250.00      | <TT6.5(D |
| Aroclor-1016         | 2    | 10.71 | 10.61 | 10.81 | 250.15      | 250.00      | 0.06     |
| Aroclor-1016         | 3    | 11.90 | 11.80 | 12.00 | 322.53      | 250.00      | C29.0fe  |
| Aroclor-1016         | 4    | 11.97 | 11.88 | 12.08 | 298.68      | 250.00      | <m£:     |
| Aroclor-1016         | 5    | 12.68 | 12.58 | 12.78 | 267.80      | 250.00      | 7.12     |
| Aroclor-1260         | 1    | 14.94 | 14.84 | 15.04 | 303.34      | 250.00      | -TTT3T   |
| Aroclor-1260         | 2    | 15.35 | 15.25 | 15.45 | 303.16      | 250.00      | 21.26    |
| Aroclor-1260         | 3    | 16.20 | 16.10 | 16.30 | 302.32      | 250.00      | 20.93    |
| Aroclor-1260         | 4    | 16.76 | 16.66 | 16.86 | 289.54      | 250.00      | 15.82    |
| Aroclor-1260         | 5    | 17.24 | 17.14 | 17.34 | 284.97      | 250.00      | 13.99    |
| Tetrachloro-m-xylene | 1    | 8.01  | 7.89  | 8.09  | 285.47      | 300.00      | 4.84     |
| Decachlorobiphenyl   | 1    | 20.13 | 20.03 | 20.23 | 304.88      | 300.00      | 1.63     |

\* QC LIMITS: %D of amounts in the Continuing Calibration must be less than or equal to 15%.

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7E  
PCB CALIBRATION VERIFICATION SUMMARY

Lab Name: FRIEND LABORATORY, INC. Contract:  
Lab Code: 10252 Case No.: SAS No. SDG No.: AAA

Sample Name: 250PPB 1254  
File Name: E2989876.D  
Instrument ID: HP1.I  
GC Column: RTX-CLPesticides 2

ID: 0.32 (mm)  
Analysis Date: 09/18/02  
Analysis Time: 2327

| COMPOUND             | PEAK | RT    | RT WINDOW |       | CALC AMOUNT | TRUE AMOUNT | %D     |
|----------------------|------|-------|-----------|-------|-------------|-------------|--------|
|                      |      |       | FROM      | TO    |             |             |        |
| Aroclor-1254         | 1    | 13.67 | 13.57     | 13.77 | 272.65      | 250.00      | 9.06   |
| Aroclor-1254         | 2    | 14.56 | 14.46     | 14.66 | 241.09      | 250.00      | 3.56   |
| Aroclor-1254         | 3    | 15.00 | 14.91     | 15.11 | 231.09      | 250.00      | 7.56   |
| Aroclor-1254         | 4    | 15.34 | 15.25     | 15.45 | 285.36      | 250.00      | 14.14" |
| Aroclor-1254         | 5    | 16.03 | 15.93     | 16.13 | 242.50      | 250.00      | 3.00   |
| Tetrachloro-m-xylene | 1    | 7.99  | 7.89      | 8.09  | 272.39      | 300.00      | 9.20   |
| Decachlorobi phenyl  | 1    | 20.13 | 20.03     | 20.23 | 303.43      | 300.00      | 1.14   |

\* QC LIMITS: %D of amounts in the Continuing Calibration must be less than or equal to 15%.

$$\frac{253-250}{255} \times 100 = \text{SZ}$$

7E  
PCB CALIBRATION VERIFICATION SUMMARY

Lab Name: FRIEND LABORATORY, INC. Contract: \_\_\_\_\_  
 Lab Code: 10252 Case No.: SAS No.: \_\_\_\_\_SDG No.: AAA



Sample Name: 250PPB 1254  
 File Name: E2989877.D  
 Instrument ID: HP1.I  
 GC Column: RTX-CLPesticides 2

ID: 0.32 (mm)  
 Analysis Date: 09/19/02  
 Analysis Time: 1009

| COMPOUND             | PEAK | RT    | RTW<br>FROM | RTW<br>TO | CALC<br>AMOUNT | TRUE<br>AMOUNT | %D    |
|----------------------|------|-------|-------------|-----------|----------------|----------------|-------|
| Aroclor-1254         | 1    | 13.67 | 13.57       | 13.77     | 259.53         | 250.00         | 3.81  |
| Aroclor-1254         | 2    | 14.56 | 14.46       | 14.66     | 225.30         | 250.00         | 9.88  |
| Aroclor-1254         | 3    | 15.01 | 14.91       | 15.11     | 223.36         | 250.00         | 10.66 |
| Aroclor-1254         | 4    | 15.35 | 15.25       | 15.45     | 285.42         | 250.00         | 14.17 |
| Aroclor-1254         | 5    | 16.03 | 15.93       | 16.13     | 235.44         | 250.00         | 5.82  |
| Tetrachloro-m-xylene | 1    | 7.99  | 7.89        | 8.09      | 290.73         | 300.00         | 3.09  |
| Decachlorobiphenyl   | 1    | 20.13 | 20.03       | 20.23     | 307.49         | 300.00         | 2.50  |

QC LIMITS: %D of amounts in the Continuing Calibration must be  
 less than or equal to 15%.

$$\frac{3\sigma_C \cdot 250}{X^*C} \leq 15\%$$

7E  
PCB CALIBRATION VERIFICATION SUMMARY

Lab Name: FRIEND LABORATORY, INC. Contract: \_\_\_\_\_  
Lab Code: 10252 Case No.: \_\_\_\_\_ SAS No.: \_\_\_\_\_ SDG No.: AAA

Sample Name: 250PPB 1254  
File Name: E2989883.D  
Instrument ID: HP1.I  
GC Column: RTX-CLPesticides 2

ID: 0.32 (mm)

Analysis Date: 09/19/02

Analysis Time: 1321

| COMPOUND             | PEAK | RT    | RT WINDOW<br>FROM TO |       | CALC<br>AMOUNT | TRUE<br>AMOUNT | %D    |
|----------------------|------|-------|----------------------|-------|----------------|----------------|-------|
| Aroclor-1254         | 1    | 13.67 | 13.57                | 13.77 | 259.55         | 250.00         | 3.82  |
| Aroclor-1254         | 2    | 14.56 | 14.46                | 14.66 | 228.67         | 250.00         | 8.53  |
| Aroclor-1254         | 3    | 15.00 | 14.91                | 15.11 | 228.48         | 250.00         | 8.61  |
| Aroclor-1254         | 4    | 15.35 | 15.25                | 15.45 | 285.04         | 250.00         | 14.02 |
| Aroclor-1254         | 5    | 16.03 | 15.93                | 16.13 | 237.94         | 250.00         | 4.82  |
| Tetrachloro-m-xylene | 1    | 7.99  | 7.89                 | 8.09  | 275.42         | 300.00         | 8.19  |
| Decachlorobiphenyl   | 1    | 20.13 | 20.03                | 20.23 | 323.32         | 300.00         | 7.77  |

\* QC LIMITS: %D of amounts in the Continuing Calibration must be  
less than or equal to 15%.

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7E  
PCB CALIBRATION VERIFICATION SUMMARY

Lab Name: FRIEND LABORATORY, INC. Contract: \_\_\_\_\_

Lab Code: 10252 Case No.: \_\_\_\_\_ SAS No.: \_\_\_\_\_ SDG No.: AAA

Sample Name: 250PPB1254

File Name: E2989888.D

Instrument ID: HP1.I

GC Column: RTX-CLPesticides 2

ID: 0.32 (mm)

Analysis Date: 09/19/02

Analysis Time: 1558

| COMPOUND             | PEAK | RT    | RTW   | SJDOW | CALC<br>AMOUNT | TRUE<br>AMOUNT | %D    |
|----------------------|------|-------|-------|-------|----------------|----------------|-------|
| Aroclor-1254         | 1    | 13.67 | 13.57 | 13.77 | 234.65         | 250.00-        | 6.14  |
| Aroclor-1254         | 2    | 14.56 | 14.46 | 14.66 | 206.97         | 250.00         |       |
| Aroclor-1254         | 3    | 15.01 | 14.91 | 15.11 | 199.78         | 250.00         | 20.09 |
| Aroclor-1254         | 4    | 15.35 | 15.25 | 15.45 | 247.93         | 250.00         |       |
| Aroclor-1254         | 5    | 16.03 | 15.93 | 16.13 | 207.20         | 250.00         |       |
| Tetrachloro-m-xylene | 1    | 8.00  | 7.89  | 8.09  | 270.47         | 300.00         | 9.84  |
| Decachlorobiphenyl   | 1    | 20.13 | 20.03 | 20.23 | 264.18         | 300.00         | 11.94 |

\* QC LIMITS: %D of amounts in the Continuing Calibration must be less than or equal to 15%.

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7E  
PCB CALIBRATION VERIFICATION SUMMARY

Lab Name: FRIEND LABORATORY, INC. Contract:  
Lab Code: 10252 Case No.: SAS No. SDG No.: AAA

Sample Name: 250PPB 1254  
File Name: E2989888.D  
Instrument ID: HP1.I  
GC Column: RTX-CLPesticides 2

ID: 0.32 (mm)

Analysis Date: 09/19/02

Analysis Time:-t558- /f ' 3 Cs .

| COMPOUND             | PEAK | RT                  | RT WINDOW |       | CALC<br>AMOUNT | TRUE<br>AMOUNT | %D    |
|----------------------|------|---------------------|-----------|-------|----------------|----------------|-------|
| Aroclor-1254         |      | 13.67 <sub>v</sub>  | 13.57     | 13.77 | 237.28         | 250.00         | 5.09  |
| Aroclor-1254         |      | 14.56 <sub>t</sub>  | 14.46     | 14.66 | 210.21         | 250.00         | 15.92 |
| Aroclor-1254         |      | 15.01 \ /           | 14.91     | 15.11 | 197.63         | 250.00         | 20.95 |
| Aroclor-1254         |      | 15.35 <sub>v</sub>  | 15.25     | 15.45 | 247.15         | 250.00         | 1.14  |
| Aroclor-1254         |      | 16.03 <sup>^v</sup> | 15.93     | 16.13 | 208.42         | 250.00         | 16.63 |
| Tetrachloro-m-xylene |      | 8.01                | 7.89      | 8.09  | 272.21         | 300.00         | 9.26  |
| Decachlorobiphenyl   |      | 20.13               | 20.03     | 20.23 | 272.91         | 300.00         | 9.03  |

\* QC LIMITS: %D of amounts in the Continuing Calibration must be less than or equal to 15%.

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7E  
PCB CALIBRATION VERIFICATION SUMMARY

Lab Name: FRIEND LABORATORY, INC. Contract: \_\_\_\_\_

Lab Code: 10252 Case No.: \_\_\_\_\_ SAS No.: \_ \_ \_ SDG No.: AAA

Sample Name: 250PPB 1254

File Name: E2989888.D

Instrument ID: HP3.1 ~&r>Cfj\*a\*~/il A V ^ ^ ^ - ^

GC Column: RTX-CLPesticides 1

ID: 0.32 (mm)

Analysis Date: 09/19/02

Analysis Time: 1910

| COMPOUND             | PEAK | RT    | RT WINDOW<br>FROM J TO |       | CALC<br>AMOUNT | TRUE<br>AMOUNT | %D    |
|----------------------|------|-------|------------------------|-------|----------------|----------------|-------|
| Aroclor-1254         | 1    | 14.59 | 14.52                  | 14.72 | 271.45         | 250.00         | 8.58  |
| Aroclor-1254         | 2    | 15.11 | 15.04                  | 15.24 | 297.25         | 250.00         | nOol  |
| Aroclor-1254         | 3    | 15.92 | 15.85                  | 16.05 | 328.78         | 250.00         |       |
| Aroclor-1254         | 4    | 16.28 | 16.21                  | 16.41 | 251.81         | 250.00         | 0.72  |
| Aroclor-1254         | 5    | 16.82 | 16.76                  | 16.96 | 295.26         | 250.00         |       |
| Tetrachloro-m-xylene | 1    | 9.70  | 9.63                   | 9.83  | 330.09         | 300.00         | 10.03 |
| Decachlorobiphenyl   | 1    | 21.32 | 21.25                  | 21.45 | 340.09         | 300.00         | 13.36 |

\* QC LIMITS: %D of amounts in the Continuing Calibration must be less than or equal to 15%.

$$\frac{289 - 250}{250} \times 100$$

15.6%

8D  
PCB ANALYTICAL SEQUENCE

Lab Name: Contract:  
Lab Code: Case No. : SAS No. : SDG No. : AAA916  
Instrument ID: HP1 Init. Calib. Date(s): 09/17/2 09/  
GC Column: RTX-CLPESTICIDES 2 ID: 0.32 (mm)

THE ANALYTICAL SEQUENCE OF PERFORMANCE EVALUATION MIXTURES, BLANKS,  
SAMPLES, AND STANDARDS IS GIVEN BELOW:

| MEAN SURROGATE RT FROM INITIAL CALIBRATION<br>TCX: 8.00 DCB: 20.13 |                  |                  |                  |             |             |
|--------------------------------------------------------------------|------------------|------------------|------------------|-------------|-------------|
| EPA<br>SAMPLE NO.                                                  | LAB<br>SAMPLE ID | DATE<br>ANALYZED | TIME<br>ANALYZED | TCX<br>RT # | DCB<br>RT # |
| 01                                                                 | STD11660         | STD11660         | 09/17/2          | 1304        | 7.97        |
| 02                                                                 | STD21660         | STD21660         | 09/17/2          | 1335        | 7.99        |
| 03                                                                 | STD31660         | STD31660         | 09/17/2          | 1406        | 8.00        |
| 04                                                                 | STD41660         | STD41660         | 09/17/2          | 1437        | 7.99        |
| 05                                                                 | STD51660         | STD51660         | 09/17/2          | 1509        | 8.00        |
| 06                                                                 | STD61660         | STD61660         | 09/17/2          | 1540        | 8.00        |
| 07                                                                 | STD11254         | STD11254         | 09/17/2          | 1643        | 7.98        |
| 08                                                                 | STD21254         | STD21254         | 09/17/2          | 1714        | 7.99        |
| 09                                                                 | STD31254         | STD31254         | 09/17/2          | 1745        | 8.00        |
| 10                                                                 | STD41254         | STD41254         | 09/17/2          | 1816        | 7.99        |
| 11                                                                 | STD51254         | STD51254         | 09/17/2          | 1848        | 7.98        |
| 12                                                                 | STD61254         | STD61254         | 09/17/2          | 1919        | 8.00        |
| 13                                                                 | STD41248         | STD41248         | 09/17/2          | 1950        | 7.99        |
| 14                                                                 | STD41242         | STD41242         | 09/17/2          | 2021        | 7.99        |
| 15                                                                 | STD41232         | STD41232         | 09/17/2          | 2052        | 7.99        |
| 16                                                                 | STD41221         | STD41221         | 09/17/2          | 2124        | 8.00        |
| 17                                                                 | CC166001         | CC166001         | 09/18/2          | 1401        | 8.00        |
| 18                                                                 | MB82             | MB82             | 09/18/2          | 1433        | 8.02        |
| 19                                                                 | QC82             | QC82             | 09/18/2          | 1507        | 8.02        |
| 20                                                                 | fe#*WWHffl*      | L94080-1RE       | 09/18/2          | 1538        | 7.99        |
| 21                                                                 | L940ai^2         | L94080-2         | 09/18/2          | 1610        | 7.99        |
| 22                                                                 | L94flE0-3RE      | L94080-3RE       | 09/18/2          | 1641        | 7.99        |
| 23                                                                 |                  | L94080-4         | 09/18/2          | 1712        | 7.98        |
| 24                                                                 | CC166002         | CC166002         | 09/18/2          | 1815        | 8.01        |
| 25                                                                 | fe#4E6fe^SE;     | L94081-1RE       | 09/18/2          | 1846        | 7.98        |
| 26                                                                 | L94Q^.-4RE       | L94081-4RE       | 09/18/2          | 1917        | 7.99        |
| 27                                                                 | L94/81-5RE       | L94081-5RE       | 09/18/2          | 1948        | 8.00        |
| 28                                                                 |                  | L94081-6RE       | 09/18/2          | 2019        | 7.99        |
| 29                                                                 | L94081-7/ '      | L94081-7if       | 09/18/2          | 2051        | 7.98        |
| 30                                                                 |                  | L94081-1MSR      | 09/18/2          | 2122        | 7.98        |
| 31                                                                 |                  | L94081-1MSDR     | 09/18/2          | 2153        | 7.97        |
| 32                                                                 | CC166003         | CC166003         | 09/18/2          | 2255        | 8.01        |
| 33                                                                 | CC125401         | CC125401         | 09/18/2          | 2327        | 7.99        |
| 34                                                                 | CC125402         | CC125402         | 09/19/2          | 1009        | 7.99        |
| 35                                                                 | JMF^^^^^^*1      | L94080-1         | 09/19/2          | 1038        | 7.99        |
| 36                                                                 |                  | L94080-3R        | 09/19/2          | 1116        | 7.99        |
| 37                                                                 | L94081-6         | L94081-6         | 09/19/2          | 1148        | 7.98        |

QC LIMITS  
TCX = Tetrachloro-m-xylene (+/- 0.10 MINUTES)  
DCB = Decachlorobiphenyl (+/- 0.10 MINUTES)

# Column used to flag retention time values with an asterisk.  
\* Values outside of QC limits.

8D  
PCB ANALYTICAL SEQUENCE

Name: Contract:  
 Code: Case No. : SAS No. : SDG No. : AAA916  
 strument ID: HP1 Init. Calib..Date(s): 09/17/2 09/17/2  
 GC Column: RTX-CLPESTICIDES 2 ID: 0.32 (mm)

THE ANALYTICAL SEQUENCE OF PERFORMANCE EVALUATION MIXTURES, BLANKS,  
 SAMPLES, AND STANDARDS IS GIVEN BELOW:

|    | MEAN SURROGATE RT FROM INITIAL CALIBRATION<br>TCX: 8.00 DCB: 20.13. |                  |                  |                  |             |             |
|----|---------------------------------------------------------------------|------------------|------------------|------------------|-------------|-------------|
|    | EPA<br>SAMPLE NO.                                                   | LAB<br>SAMPLE ID | DATE<br>ANALYZED | TIME<br>ANALYZED | TCX<br>RT # | DCB<br>RT # |
| 01 |                                                                     | L94081-7D        | 09/19/2          | 1219             | 7.98        | 20.12       |
| 02 | CC125403                                                            | CC125403         | 09/19/2          | 1321             | 7.99        | 20.13       |
| 03 | L94081-1                                                            | L94081-1         | 09/19/2          | 1353             | 7.99        | 20.13       |
| 04 | L94081-4                                                            | L94081-4         | 09/19/2          | 1424             | 7.99        | 20.13       |
| 05 | L94081-5                                                            | L94081-5         | 09/19/2          | 1455             | 8.00        | 20.13       |
| 06 | CC125404                                                            | CC125404         | 09/19/2          | 1558             | 8.00        | 20.13       |
| 07 |                                                                     | L94080-3         | 09/19/2          | 1629             | 7.99        | 20.13       |
| 08 |                                                                     | L94081-7DL       | 09/19/2          | 1700             | 7.97        | 20.12       |
| 09 | L94081-7T>L                                                         | L94081-7DL       | 09/19/2          | 1731             | 7.98        | 20.12       |
| 10 | L94081-1MS                                                          | L94081-1MS       | 09/19/2          | 1803             | 7.99        | 20.13       |
| 11 | L94081-1MSD                                                         | L94081-1MSD      | 09/19/2          | 1834             | 7.98        | 20.12       |
| 12 | CC125405                                                            | CC125405         | 09/19/2          | 1936             | 8.01        | 20.13       |
| 13 |                                                                     |                  |                  |                  |             |             |
| 14 |                                                                     |                  |                  |                  |             |             |
| 15 |                                                                     |                  |                  |                  |             |             |
| 16 |                                                                     |                  |                  |                  |             |             |
| 17 |                                                                     |                  |                  |                  |             |             |
| 18 |                                                                     |                  |                  |                  |             |             |
| 19 |                                                                     |                  |                  |                  |             |             |
| 20 | -                                                                   |                  |                  |                  |             |             |
| 21 |                                                                     |                  |                  |                  |             |             |
| 22 |                                                                     |                  |                  |                  |             |             |
| 23 |                                                                     |                  |                  |                  |             |             |
| 24 |                                                                     |                  |                  |                  |             |             |
| 25 |                                                                     |                  |                  |                  |             |             |
| 26 |                                                                     |                  |                  |                  |             |             |
| 27 |                                                                     |                  |                  |                  |             |             |
| 28 |                                                                     |                  |                  |                  |             |             |
| 29 |                                                                     |                  |                  |                  |             |             |
| 30 |                                                                     |                  |                  |                  |             |             |
| 31 |                                                                     |                  |                  |                  |             |             |
| 32 |                                                                     |                  |                  |                  |             |             |
| 33 |                                                                     |                  |                  |                  |             |             |
| 34 |                                                                     |                  |                  |                  |             |             |
| 35 |                                                                     |                  |                  |                  |             |             |
| 36 |                                                                     |                  |                  |                  |             |             |
| 37 |                                                                     |                  |                  |                  |             |             |

QC LIMITS

TCX = Tetrachloro-m-xylene (+/- 0.10 MINUTES)  
 DCB = Decachlorobiphenyl (+/- 0.10 MINUTES)

# Column used to flag retention time values with an asterisk.  
 \* Values outside of QC limits.



8D  
PCB ANALYTICAL SEQUENCE

Lab Name: Contract:  
 Lab Code: Case No. : SAS No. : SDG No. : AAA916CONF.  
 Instrument ID: HP3 Init. Calib. Date(s): 09/19/2 09/1  
 GC Column: RTX-CLPESTICIDES 1 ID: 0.32 (mm)

THE ANALYTICAL SEQUENCE OF PERFORMANCE EVALUATION MIXTURES, BLANKS,  
 SAMPLES, AND STANDARDS IS GIVEN BELOW:

| MEAN SURROGATE RT FROM INITIAL CALIBRATION<br>TCX: 9.73 DCB: 21.35 |                   |                  |                  |                  |             |             |  |
|--------------------------------------------------------------------|-------------------|------------------|------------------|------------------|-------------|-------------|--|
|                                                                    | EPA<br>SAMPLE NO. | LAB<br>SAMPLE ID | DATE<br>ANALYZED | TIME<br>ANALYZED | TCX<br>RT # | DCB<br>RT # |  |
| 01                                                                 | 1254STD           | 1254STD          | 09/19/2          | 1357             | 9.73        | 21.35       |  |
| 02                                                                 | 1254LSTD          | 1254LSTD         | 09/19/2          | 1429             | 9.74        | 21.35       |  |
| 03                                                                 |                   | L94080-3         | 09/19/2          | 1500             | 9.72        | 21.33       |  |
| 04                                                                 |                   | L94080-1         | 09/19/2          | 1531             | 9.72        | 21.33       |  |
| 05                                                                 | L94081-1          | L94081-1         | 09/19/2          | 1602             | 9.71        | 21.33       |  |
| 06                                                                 | L94081-4          | L94081-4         | 09/19/2          | 1634             | 9.72        | 21.33       |  |
| 07                                                                 | L94081-5          | L94081-5         | 09/19/2          | 1705             | 9.71        | 21.32       |  |
| 08                                                                 | L94081-6          | L94081-6         | 09/19/2          | 1736             | 9.71        | 21.33       |  |
| 09                                                                 | L94081-7          | L94081-7         | 09/19/2          | 1807             | 9.71        | 21.33       |  |
| 10                                                                 | CC1254            | CC1254           | 09/19/2          | 1910             | 9.70        | 21.32       |  |
| 11                                                                 |                   |                  |                  |                  |             |             |  |
| 12                                                                 |                   |                  |                  |                  |             |             |  |
| 13                                                                 |                   |                  |                  |                  |             |             |  |
| 14                                                                 |                   |                  |                  |                  |             |             |  |
| 15                                                                 |                   |                  |                  |                  |             |             |  |
| 16                                                                 |                   |                  |                  |                  |             |             |  |
| 17                                                                 |                   |                  |                  |                  |             |             |  |
| 18                                                                 |                   |                  |                  |                  |             |             |  |
| 19                                                                 |                   |                  |                  |                  |             |             |  |
| 20                                                                 |                   |                  |                  |                  |             |             |  |
| 21                                                                 |                   |                  |                  |                  |             |             |  |
| 22                                                                 |                   |                  |                  |                  |             |             |  |
| 23                                                                 |                   |                  |                  |                  |             |             |  |
| 24                                                                 |                   |                  |                  |                  |             |             |  |
| 25                                                                 |                   |                  |                  |                  |             |             |  |
| 26                                                                 |                   |                  |                  |                  |             |             |  |
| 27                                                                 |                   |                  |                  |                  |             |             |  |
| 28                                                                 |                   |                  |                  |                  |             |             |  |
| 29                                                                 |                   |                  |                  |                  |             |             |  |
| 30                                                                 |                   |                  |                  |                  |             |             |  |
| 31                                                                 |                   |                  |                  |                  |             |             |  |
| 32                                                                 |                   |                  |                  |                  |             |             |  |
| 33                                                                 |                   |                  |                  |                  |             |             |  |
| 34                                                                 |                   |                  |                  |                  |             |             |  |
| 35                                                                 |                   |                  |                  |                  |             |             |  |
| 36                                                                 |                   |                  |                  |                  |             |             |  |
| 37                                                                 |                   |                  |                  |                  |             |             |  |

QC LIMITS  
 TCX = Tetrachloro-m-xylene (+/- 0.10 MINUTES)  
 DCB = Decachlorobiphenyl (+/- 0.10 MINUTES)

# Column used to flag retention time values with an asterisk.  
 \* Values outside of QC limits.

10B  
PESTICIDE IDENTIFICATION SUMMARY  
FOR MULTICOMPONENT ANALYTES

EPA SAMPLE NO.

L94081-1

Name:

Contract:

Lab Code:

Case No.:

SAS No.:

SDG No.: AAA916

Lab Sample ID: L94081-1

Date(s) Analyzed: 09/19/2003

Instrument ID (1) : HP1

Instrument ID (2) : [4P3]

GC Column(1) : RTX-CLPESTICIDES 2 ID: . 0.32 (mm) GC Column(2) : Rji'CiPtSi 1 ID 0.32

| ANALYTE                  | PEAK | RT     | RT WINDOW<br>FROM TO | CONCENTRATION | MEAN<br>CONCENTRATION | %D    |
|--------------------------|------|--------|----------------------|---------------|-----------------------|-------|
| Aroclor-1254<br>COLUMN 1 | 1    | 13.66  | 13.57                | 13.77         | 24.12                 | 98.25 |
|                          | 2    | 14.55  | 14.46                | 14.66         | 130.30                |       |
|                          | 3    | 15.00  | 14.90                | 15.10         | 151.17                |       |
|                          | 4    | 15.34  | 15.25                | 15.45         | 81.10                 |       |
|                          | 5    | 16.02  | 15.93                | 16.13         | 104.56                |       |
| COLUMN 2                 | 1    |        | 14.53L               | I4-T3-        | ioq.14                | 1 ^   |
|                          | 2    | 15.1a  | 15.04                | IT.3M         | R - ^ 4               |       |
|                          | 3    | 15.13  | 15.13                | i/^,as"       | ^3.35"                |       |
|                          | 4    | 1b.2*1 | \h.Z\                | i/o-m         | II4.C3                |       |
|                          | 5    | 16.^4  | \Ls Hi?              | Itt.ffli?     | <H.1*                 |       |
|                          | 1    |        | = E=^ = E=           |               | = ^ ^ = ~ ^ = ±2 = E= |       |
|                          | 2    |        |                      |               |                       |       |
|                          | 3    |        |                      |               |                       |       |
| COLUMN 1                 | 4    |        |                      |               |                       |       |
|                          | 5    |        |                      |               |                       |       |
|                          | 1    |        |                      |               |                       |       |
|                          | 2    |        |                      |               |                       |       |
| COLUMN 2                 | 3    |        |                      |               |                       |       |
|                          | 4    |        |                      |               |                       |       |
|                          | 5    |        |                      |               |                       |       |
|                          | 1    |        |                      |               |                       |       |
|                          | 2    |        |                      |               |                       |       |
| COLUMN 1                 | 3    |        |                      |               |                       |       |
|                          | 4    |        |                      |               |                       |       |
|                          | 5    |        |                      |               |                       |       |
|                          | 1    |        |                      |               |                       |       |
|                          | 2    |        |                      |               |                       |       |
| COLUMN 2                 | 3    |        |                      |               |                       |       |
|                          | 4    |        |                      |               |                       |       |
|                          | 5    |        |                      |               |                       |       |
|                          |      |        |                      |               |                       |       |

At least 3 peaks are required for identification of multicomponent analytes.

10B  
PESTICIDE IDENTIFICATION SUMMARY  
FOR MULTICOMPONENT ANALYTES

EPA SAMPLE NO.

L94081-1MS

Lab Name:

Contract:

Lab Code:

Case No.:

SAS No.:

SDG NO. : AAA916

Lab Sample ID: L94081-1MS

Date(s) Analyzed: 09/19/2009

Instrument ID (1) : HP1

Instrument ID (2) :

GC Column(1) : RTX-CLPESTICIDES 2 ID: 0.32 (mm)

GC Column(2) :

ID:

| .ANALYTE                  | PEAK | RT    | RT WINDOW<br>FROM TO | CONCENTRATION | MEAN<br>CONCENTRATION | %D |
|---------------------------|------|-------|----------------------|---------------|-----------------------|----|
| ArocloX-1016<br>COLUMN 1\ | 1    | 10.20 | 10.11 10.31          | 233.25        | 417.49                |    |
|                           | 2    | 10.71 | 10.61 10.81          | 368.47        |                       |    |
|                           | 3    | 11.90 | 11.80 12.00          | 569.59        |                       |    |
|                           | 4    | 11.98 | 11.88 12.08          | 397.59        |                       |    |
|                           |      | 12.68 | 12.59 12.79          | 518.57        |                       |    |
|                           |      |       |                      |               |                       |    |
|                           |      |       |                      |               |                       |    |
|                           |      |       |                      |               |                       |    |
|                           |      |       |                      |               |                       |    |
|                           |      |       |                      |               |                       |    |
| Aroclor-1260<br>COLUMN 1  | 1    | 14.74 | 14.84 15.04          | 494.90        | 442.10                | 4  |
|                           | 2    | 15.35 | 15.25 15.45          | 475.44        |                       |    |
|                           | 3    | 16.20 | 16.11 16.31          | 420.94        |                       |    |
|                           | 4    | 16.75 | 16.67 16.87          | 443.89        |                       |    |
|                           | 5    | 17.24 | 17.15 17.35          | 375.30        |                       |    |
|                           |      |       |                      |               |                       |    |
|                           |      |       |                      |               |                       |    |
|                           |      |       |                      |               |                       |    |
|                           |      |       |                      |               |                       |    |
|                           |      |       |                      |               |                       |    |
| COLUMN 2                  | 1    |       |                      |               |                       |    |
|                           | 2    |       |                      |               |                       |    |
|                           | 3    |       |                      |               |                       |    |
|                           | 4    |       |                      |               |                       |    |
|                           | 5    |       |                      |               |                       |    |
|                           |      |       |                      |               |                       |    |
|                           |      |       |                      |               |                       |    |
|                           |      |       |                      |               |                       |    |
|                           |      |       |                      |               |                       |    |
|                           |      |       |                      |               |                       |    |
| COLUMN 1                  | 1    |       |                      |               |                       |    |
|                           | 2    |       |                      |               |                       |    |
|                           | 3    |       |                      |               |                       |    |
|                           | 4    |       |                      |               |                       |    |
|                           | 5    |       |                      |               |                       |    |
|                           |      |       |                      |               |                       |    |
|                           |      |       |                      |               |                       |    |
|                           |      |       |                      |               |                       |    |
|                           |      |       |                      |               |                       |    |
|                           |      |       |                      |               |                       |    |
| COLUMN 2                  | 1    |       |                      |               |                       |    |
|                           | 2    |       |                      |               |                       |    |
|                           | 3    |       |                      |               |                       |    |
|                           | 4    |       |                      |               |                       |    |
|                           | 5    |       |                      |               |                       |    |
|                           |      |       |                      |               |                       |    |
|                           |      |       |                      |               |                       |    |
|                           |      |       |                      |               |                       |    |
|                           |      |       |                      |               |                       |    |
|                           |      |       |                      |               |                       |    |

At least 3 peaks are required for identification of multicomponent analytes.

10B  
PESTICIDE IDENTIFICATION SUMMARY  
FOR MULTICOMPONENT ANALYTES

EPA SAMPLE NO.

L94081-5

Name:

Contract:

W Lab Code:

Case No. :

SAS No. :

SDG No.: AAA916

Lab Sample ID: L94081-5

Date(s) Analyzed: 09/19/2010

Instrument ID (1): HP1

Instrument ID (2) : 1-1p3

GC Column(1) : RTX-CLPESTICIDES 2 ID: 0.32 (mm) GC Column(2) : RTX-CLPESTICIDES 2 ID: 0.32 (mm)

|  | ANALYTE      | PEAK | RT      | RT WINDOW<br>FROM TO | CONCENTRATION | MEAN<br>CONCENTRATION | %D |
|--|--------------|------|---------|----------------------|---------------|-----------------------|----|
|  | Aroclor-1254 | 1    | 13.67   | 13.57 13.77          | 524.70        |                       |    |
|  |              | 2    | 14.56   | 14.46 14.66          | 511.19        |                       |    |
|  |              | 3    | 15.00   | 14.90 15.10          | 467.20        |                       |    |
|  | COLUMN 1     | 4    | 15.35   | 15.25 15.45          | 824.19        |                       |    |
|  |              | 5    | 16.03   | 15.93 16.13          | 552.60        | 575.97                |    |
|  |              | 1    |         | 1-4.151              |               |                       |    |
|  |              | 2    | 1-4.151 | 1-4.151              |               |                       |    |
|  |              | 3    | 1-4.151 | 1-4.151              |               |                       |    |
|  | COLUMN 2     | 4    | 1-4.151 | 1-4.151              |               |                       |    |
|  |              | 5    | 1-4.151 | 1-4.151              |               |                       |    |
|  |              | 1    |         |                      |               |                       |    |
|  |              | 2    |         |                      |               |                       |    |
|  |              | 3    |         |                      |               |                       |    |
|  |              | 4    |         |                      |               |                       |    |
|  |              | 5    |         |                      |               |                       |    |
|  |              | 1    |         |                      |               |                       |    |
|  |              | 2    |         |                      |               |                       |    |
|  |              | 3    |         |                      |               |                       |    |
|  |              | 4    |         |                      |               |                       |    |
|  |              | 5    |         |                      |               |                       |    |
|  |              | 1    |         |                      |               |                       |    |
|  |              | 2    |         |                      |               |                       |    |
|  |              | 3    |         |                      |               |                       |    |
|  |              | 4    |         |                      |               |                       |    |
|  |              | 5    |         |                      |               |                       |    |
|  |              | 1    |         |                      |               |                       |    |
|  |              | 2    |         |                      |               |                       |    |
|  |              | 3    |         |                      |               |                       |    |
|  |              | 4    |         |                      |               |                       |    |
|  |              | 5    |         |                      |               |                       |    |
|  |              | 1    |         |                      |               |                       |    |
|  |              | 2    |         |                      |               |                       |    |
|  |              | 3    |         |                      |               |                       |    |
|  |              | 4    |         |                      |               |                       |    |
|  |              | 5    |         |                      |               |                       |    |
|  |              | 1    |         |                      |               |                       |    |
|  |              | 2    |         |                      |               |                       |    |
|  |              | 3    |         |                      |               |                       |    |
|  |              | 4    |         |                      |               |                       |    |
|  |              | 5    |         |                      |               |                       |    |

At least 3 peaks are required for identification of multicomponent analytes.

10B  
PESTICIDE IDENTIFICATION SUMMARY  
FOR MULTICOMPONENT ANALYTES

EPA SAMPLE NO.

L94081-6

Lab Name :

Contract :

Lab Code :

Case No. :

SAS No. :

SDG No. : AAA916

Lab Sample ID: L94081-6

Date(s) Analyzed: 09/19/2 OH/INQ?

Instrument ID (1): HP1

Instrument ID (2) : HP-3

GC Column(1) : RTX-CLPESTICIDES 2 ID: 0.32 (mm) GC Column(2) : fUX'ClP&Sfl ID: Q."52-

| ANALYTE                      | PEAK | RT      | RT WINDOW<br>FROM TO | CONCENTRATION | MEAN<br>CONCENTRATION | %D         |
|------------------------------|------|---------|----------------------|---------------|-----------------------|------------|
| Aroclor-1254<br><br>COLUMN 1 | 1    | 13.66   | 13.57                | 13.77         | 2938.10               | 2192.91    |
|                              | 2    | 14.56   | 14.46                | 14.66         | 1659.16               |            |
|                              | 3    | 15.00   | 14.90                | 15.10         | 1994.92               |            |
|                              | 4    | 15.35   | 15.25                | 15.45         | 2825.70               |            |
|                              | 5    | 16.03   | 15.93                | 16.13         | 1546.67               |            |
| COLUMN 2                     | 1    |         |                      | <b>m-la</b>   |                       | <b>*.4</b> |
|                              | 2    | 155.13. | uT.OH                | i^.^M         | s23il.SU              |            |
|                              | 3    | \-5.Ti  | I&.K5"               | \b-05         | ^0.5.30               |            |
|                              | 4    | \U-^\\  | UP>3.\               | [bM\\         | J3S3.<n               |            |
|                              | 5    | Jl*.Z2> | yh.lip               | \b-^h         | £6?ao.<?2-            |            |
| COLUMN 1                     | 1    |         |                      |               |                       | ^          |
|                              | 2    |         |                      |               |                       |            |
|                              | 3    |         |                      |               |                       |            |
|                              | 4    |         |                      |               |                       |            |
|                              | 5    |         |                      |               |                       |            |
| COLUMN 2                     | 1    |         |                      |               |                       |            |
|                              | 2    |         |                      |               |                       |            |
|                              | 3    |         |                      |               |                       |            |
|                              | 4    |         |                      |               |                       |            |
|                              | 5    |         |                      |               |                       |            |
| COLUMN 1                     | 1    |         |                      |               |                       |            |
|                              | 2    |         |                      |               |                       |            |
|                              | 3    |         |                      |               |                       |            |
|                              | 4    |         |                      |               |                       |            |
|                              | 5    |         |                      |               |                       |            |
| COLUMN 2                     | 1    |         |                      |               |                       |            |
|                              | 2    |         |                      |               |                       |            |
|                              | 3    |         |                      |               |                       |            |
|                              | 4    |         |                      |               |                       |            |
|                              | 5    |         |                      |               |                       |            |

At least 3 peaks are required for identification of multicomponent analytes.

10B  
PESTICIDE IDENTIFICATION SUMMARY  
FOR MULTICOMPONENT ANALYTES

EPA SAMPLE NO.

L94081-*i*

Name:

Contract:

**W<sup>ab</sup>**

Lab Code:

Case No. :

SAS No. :

SDG No. : AAA916

Lab Sample ID: L94081-7R

Date(s) Analyzed: 09/18/2 \_\_\_\_

Instrument ID (1): HP1

Instrument ID (2) :

GC Column(1): RTX-CLPESTICIDES 2 ID: 0.32 (mm) GC Column(2) :

ID

| ANALYTE      | PEAK | RT    | RT WINDOW<br>FROM TO | CONCENTRATION | MEAN<br>CONCENTRATION | %D |
|--------------|------|-------|----------------------|---------------|-----------------------|----|
| Aroclor-1254 | 1    | 13.67 | 13.57 13.77          | 11414.52      | 13527.85              |    |
|              | 2    | 14.56 | 14.46 14.66          | 13549.70      |                       |    |
|              | 3    | 15.00 | 14.90 15.10          | 17400.42      |                       |    |
|              | 4    | 15.35 | 15.25 15.45          | 17289.71      |                       |    |
|              | 5    | 16.02 | 15.93 16.13          | 7984.88       |                       |    |
| COLUMN 1     | 1    |       |                      |               |                       |    |
|              | 2    |       |                      |               |                       |    |
|              | 3    |       |                      |               |                       |    |
|              | 4    |       |                      |               |                       |    |
|              | 5    |       |                      |               |                       |    |
| COLUMN 2     | 1    |       |                      |               |                       |    |
|              | 2    |       |                      |               |                       |    |
|              | 3    |       |                      |               |                       |    |
|              | 4    |       |                      |               |                       |    |
|              | 5    |       |                      |               |                       |    |
| COLUMN 1     | 1    |       |                      |               |                       |    |
|              | 2    |       |                      |               |                       |    |
|              | 3    |       |                      |               |                       |    |
|              | 4    |       |                      |               |                       |    |
|              | 5    |       |                      |               |                       |    |
| COLUMN 2     | 1    |       |                      |               |                       |    |
|              | 2    |       |                      |               |                       |    |
|              | 3    |       |                      |               |                       |    |
|              | 4    |       |                      |               |                       |    |
|              | 5    |       |                      |               |                       |    |
| COLUMN 1     | 1    |       |                      |               |                       |    |
|              | 2    |       |                      |               |                       |    |
|              | 3    |       |                      |               |                       |    |
|              | 4    |       |                      |               |                       |    |
|              | 5    |       |                      |               |                       |    |
| COLUMN 2     | 1    |       |                      |               |                       |    |
|              | 2    |       |                      |               |                       |    |
|              | 3    |       |                      |               |                       |    |
|              | 4    |       |                      |               |                       |    |
|              | 5    |       |                      |               |                       |    |

At least 3 peaks are required for identification of multicomponent analytes

10B  
PESTICIDE IDENTIFICATION SUMMARY  
FOR MULTICOMPONENT ANALYTES

EPA SAMPLE NO.

L94081-7PU

Lab Name:

Contract:

Lab Code:

Case No.:

SAS No.:

SDG No. : AAA916

Lab Sample ID: L94081-7

Date(s) Analyzed: 09/19/2 0\*wiq|o3-

Instrument ID (1) : HP1

Instrument ID (2) : WP3

GC Column(1) : RTX-CLPESTICIDES 2 ID: 0.32 (mm) GC Column(2) : ft,TK-CLPE5T 1 ID: p.32

| ANALYTE      | PEAK | RT      | RT W<br>FROM | ENDOW<br>TO | CONCENTRATION | MEAN<br>CONCENTRATION | %D |
|--------------|------|---------|--------------|-------------|---------------|-----------------------|----|
| Aroclor-1254 | 1    | 13.67   | 13.57        | 13.77       | 13707.37      | 12741.49              |    |
|              | 2    | 14.57   | 14.46        | 14.66       | 13018.07      |                       |    |
|              | 3    | 15.00   | 14.90        | 15.10       | 12706.46      |                       |    |
|              | 4    | 15.35   | 15.25        | 15.45       | 17143.69      |                       |    |
|              | 5    | 16.03   | 15.93        | 16.13       | 7131.85       |                       |    |
| COLUMN 1     | 1-   | IM. ^   | 1453-        |             | m 4 3 *. 5 ^  |                       |    |
|              | 2    | l*,)l   | 1/5. LH      | iS-34       | l/*35 3.33.   |                       |    |
|              | 3    | \S.< ?~ | /s **        | \b-05       | UUch?.^       |                       |    |
|              | 4    | \le.Z%  | i/,-^\\      | I//.MI      | Mbto'i^O      |                       |    |
|              | 5    | iif.23  | \b.l-b       | IbAte       | 168 14. MSL   |                       |    |
| COLUMN 2     | 1    |         |              |             |               |                       |    |
|              | 2    |         |              |             |               |                       |    |
|              | 3    |         |              |             |               |                       |    |
|              | 4    |         |              |             |               |                       |    |
|              | 5    |         |              |             |               |                       |    |
| COLUMN 1     | 1    |         |              |             |               |                       |    |
|              | 2    |         |              |             |               |                       |    |
|              | 3    |         |              |             |               |                       |    |
|              | 4    |         |              |             |               |                       |    |
|              | 5    |         |              |             |               |                       |    |
| COLUMN 2     | 1    |         |              |             |               |                       |    |
|              | 2    |         |              |             |               |                       |    |
|              | 3    |         |              |             |               |                       |    |
|              | 4    |         |              |             |               |                       |    |
|              | 5    |         |              |             |               |                       |    |
| COLUMN 1     | 1    |         |              |             |               |                       |    |
|              | 2    |         |              |             |               |                       |    |
|              | 3    |         |              |             |               |                       |    |
|              | 4    |         |              |             |               |                       |    |
|              | 5    |         |              |             |               |                       |    |
| COLUMN 2     | 1    |         |              |             |               |                       |    |
|              | 2    |         |              |             |               |                       |    |
|              | 3    |         |              |             |               |                       |    |
|              | 4    |         |              |             |               |                       |    |
|              | 5    |         |              |             |               |                       |    |

At least 3 peaks are required for identification of multicomponent analytes.

Friend Inc.

« •  
Data File: /chem/hpl.i/8082r0917.b/E2989893.D  
Method: /chem/hpl.i/8082r0917.b/8082\_PCBsec.M  
Sample Info: L94081-3  
Misc Info: WG32788,02-004  
Analysis Date: 19-SEP-2002 18:34  
Sample Matrix: SOIL  
File Number: 9893

Dilution Factor 10.0000  
Sample Weight 20.5502  
Final Volume 10.0000  
Total Solid 79.2000

Analytes (ug/Kg)

|                      |        |         |
|----------------------|--------|---------|
| Aroclor-1016         |        |         |
| Aroclor-1260         | 1_&1   |         |
| Tetrachloro-m-xylene | 16.26% |         |
| Decachlorobiphenyl   | 17.28% | 04\rδs. |

Analyst: CPW  
Report Date: 09/20/2002 06:44

Supervisor:  
Date:

•  
\*  
/ IlioUL



UET CHEMISTRY TOTAL SOLIDS NOTEBOOK

Page: 73 1 of ^

Notebook : 02-066  
Start Date : 17-SEP-02 21:06  
End Date : 17-SEP-02 21:06

| Sample K.O.                                    | Analysis Date Time | Anat tn.it | Method | Dtshff | V<iLufi> c<t&>     | Initial Weight | 1*t&2od ifeUftt                | 3rd&4th Weight | 5th*6tH Vefcstv: | 7th&8th Weight | 9tb&10th Weight | Final Result | ftpd | tttofts |
|------------------------------------------------|--------------------|------------|--------|--------|--------------------|----------------|--------------------------------|----------------|------------------|----------------|-----------------|--------------|------|---------|
| Start:17-SEP-02 21:06<br>Stop :17-SEP-02 21:06 |                    | CIP 3.0    |        |        | <i>i—\$m.....</i>  | 1.254"         | a m "                          |                |                  |                |                 | "SST         |      |         |
| Start:17-SEP-02 21:06<br>Stop :17-SEP-02 21:06 |                    | CtP 3.0    |        | 1      | 5 ^                | U2404          | H 9 W                          |                |                  |                |                 | TO"          |      |         |
| Start:17-SEP-02 21:06<br>Stop :17-SEP-02 21:06 |                    | CLP 3.0    |        |        | 5.219              | 1.2568         | 4.1W1                          |                |                  |                |                 |              |      |         |
| Start:17-SEP-02 21:06<br>Stop :17*SEP-02 21:06 |                    | 'CLP 3.0   |        |        | 6*5832             | 1*247          | 6!'.82!l'2                     |                |                  |                |                 | 1&T          |      |         |
| Start:17-SEP-02 21:06<br>Stop :17-SEP-02 21:06 |                    | CLP 3.0    |        |        | <i>i—om_lia*</i>   |                | OT                             |                |                  |                |                 | •^—osrr      |      |         |
| Start:17-SEP-02 21:06<br>Stop :17-SEP-02 21:06 |                    | CLP 3.0    |        |        | TM——               | 1.2472         | 5JK&*                          |                |                  |                |                 | 6 8 X        |      |         |
| Start:17-SEP-02 21:06<br>Stop :17-SEP-02 21:06 |                    | CLP 3.0    |        | 1      | 6*9795             | 1.259          | 7, < 7, ^ , ^ ? " <i>fitff</i> |                |                  |                |                 | 88.9         |      |         |
| Start:17-SEP-02 21:06<br>Stop :17-SEP-02 21:06 |                    | CLP 3*0    |        |        | "ftlfltt....T.2581 |                | VX&t                           |                |                  |                |                 | ^87T         |      | 3%      |
| Start:17-SEP-02 21:06<br>Stop :17-SEP-02 21:06 |                    | CLP 1.0    |        | ib     | <i>mim.....</i>    | 1.249          | —nm.....                       |                |                  |                |                 | **7ZX        |      | V       |
| Start:17-SEP-02 21:06<br>Stop :17-SEP-02 21:06 |                    | CLP 3,0    |        | 14     | \$;*?8& ' 1.2521   | 11685          |                                |                |                  |                |                 | 1BTT         |      |         |

Calculations: Final Results = (fnl - initial) x 1000000  
wgt wgt

mis of sample

Analyst Signature *[Signature]* Date *9/18/02*

Manager Signature

Date

CD  
en

1\*S  
ltrf

***m***

**S**

A \*• O  
4) U  
V D T I  
O \*-> C  
ZI/IUI

[illegible]

# Organic Extractions

Notebook:

Page:.

WG# WtW

Extracted By: ^ I i S

Date Extracted: ~~11/15/2003~~

Analysis: ~~11/15/2003~~  
Matrix: ~~3665 (3665)~~

Spike

Ref: ^m^mih^MM

| I.D.    | Customer | int. Size | Fin. Vol | Sr. Amt | Spk Amj   | Bottle # | PH5-9 | Emulsion | Clean-ups |
|---------|----------|-----------|----------|---------|-----------|----------|-------|----------|-----------|
| Mft?a   |          | ^, oM     | 7&T      | iJtk    |           |          |       |          | J^2L      |
| E&3>    |          | jo. Hfl   |          |         | M         |          |       |          |           |
| ^«fe4<& |          |           |          | m&      | MMW       |          |       |          |           |
| 1P>     |          |           |          | mm      | m»assakjl |          |       |          |           |
| ^j±     |          | .gO'W*    |          | ^       |           |          |       |          |           |
|         |          | 3J.33*    |          | Mi      |           |          |       |          |           |
| - = ii  |          | aiM&j     |          |         |           |          |       |          |           |
| - . ?   |          | Qb.vm     |          |         |           |          |       |          |           |
| 9400    |          | ZzJM.     |          |         |           |          |       |          |           |
| 2       |          | goAtft    |          |         |           |          |       |          |           |
| -3      |          | 90        |          |         |           |          |       |          |           |
| 4       |          | So .3*te* |          | £       |           |          |       |          | ±LL       |

Extracts Relinquished to:.

Comments: Clean-up Methods:!. 3665 H<sub>3</sub>S0<sub>4</sub> 2. 3620A florisil. 3. 3660A Hg

y2S3ff£

to&

00197

| ASP 95-3 01/12/02    | RXX-CLPEST 2 |        |        |         |        |         | UG/LIN<br>WATER | ORL<br>(UG/L) |
|----------------------|--------------|--------|--------|---------|--------|---------|-----------------|---------------|
|                      | PG ON COLUMN |        |        |         |        |         | IDL             |               |
| Instrument#3         | Run#1        | Run #2 | Run #3 | Average | SO     | SD*6.95 | IDL             |               |
| alpha-BHC            | 3.64         | 3.74   | 3.73   | 3.70    | 0.0551 | 0.383   | 0.004           | 0.050         |
| Heptachlor           | 4.82         | 4.92   | 4.99   | 4.91    | 0.0854 | 0.594   | 0.006           | 0.050         |
| gamma-BHC            | 3.97         | 4.09   | 4.07   | 4.04    | 0.0643 | 0.447   | 0.004           | 0.050         |
| Endosulfan I         | 3.88         | 4.05   | 4.13   | 4.02    | 0.128  | 0.887   | 0.009           | 0.050         |
| Dieldrin             | 7.37         | 7.58   | 7.59   | 7.51    | 0.124  | 0.863   | 0.01            | 0.10          |
| Endrin               | 8.77         | 8.89   | 8.98   | 8.88    | 0.105  | 0.732   | 0.01            | 0.10          |
| 4,4'-DDD             | 8.60         | 8.82   | 8.88   | 8.77    | 0.147  | 1.02    | 0.01            | 0.10          |
| 4,4'-DDT             | 9.79         | 9.99   | 10.04  | 9.94    | 0.132  | 0.919   | 0.01            | 0.10          |
| Methoxychlor         | 58.26        | 59.00  | 59.19  | 58.82   | 0.491  | 3.41    | 0.03            | 0.50          |
| Tetrachloro-m-xylene | 4.49         | 4.62   | 4.62   | 4.58    | 0.0751 | 0.522   | 0.005           | 0.050         |
| Decachlorobiphenyl   | 10.49        | 10.29  | 10.37  | 10.38   | 0.101  | 0.700   | 0.01            | 0.10          |
| beta-BHC             | 5.09         | 5.02   | 5.22   | 5.11    | 0.101  | 0.705   | 0.007           | 0.050         |
| delta-BHC            | 4.65         | 4.71   | 4.97   | 4.78    | 0.170  | 1.18    | 0.012           | 0.050         |
| Aldrin               | 3.64         | 3.65   | 3.73   | 3.67    | 0.0493 | 0.343   | 0.003           | 0.050         |
| Heptachlor epoxide   | 4.07         | 4.03   | 4.17   | 4.09    | 0.0721 | 0.501   | 0.005           | 0.050         |
| alpha-Chlordane      | 4.18         | 4.16   | 4.32   | 4.22    | 0.0872 | 0.606   | 0.006           | 0.050         |
| gamma-Chlordane      | 4.53         | 4.18   | 4.36   | 4.36    | 0.175  | 1.22    | 0.012           | 0.050         |
| 4,4'-DDE             | 8.10         | 7.94   | 8.42   | 8.15    | 0.244  | 1.70    | 0.02            | 0.10          |
| Endosulfan sulfate   | 9.28         | 9.20   | 9.71   | 9.40    | 0.274  | 1.91    | 0.02            | 0.10          |
| Endrin aldehyde      | 10.69        | 9.73   | 10.29  | 10.24   | 0.482  | 3.35    | 0.03            | 0.10          |
| Endrin ketone        | 9.58         | 9.37   | 9.94   | 9.63    | 0.288  | 2.00    | 0.02            | 0.10          |
| Endosulfan II        | 8.89         | 8.74   | 9.19   | 8.94    | 0.229  | 1.59    | 0.02            | 0.10          |
| PCB 1016             | 106.01       | 105.20 | 106.90 | 106.04  | 0.850  | 5.91    | 0.1             | 1.0           |
| PCB 1221             | 202.83       | 203.02 | 204.03 | 203.29  | 0.642  | 4.46    | 0.1             | 2.0           |
| PCB 1232             | 105.99       | 105.07 | 104.41 | 105.16  | 0.796  | 5.53    | 0.1             | 1.0           |
| PCB 1242             | 104.27       | 105.07 | 108.17 | 105.84  | 2.06   | 14.3    | 0.1             | 1.0           |
| PCB 1248             | 101.79       | 101.90 | 101.19 | 101.63  | 0.379  | 2.64    | 0.1             | 1.0           |
| PCB 1254             | 101.02       | 103.64 | 105.02 | 103.23  | 2.03   | 14.1    | 0.1             | 1.0           |
| PCB 1260             | 102.25       | 102.84 | 103.11 | 102.74  | 0.437  | 3.04    | 0.1             | 1.0           |

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| ASP 95-3 01/12/02    | RTX-CLPEST 1 |        |        |         |        |         | UG/LIN<br>WATER | CRDL<br>(UG/L) |
|----------------------|--------------|--------|--------|---------|--------|---------|-----------------|----------------|
|                      | PG ON COLUMN |        |        |         |        |         | IDL             |                |
| Instrument#3         | Run#1        | Run #2 | Run #3 | Average | SD     | SD*6.95 | IDL             |                |
| alpha-BHC            | 3.85         | 3.91   | 3.90   | 3.89    | 0.0321 | 0.223   | 0.002           | 0.05CU         |
| Heptachlor           | 4.97         | 5.06   | 5.05   | 5.03    | 0.0493 | 0.343   | 0.003           | 0.05fl         |
| gamma-BHC            | 4.06         | 4.12   | 4.11   | 4.10    | 0.0321 | 0.223   | 0.002           | 0.05?          |
| Endosulfan I         | 4.90         | 4.90   | 4.83   | 4.88    | 0.0404 | 0.281   | 0.003           | 0.050          |
| Dieldrin             | 8.49         | 8.62   | 8.66   | 8.59    | 0.0889 | 0.618   | 0.01            | 0.10           |
| Endrin               | 9.38         | 9.59   | 9.48   | 9.48    | 0.105  | 0.730   | 0.01            | 0.10           |
| 4,4'-DDD             | 8.61         | 8.68   | 8.82   | 8.70    | 0.107  | 0.743   | 0.01            | 0.10           |
| 4,4'-DDT             | 9.88         | 9.89   | 9.87   | 9.88    | 0.0100 | 0.070   | 0.01            | 0.10           |
| Methoxychlor         | 56.72        | 58.46  | 58.11  | 57.76   | 0.920  | 6.40    | 0.06            | 0.50           |
| Tetrachloro-m-xylene | 4.99         | 5.05   | 5.04   | 5.03    | 0.0321 | 0.223   | 0.002           | 0.050          |
| Decachlorobiphenyi   | 10.75        | 11.00  | 11.05  | 10.93   | 0.161  | 1.12    | 0.01            | 0.10           |
| beta-BHC             | 4.83         | 4.68   | 4.86   | 4.79    | 0.0964 | 0.670   | 0.007           | 0.050          |
| delta-BHC            | 3.91         | 3.84   | 3.93   | 3.89    | 0.0473 | 0.328   | 0.003           | 0.050          |
| Aldrin               | 4.37         | 4.32   | 4.35   | 4.35    | 0.0252 | 0.175   | 0.002           | 0.050          |
| Heptachlor epoxide   | 4.70         | 4.62   | 4.74   | 4.69    | 0.0611 | 0.425   | 0.004           | 0.050          |
| alpha-Chlordane      | 4.61         | 4.56   | 4.64   | 4.60    | 0.0404 | 0.281   | 0.003           | 0.050          |
| gamma -Chlordane     | 4.84         | 4.71   | 4.87   | 4.81    | 0.0850 | 0.591   | 0.006           | 0.050          |
| 4,4'-DDE             | 8.56         | 8.38   | 8.72   | 8.55    | 0.170  | 1.18    | 0.01            | 0.10           |
| Endosulfan sulfate   | 9.43         | 8.99   | 9.17   | 9.20    | 0.221  | 1.54    | 0.02            | 0.10           |
| Endrin aldehyde      | 9.86         | 9.63   | 9.80   | 9.76    | 0.119  | 0.829   | 0.01            | 0.10           |
| Endrin ketone        | 8.98         | 8.80   | 9.09   | 8.96    | 0.146  | 1.02    | 0.01            | 0.10           |
| Endosulfan II        | 9.08         | 9.02   | 9.12   | 9.07    | 0.0503 | 0.350   | 0.01            | 0.10           |
| PCB 1016             | 99.14        | 100.48 | 98.05  | 99.22   | 1.21   | 8.44    | 0.1             | 1.0            |
| PCB1221              | 200.36       | 193.87 | 196.82 | 197.02  | 3.25   | 22.6    | 0.2             | 2.0            |
| PCB 1232             | 97.97        | 96.72  | 99.17  | 97.95   | 1.22   | 8.51    | 0.1             | m              |
| PCB 1242             | 99.14        | 100.08 | 101.34 | 100.19  | 1.10   | 7.67    | 0.1             | m              |
| PCB 1248             | 101.82       | 101.01 | 99.76  | 100.86  | 1.04   | 7.22    | 0.1             | i s            |
| PCB 1254             | 99.63        | 100.10 | 99.13  | 99.62   | 0.487  | 3.39    | 0.1             | 1.0            |
| PCB 1260             | 100.74       | 100.76 | 101.10 | 100.87  | 0.199  | 1.39    | 0.1             | 1.0            |

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ID  
PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

L94081-1

Name: Contract: Lab Code: Case No. : SAS No. : SDG No. : AAA916  
Matrix: (soil/water) SOIL Lab Sample ID: L94081-1  
Sample wt/vol: 20.0 (g/mL) G Lab File ID: E2989884  
% Moisture: 30,3 decanted: (Y/N) N Date Received: 09/17/2  
Extraction: (SepF/Cont/Sonc) SONC Date Extracted: 09/17/2  
Concentrated Extract Volume: 10000 (up Date Analyzed: 09/19/2  
Injection Volume: 2.0(uL) Dilution Factor: 10.0  
GPC Cleanup: (Y/N) N pH: 7.0 Sulfur Cleanup: (Y/N) N

| CAS NO. | COMPOUND | CONCENTRATION UNITS:<br>(ug/L or ug/Kg) UG/KG | Q |
|---------|----------|-----------------------------------------------|---|
|---------|----------|-----------------------------------------------|---|

|            |                  |  |  |
|------------|------------------|--|--|
| 12674-11-2 | —Aroclor-1016    |  |  |
| 1104-28-2  | —Aroclor-1221"   |  |  |
| 11141-16-5 | —Aroclor-1232"   |  |  |
| 53469-21-9 | ---Aroclor-1242" |  |  |
| 11097-69-1 | ---Aroclor-1254" |  |  |
| 11096-82-5 | —Aroclor-1260"   |  |  |
|            | —Aroclor-1248*   |  |  |

C-3 -O-retf-U  
/30 Q-±TU  
&3 &^r0^ U

98.25 \_

4>3D-^e6 u

johlo^L

Thru-Put Systems, Inc.

Data file : \chem\hpl.i\8082r0917.b\E2989884.D  
 Lab Smp Id: L94081-1 Client Smp ID: L94081-1  
 Inj Date : 19-SEP-2002 13:53  
 Operator : CPW Inst ID: hpl.i  
 Smp Info : L94081-1  
 Misc Info : WG32788/02-004  
 Comment :  
 Method : \chem\hpl.i\8082r0917.b\8082\_PCBsec.M  
 Meth Date : 19-Sep-2002 16:32 Administra Quant Type: ESTD  
 Cal Date : 17-SEP-2002 16:43, Cal File: E2989834.D  
 Als bottle: 1  
 Dil Factor: 10.00000  
 Integrator: Falcon Compound Sublist: PCB.sub  
 Target Version: 3.40 Sample Matrix: SOIL  
 Processing Host: TARGET3

Concentration Formula: Amt \* DF \* ((Vf / Ws) \* Uf) / Ts \* 1000

| Name | Value  | Description                    |
|------|--------|--------------------------------|
| DF   | 10.000 | Dilution Factor                |
| Vf   | 10.000 | Final volume                   |
| Ws   | 20.030 | Weight of sample extracted (g) |
| Uf   | 0.100  | Unit Correction Factor         |
| Ts   | 79.200 | Total Solid                    |

|                                  |        |        | CONCENTRATIONS |         |                   |        |        |            |
|----------------------------------|--------|--------|----------------|---------|-------------------|--------|--------|------------|
|                                  |        |        | ON-COL         |         | FINAL             |        |        |            |
| RT                               | EXP RT | DLT RT | RESPONSE       | ( ug/L) | (ug/Kg)           | TARGET | RANGE  | RATIO      |
|                                  |        |        |                |         |                   |        |        |            |
| \$ 1 Tetrachloro-m-xylene        |        |        |                |         | CAS #:            |        |        |            |
| 7.993                            | 7.997  | -0.004 | 274134         | 39.0223 | 245.98            |        |        |            |
|                                  |        |        |                |         |                   |        |        |            |
| \$ 29 Decachlorobiphenyl         |        |        |                |         | CAS #:            |        |        |            |
| 20.127                           | 20.130 | -0.003 | 225375         | 47.1958 | 297.50            |        |        |            |
|                                  |        |        |                |         |                   |        |        |            |
| 25 Aroclor-1254                  |        |        |                |         | CAS 8: 11097-69-1 |        |        |            |
| 13.660                           | 13.670 | -0.010 | 3120           | 3.82699 | 24.12             | 80.00- | 120.00 | 100.00(MH) |
| 14.550                           | 14.563 | -0.013 | 1799           | 20.6717 | 130.30            | 94.85- | 134.85 | 82.33      |
| 15.000                           | 15.003 | -0.003 | 1005           | 23.9824 | 151.17            | 72.82- | 112.82 | 32.21      |
| 15.337                           | 15.350 | -0.013 | 1611           | 12.8660 | 81.10             | 43.66- | 83.66  | 51.63      |
| 16.017                           | 16.033 | -0.016 | 1792           | 16.5882 | 104.56            | 76.99- | 116.99 | 57.44      |
| Average of Peak Concentrations • |        |        |                |         | 98.25             |        |        |            |

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%^U i 3.v;><-^x \* > \* )° x 6.1  
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lag Legend

^TMM ~ Compound response manually integrated.  
H - Operator selected an alternate compound hit

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Tetrachloro-ro-xylene (7.993)

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-ftroclor-1254 (13.660)  
-Aroclor-1254 (14.550)  
-Aroclor-1254 (15.000)  
s -Aroclor-1254 <15,337>  
c  
I -Aroclor-1254 <16.017)

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Decachlorobiphenyl (20.127)

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Page 2

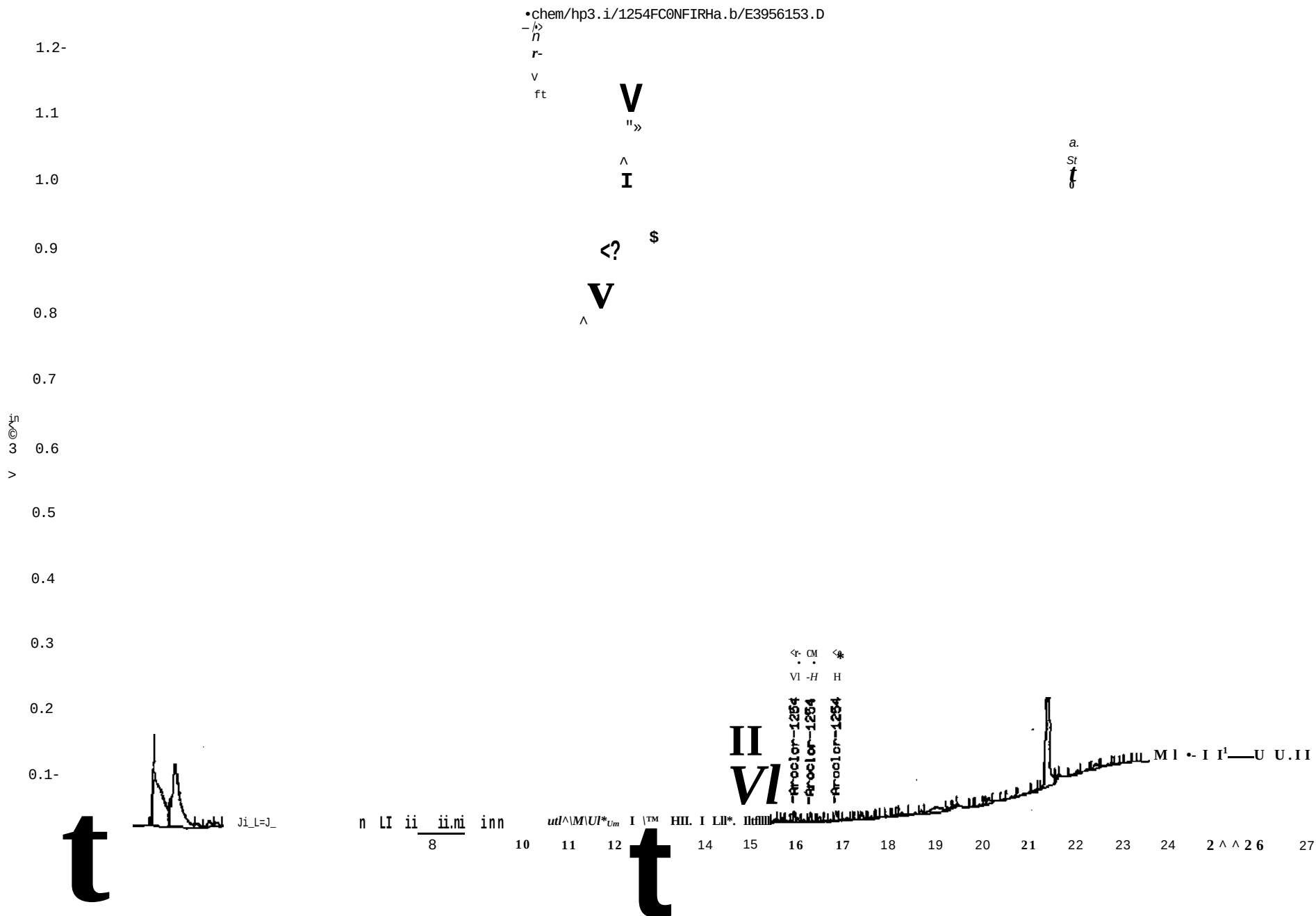
Instrument: hp3\*i

Operator: CPU

Column diameter: 0.32

»-\*

Column phase: RTX-CLPesticides 1



Friend Inc.

Data File: /chem/hp3.i/l254FCONFIFJVla.b/E3956153.D  
Method: /chem/hp3.i/l254FCONFIRMa.b/8082\_PCBsec.M  
Sample Info: L94081-1  
Misc Info: CONFIRMATION  
Analysis Date: 19-SEP-2002 16:02  
Sample Matrix: SOIL  
File Number: 6153

|                 |         |
|-----------------|---------|
| Dilution Factor | 10.0000 |
| Sample Weight   | 20.0304 |
| Final "Volume   | 10.0000 |
| Total Solid     | 79.2000 |

Analytes (ug/Kg)

|                      |         |
|----------------------|---------|
| Aroclor-1254         | 99.89   |
| Tetrachloro-m-xylene | 138.94% |
| Decachlorobiphenyl   | 146.56% |

Analyst: CPW  
Report Date: 09/20/2002 07:21

Supervisor:  
Date:



ID  
PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

L94081-4

9K

Name:

Contract:

Lab Code:

Case No.:

SAS No.:

SDG No. : AAA916

Matrix: (soil/water) SOIL

Lab Sample ID: L94081-4

Sample wt/vol: 20.5 (g/mL) G

Lab File ID: E2989885

% Moisture: -^3»-M decanted: (Y/N) N  
&&-1L iota103-

Date Received: 09/17/2

Extraction: (SepF/Cont/Sonc) SONC

Date Extracted:09/17/2

Concentrated Extract Volume: i0000 (uL)

Date Analyzed: 09/19/2

Injection Volume: 2.0(uL)

Dilution Factor: 10.0

GPC Cleanup: (Y/N) N

pH: 7.0

Sulfur Cleanup: (Y/N) N

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

12674-11-2 -\_\_\_Aroclor-1016

1104-28-2\_\_\_Aroclor-1221

11141-16-5 -\_\_\_Aroclor-1232

53469-21-9---\_\_\_Aroclor-1242

11097-69-1---\_\_\_Aroclor-1254

11096-82-5 -\_\_\_Aroclor-1260

\_\_\_Aroclor-1248

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Thru-Put Systems, Inc.

Data file : \chem\hpl.i\8082r0917.b\E2989885.D  
 Lab Smp Id: L94081-4 Client Smp ID: L94081-4  
 Inj Date : 19-SEP-2002 14:24  
 Operator : CPW Inst ID: hpl.i  
 Smp Info : L94081-4  
 Misc Info : WG32788,02-004  
 Comment :  
 Method : \chem\hpl.i\8082r0917.b\8082\_PCBsec.M  
 Meth Date : 19-Sep-2002 16:32 Administra Quant Type: ESTD  
 Cal Date : 17-SEP-2002 16:43 Cal File: E2989834.D  
 Als bottle: 1  
 Dil Factor: 10.00000  
 Integrator: Falcon Compound Sublist: PCB.sub  
 Target Version: 3.40 Sample Matrix: SOIL  
 Processing Host: TARGET3

Concentration Formula: Amt \* DF \* ((Vf / Ws) \* Uf) / Ts \* 1000

| Name | Value  | Description                    |
|------|--------|--------------------------------|
| DF   | 10.000 | Dilution Factor                |
| Vf   | 10.000 | Final volume                   |
| Ws   | 20.529 | Weight of sample extracted (g) |
| Uf   | 0.100  | Unit Correction Factor         |
| Ts   | 68.600 | Total Solid                    |

| CONCENTRATIONS                   |        |        |          |         |                   |        |        |           |  |
|----------------------------------|--------|--------|----------|---------|-------------------|--------|--------|-----------|--|
|                                  |        |        | ON-COL   |         | FINAL             |        |        |           |  |
| RT                               | EXP RT | DLT RT | RESPONSE | ( ug/L) | (ug/Kg)           | TARGET | RANGE  | RATIO     |  |
| S 1 Tetrachloro-m-xylene         |        |        |          |         | CAS #t            |        |        |           |  |
| 7.990                            | 7.997  | -0.007 | 286877   | 40.5761 | 288.12            |        |        |           |  |
| 5 29 Decachlorobiphenyl          |        |        |          |         | CAS #:            |        |        |           |  |
| 20.127                           | 20.130 | -0.003 | 212827   | 44.6268 | 31B.31            |        |        |           |  |
| 25 Aroclor-1254                  |        |        |          |         | CAS #: 11097-69-1 |        |        |           |  |
| 13.663                           | 13.670 | -0.007 | 18932    | 55.8471 | 396.56            | 80.00- | 120 00 | 100 00(H) |  |
| 14.553                           | 14.563 | -0.010 | 20302    | 62.5224 | 443.96            | 94.85- | 134 85 | 107 24    |  |
| 15.000                           | 15.003 | -0.003 | 17432    | 67.0738 | 476.28            | 72.82- | 112 82 | 92 08     |  |
| 15.340                           | 15.350 | -0.010 | 17129    | 93.8514 | 666.42            | 43.66- | 83 66  | 90 48     |  |
| 16.023                           | 16.033 | -0.010 | 16503    | 57.0602 | 405.17            | 76.99- | 116 99 | 87 17     |  |
| Average of Peak Concentrations • |        |        |          |         | 477.68            |        |        |           |  |

Flag Legend

! H - Operator selected an alternate compound hit



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-ftroclor-1254 <15.123)  
  
-ftroclor-1254 <15.930>  
-ftroclor-1254 <16.290>  
-ftroclor-1254 <16.833>

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-Deoachlorobiphenyl <21.330>

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Friend Inc.

Data File: /chem/hp3.i/1254FCONFIRMa.b/E3956154.D  
Method: /chem/hp3.i/1254FCONFIRMa.b/8082\_PCBsec.M  
Sample Info: L94081-4  
Misc Info: CONFIRMATION  
Analysis Date: 19-SEP-2002 16:34  
Sample Matrix: SOIL  
File Number: 6154

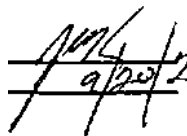
|                 |         |
|-----------------|---------|
| Dilution Factor | 10.0000 |
| Sample Weight   | 20.5290 |
| Final Volume    | 10.0000 |
| Total Solid     | 68.6000 |

Analytes (ug/Kg)

|                      |         |
|----------------------|---------|
| Aroclor-1254         | 540.65  |
| Tetrachloro-m-xylene | 136.08% |
| Decachlorobiphenyl   | 144.23% |

Analyst: CPW  
Report Date: 09/20/2002 07:21

Supervisor:  
Date:

Handwritten signature and date 9/20/02.

ID  
PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO,

L94081-5

ft

W

Name: Contract: Lab Code: Case No. : SAS No. : SDG No.: AAA916  
 Matrix: (soil/water) SOIL Lab Sample ID: L94081-5  
 Sample wt/vol: 21.9 (g/mL) G Lab File ID: E2989886  
 % Moisture: -©-i\ . V decanted: (Y/N) N Date Received: 09/17/2  
 Extraction: (SepF/Cont/Sonc) SONC Date Extracted:09/17/2  
 Concentrated Extract Volume: j Q 0 0 0 (uL) Date Analyzed: 09/19/2  
 Injection Volume: 2.0(uL) Dilution Factor: 10.0  
 GPC Cleanup: (Y/N) N pH: 7.0 Sulfur Cleanup: (Y/N) N

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

|               |                 |  |  |  |
|---------------|-----------------|--|--|--|
| 12674-11-2--- | ___Aroclor-1016 |  |  |  |
| 1104-28-2---  | ___Aroclor-1221 |  |  |  |
| 11141-16-5--- | ___Aroclor-1232 |  |  |  |
| 53469-21-9--- | ___Aroclor-1242 |  |  |  |
| 11097-69-1--- | ___Aroclor-1254 |  |  |  |
| 11096-82-5--- | ___Aroclor-1260 |  |  |  |
|               | ___Aroclor-1248 |  |  |  |

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Thru-Put Systems, Inc.

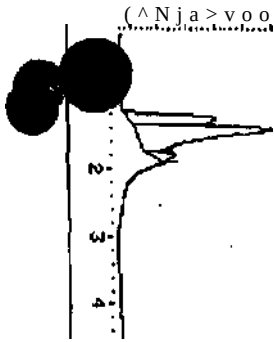
Data file \chem\hpl.i\8082r0917.b\E2989886.D  
 Lab Smp Id L94081-5 Client Smp ID: L94081-5  
 Inj Date 19-SEP-2002 14:55  
 Operator CPW Inst ID: hpl.i  
 Smp Info L94081-5  
 Misc Info WG32788, 02-004  
 Comment  
 Method \chem\hpl.i\8082r0917.b\8082\_PCBsec.M  
 Meth Date 19-Sep-2002 16:32 Administra Quant Type: ESTD  
 Cal Date 17-SEP-2002 16:43 Cal File: E2989834.D  
 Als bottle 1  
 Dil Factor 10.00000  
 Integrator Falcon Compound Sublist: PCB.sub  
 Target Version: 3.40 Sample Matrix: SOIL  
 Processing Host: TARGET3

Concentration Formula:  $\text{Amt} * \text{DF} * ((\text{Vf} / \text{Ws}) * \text{Uf}) / \text{Ts} * 1000$

| Name | Value  | Description                    |
|------|--------|--------------------------------|
| DF   | 10.000 | Dilution Factor                |
| Vf   | 10.000 | Final volume                   |
| Ws   | 21.925 | Weight of sample extracted (g) |
| Uf   | 0.100  | Unit Correction Factor         |
| Ts   | 88.900 | Total Solid                    |

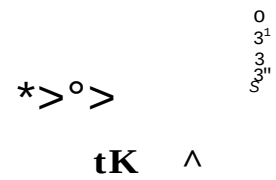
| CONCENTRATIONS                   |        |        |        |          |         |                    |        |        |           |
|----------------------------------|--------|--------|--------|----------|---------|--------------------|--------|--------|-----------|
|                                  |        |        | ON-COL |          | FINAL   |                    |        |        |           |
| RT                               | EXP RT | DLT RT | RT     | RESPONSE | ( ug/L) | (ug/Kg)            | TARGET | RANGE  | RATIO     |
| S l Tetrachloro-m-xylene         |        |        |        |          |         | CAS t:             |        |        |           |
| 7.997                            | 7.997  | 0.000  |        | 250486   | 36.1387 | 185.41             |        |        |           |
| \$ 29 Decachlorobiphenyl         |        |        |        |          |         | CAS ft:            |        |        |           |
| 20.127                           | 20.130 | -0.003 |        | 208199   | 43.9531 | 225.50             |        |        |           |
| 25 Aroclor-1254                  |        |        |        |          |         | CAS fl: 11097-69-1 |        |        |           |
| 13.667                           | 13.670 | -0.003 |        | 33043    | 102.271 | 524.70             | 80.00- | 120 00 | 100 00(H) |
| 14.557                           | 14.563 | -0.006 |        | 36711    | 99.6385 | 511.19             | 94.85- | 134 85 | 111 10    |
| 14.997                           | 15.003 | -0.006 |        | 26577    | 91.0631 | 467.20             | 72.82- | 112 82 | 80 43     |
| 15.347                           | 15.350 | -0.003 |        | 29926    | 160.647 | 824.19             | 43.66- | 83 66  | 90 57     |
| 16.027                           | 16.033 | -0.006 |        | 34913    | 107.709 | 552.60             | 76.99- | 116 99 | 105 66    |
| Average of Peak Concentrations - |        |        |        |          |         | 575.97             |        |        |           |

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Tetrachloro-m-xylene (7.997)



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- -Aroolor-1254 <14.B57>

-Aroolor-1254 (14.997)

—Aroolor-1254 (15.347)

a—Aroolor-1254 (16.027)

3"

Deoachlorotaiphenyl (20.127)

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Data File: \chem\hpl.i\8082r0917.b\E2989886 .D  
Report Date: 19-Sep-2002 16:40

^fcgc Flag Legend

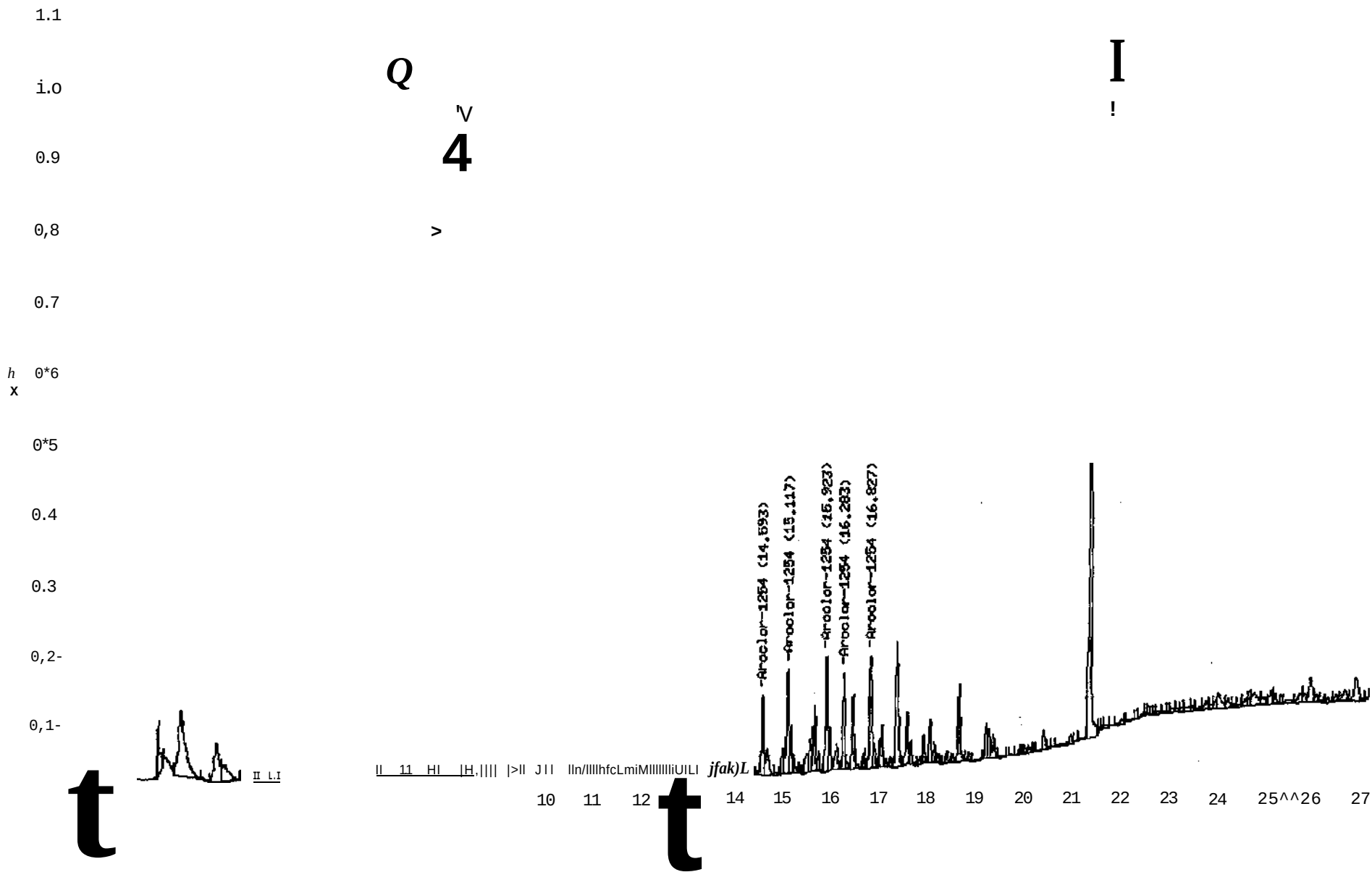
H - Operator selected an alternate compound hit.

Page 2

Instrument: hp3\*i  
Operator: CPU  
Column diameter; 0,32

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/chem/hp3.i/1254FC0NFIRHa,b/E3956155.D



Friend Inc.

Data File: /chem/hp3.i/l254FCONFIRMa.b/E3956155.D  
Method: /chem/hp3.i/l254FCONFIRMa.b/8082\_PCBsec.M  
Sample Info: L94081-5  
Misc Info: CONFIRMATION  
Analysis Date: 19-SEP-2002 17:05  
Sample Matrix: SOIL  
File Number: 6155

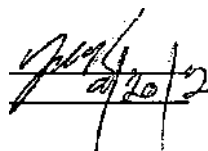
|                 |         |
|-----------------|---------|
| Dilution Factor | 10.0000 |
| Sample Weight   | 21.9251 |
| Final Volume    | 10.0000 |
| Total Solid     | 88.9000 |

Analytes (ug/Kg)

|                      |         |
|----------------------|---------|
| Aroclor-1254         | 745.14  |
| Tetrachloro-m-xylene | 133.89% |
| Decachlorobiphenyl   | 142.94% |

Analyst: CPW  
Report Date: 09/20/2002 07:21

Supervisor:  
Date:



Thru-Put Systems, Inc

Data file : \chem\hpl.i\8082r0917.b\E2989880.D  
 Lab Smp Id: L94081-6 Client Smp ID: L94081-6  
 Inj Date : 19-SEP-2002 11:48  
 Operator : CPW Inst ID: hpl.i  
 Smp Info : L94081-6  
 Misc Info : WG32788,02-004  
 Comment :  
 Method : \chem\hpl.i\8082r0917.b\8082\_PCBsec.M  
 Meth Date : 19-Sep-2002 16:32 Administra Quant Type: ESTD  
 Cal Date : 17-SEP-2002 16:43 Cal File: E2989834.D  
 Als bottle: 1  
 Dil Factor: 10.00000  
 Integrator: Falcon Compound Sublist: PCB.sub  
 Target Version: 3.4 0 Sample Matrix: SOIL  
 Processing Host: TARGET3

Concentration Formula:  $\text{Amt} * \text{DF} * ((\text{Vf} / \text{Ws}) * \text{Uf}) / \text{Ts} * 1000$

| Name | Value  | Description                    |
|------|--------|--------------------------------|
| DF   | 10.000 | Dilution Factor                |
| Vf   | 10.000 | Final volume                   |
| Ws   | 21.409 | Weight of sample extracted (g) |
| Uf   | 0.100  | Unit Correction Factor         |
| Ts   | 68.700 | Total Solid                    |

| CONCENTRATIONS                   |        |        |          |         |                    |        |        |           |  |
|----------------------------------|--------|--------|----------|---------|--------------------|--------|--------|-----------|--|
|                                  |        |        | ON-COL   |         | FINAL              |        |        |           |  |
| RT                               | EXP RT | DLT RT | RESPONSE | ( ug/L) | (ug/Kg)            | TARGET | RANGE  | RATIO     |  |
| \$ 1 Tetrachloro-m-xylene        |        |        |          |         | CAS «:             |        |        |           |  |
| 7.983                            | 7.997  | -0.014 | 233125   | 34.0217 | 231-31             |        |        |           |  |
| S 29 Decachlorobiphenyl          |        |        |          |         | CAS H:             |        |        |           |  |
| 20.127                           | 20.130 | -0.003 | 199295   | 42.2721 | 287.40             |        |        |           |  |
| 25 Aroclor-1254                  |        |        |          |         | CAS ft: 11097-69-1 |        |        |           |  |
| 13.663                           | 13.670 | -0.007 | 133311   | 432.144 | 2938.10            | 80.00- | 120.00 | 100.00(H) |  |
| 14.557                           | 14.563 | -0.006 | 100548   | 244.034 | 1659.16            | 94.85- | 134.85 | 75.42     |  |
| 14.997                           | 15.003 | -0.006 | 103717   | 293.417 | 1994.92            | 72.82- | 112.82 | 77.80     |  |
| 15.347                           | 15.350 | -0.003 | 78783    | 415.611 | 2825.70            | 43.66- | 83.66  | 59.10     |  |
| 16.027                           | 16.033 | -0.006 | 78451    | 227.488 | 1546.67            | 76.99- | 116.99 | 58.85     |  |
| Average of Peak Concentrations • |        |        |          |         | 2192.91            |        |        |           |  |



ID  
PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

L94081-6

Lab Name: Contract: L94081-6

Lab Code: Case No. : SAS No. : SDG No. : AAA916

Matrix: (soil/water) SOIL Lab Sample ID: L94081-6

Sample wt/vol: 21.4 (g/mL) G Lab File ID: E2989880

% Moisture: ~3.3 decanted: (Y/N) N Date Received: 09/17/2

Extraction: (SepF/Cont/Sonc) SONC Date Extracted: 09/17/2

Concentrated Extract Volume: 10000 (uL) Date Analyzed: 09/19/2

Injection Volume: 2.0(uL) Dilution Factor: 10.0

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

| CAS NO. | COMPOUND | CONCENTRATION UNITS:<br>(ug/L or ug/Kg) UG/KG | Q |
|---------|----------|-----------------------------------------------|---|
|---------|----------|-----------------------------------------------|---|

|               |               |  |  |
|---------------|---------------|--|--|
| 12674-11-2--- | Aroclor-1016  |  |  |
| 1104-28-2---  | Aroclor-1221" |  |  |
| 11141-16-5--  | Aroclor-1232" |  |  |
| 53469-21-9--- | Aroclor-1242" |  |  |
| 11097-69-1--- | Aroclor-1254" |  |  |
| 11096-82-5--- | Aroclor-1260" |  |  |
| ---           | Aroclor-1248" |  |  |

/VO j^i4 - U

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Date : 19-SEP-2002 11148

Client ID: L94081-6

Sample Info: L94081-6

Volume Injected &lt;uL&gt;: 2,0

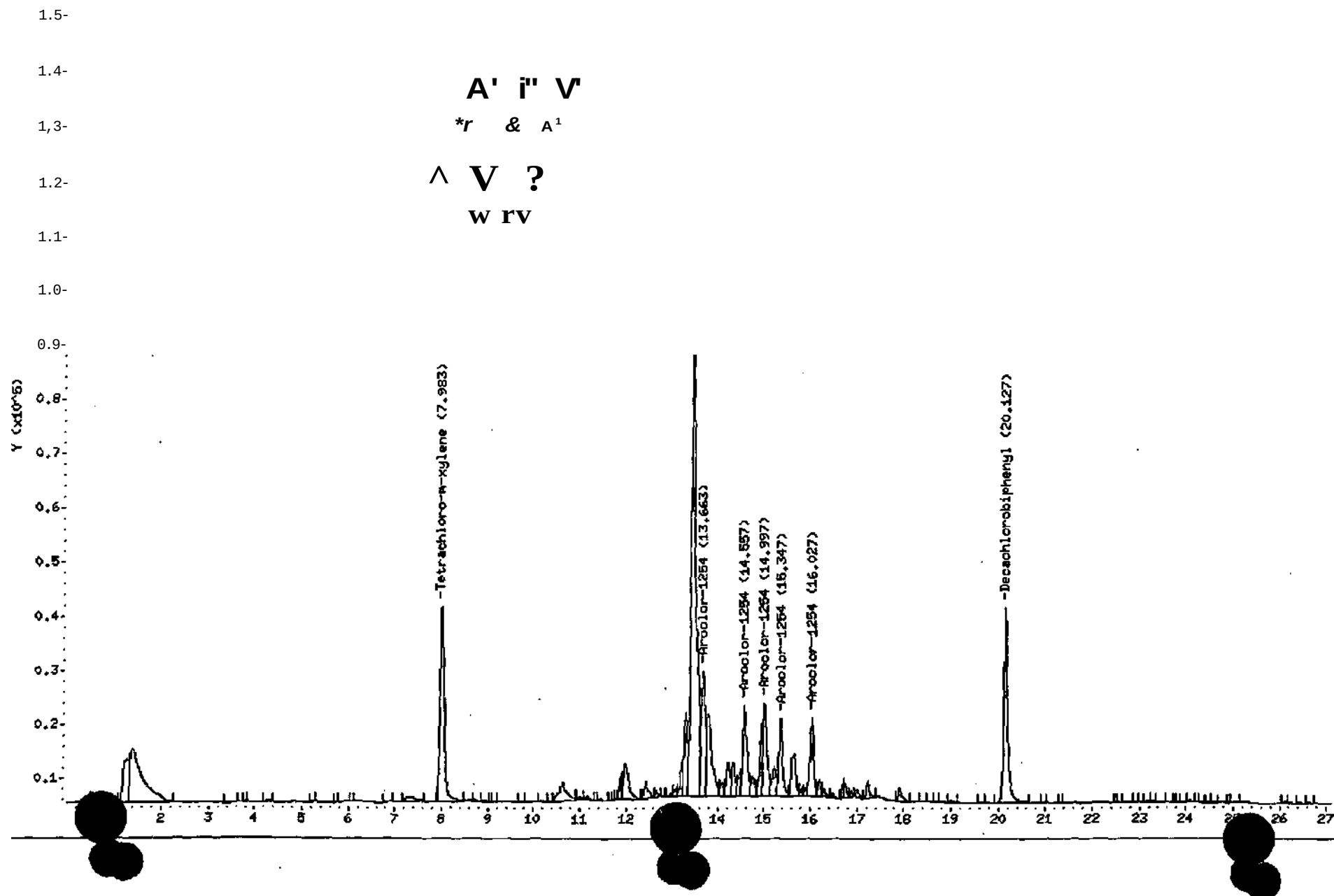
Column phase: RTX-CLPesticides 2

Instrument hpl.i

Operator: CPU

Column diameter: 0\*32

•chem/hpl.i/8082r0917.b/E2989880.D

CO  
CO  
O  
O  
O

Data File: \chem\hpl.i\8 082r0 917.b\E2 98 9880.D  
Report Date: 19-Sep-2002 16:40

|QC Flag Legend

H - Operator selected an alternate compound hit.

Data File; /chem/hp3.i/'1254FCuNFIRHa.b/E3956i56.D  
Date : 19-SEP-2002 17:36  
Client ID; L94081-6  
Sample Info: L94081-6  
Volume Injected <uL>; 2,0  
Column phase: RTX-CLPesticides 1

Page 2

Instrument; hp3,i

Operator: CPU

Column diameter; 0,32

or>  
CO  
OO  
OO

/chem/hp3,i/1254FCuNFIRHa.b/E3956156,D

.0

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2.8;  
2.7-;  
2.6-i  
2,5-i  
2\*4:  
2.3-;  
2.2^  
2.1-1  
2.0-;  
1,9-;  
-1,8-j  
1.7-j  
i.E-i  
LB-;  
1.4-  
1,3-;  
1\*2-;  
l.i-j  
1,0-;  
0,9-;  
o.s-j  
0.7-;  
0.6-J  
0.5-;  
0.4-;  
0.3:  
0.2-;  
0.1^

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M  
H  
8 8

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f

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-I\_U.....'....."k IIIHIMNIIIfII"1" P.....n II^4P L""^ JIJiiiHliiM;iiLLL\*ij^i.JH.i..A,r,,tqiniLm Hi n ... .nill\_L\_L.....01 " ".....  
5 10 11 12 14 16 16 17 18 19 20 21 22 23 24 ^ ^ ^ 2 6 27

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Friend Inc.

Data File: /chem/hp3.i/1254FCONFIRMa.b/E3956156.D  
Method: /chem/hp3.i/1254FCONFIRMa.b/8082\_PCBsec.M  
Sample Info: L94081-6  
Misc Info: CONFIRMATION  
Analysis Date: 19-SEP-2002 17:36  
Sample Matrix: SOIL  
File Number: 6156

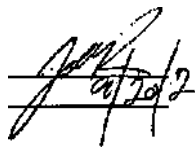
|                 |         |
|-----------------|---------|
| Dilution Factor | 10.0000 |
| Sample Weight   | 21.4094 |
| Final Volume    | 10.0000 |
| Total Solid     | 68.7000 |

Analytes (ug/Kgi

|                      |         |
|----------------------|---------|
| Aroclor-1254         | 2377.17 |
| Tetrachloro-m-xylene | 121.61% |
| Decachlorobiphenyl   | 139.99% |

Analyst: CPW  
Report Date: 09/20/2002 07:21

Supervisor:  
Date:



Report Date: 20-Sep-2002 06:43

## Thru-Put Systems, Inc

Data file : \chem\hpl.i\8082r0917.b\E2989891.D  
 Lab Smp Id: L94081-7DL Client Smp ID: L94081-7DL  
 Inj Date : 19-SEP-2002 17:31  
 Operator CPW Inst ID: hpl.i  
 Smp Info L94081-7  
 Misc Info ; WG32788,02-004  
 Comment  
 Method \chem\hpl.i\8082r0917.b\8082\_PCBsec.M  
 Meth Date 20-Sep-2002 06:21 Administra Quant Type: ESTD  
 Cal Date 17-SEP-2002 16:43 Cal File: E2989834.D  
 Als bottle 1  
 Dil Factor 50.00000  
 Integrator Falcon  
 Target Version: 3.40 Compound Sublist: PCB.sub  
 Sample Matrix: SOIL  
 Processing Host: TARGET3

Concentration Formula:  $\text{Amt} * \text{DF} * \{(\text{Vf} / \text{Ws}) * \text{Uf}\} / \text{Ts} * 1000$

| Name | Value  | Description                    |
|------|--------|--------------------------------|
| DF   | 50.000 | Dilution Factor                |
| Vf   | 10.000 | Final volume                   |
| Ws   | 20.677 | Weight of sample extracted (g) |
| Uf   | 0.100  | Unit Correction Factor         |
| Ts   | 72.400 | Total Solid                    |

| CONCENTRATIONS                            |        |        |          |         |          |        |        |           |  |
|-------------------------------------------|--------|--------|----------|---------|----------|--------|--------|-----------|--|
|                                           |        |        | ON-COL   |         | FINAL    |        |        |           |  |
| RT                                        | EXP RT | DLT RT | RESPONSE | { ug/L) | (ug/Kg)  | TARGET | RANGE  | RATIO     |  |
| S 1 Tetrachloro-m-xylene CAS tt:          |        |        |          |         |          |        |        |           |  |
| 7.983                                     | 7.997  | -0.014 | 32418    | 9.54760 | 318.88   |        |        |           |  |
| S 29 Decachlorobiphenyl CAS It:           |        |        |          |         |          |        |        |           |  |
| 20.123                                    | 20.130 | -0.007 | 33446    | 10.9617 | 366-11   |        |        |           |  |
| 25 Aroclor-1254 CAS #: 11097-69-1         |        |        |          |         |          |        |        |           |  |
| 13.673                                    | 13.670 | 0.003  | 126705   | 410.411 | 13707.37 | 80.00- | 120.00 | 100.00(H) |  |
| 14.567                                    | 14.563 | 0.004  | 164979   | 389.772 | 13018.07 | 95.55- | 135.55 | 130.21    |  |
| 15.003                                    | 15.003 | 0.000  | 136892   | 360.442 | 12706.46 | 70.72- | 110.72 | 108.04    |  |
| 15.350                                    | 15.350 | 0.000  | 97501    | 513.297 | 17143.69 | 42.78- | 82.78  | 76:95     |  |
| 16.027                                    | 16.033 | -0.006 | 73379    | 213.534 | 7131.85  | 76.54- | IIS.54 | 57.91     |  |
| Average of Peak Concentrations - 12741.49 |        |        |          |         |          |        |        |           |  |

00047

Data File: \chem\hpl.i\8082r0917.b\E2989891.  
Report Date: 20-Sep-2002 06:43

^fcQC Flag Legend

H - Operator selected an alternate compound

Date : 19-SEP-2002 17:31

Client ID: L94081-7DL

Instrument: hpl.i

Sample Info: L94081-7

Volume Injected (uL): 2\*0

Operator: CPW

Column phase: RTX-CLPesticides 2

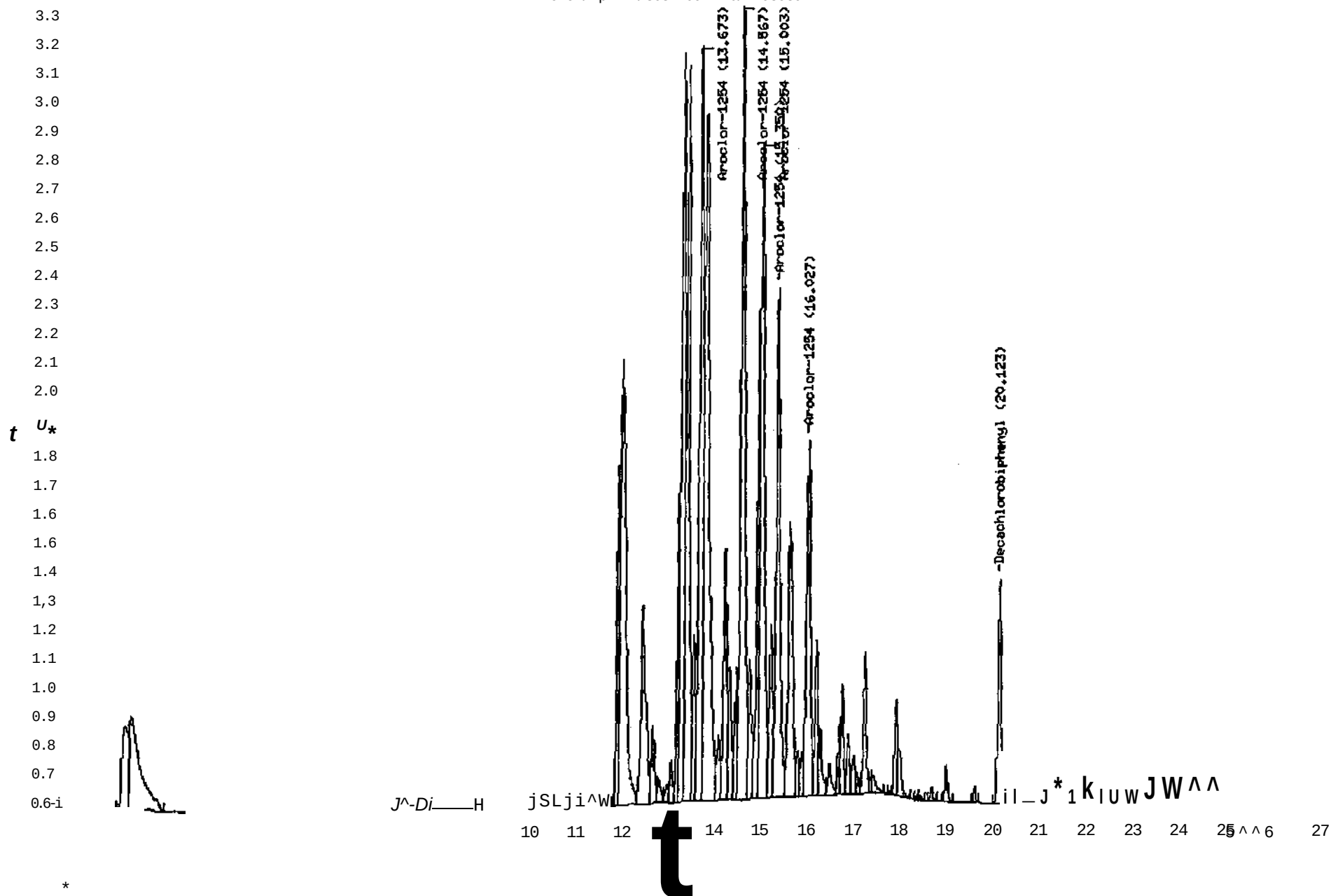
Column diameter: 0,32

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•chem/hpl.i/8082r0917.b/E2989891.D





Friend Inc.

Data File: /chem/hpl.i/8082r0917.b/E2989891.D  
Method: /chem/hpl.i/8082r0917.b/8Q82\_PCBsec.M  
Sample Info: L94081-7  
Misc Info: WG32788,02-004  
Analysis Date: 19-SEP-2002 17:31  
Sample Matrix: SOIL  
File Number: 9891

|                 |         |
|-----------------|---------|
| Dilution Factor | 50.0000 |
| Sample Weight   | 20.6774 |
| Final Volume    | 10.0000 |
| Total Solid     | 72.4000 |

Analytes (ug/Kg)

|                      |          |
|----------------------|----------|
| Aroclor-1016         | 0.00     |
| Aroclor-1221         | 0.00     |
| Aroclor-1232         | 0.00     |
| Aroclor-1242         | 0.00     |
| Aroclor-1254         | 12741.49 |
| Aroclor-1260         | 0.00     |
| Aroclor-1248         | 0.00     |
| Tetrachloro-m-xylene | 95.48%   |
| Decachlorobiphenyl   | 109.62%  |

Analyst: CPW  
Report Date: 09/20/2002 06:43

Supervisor:  
Date:

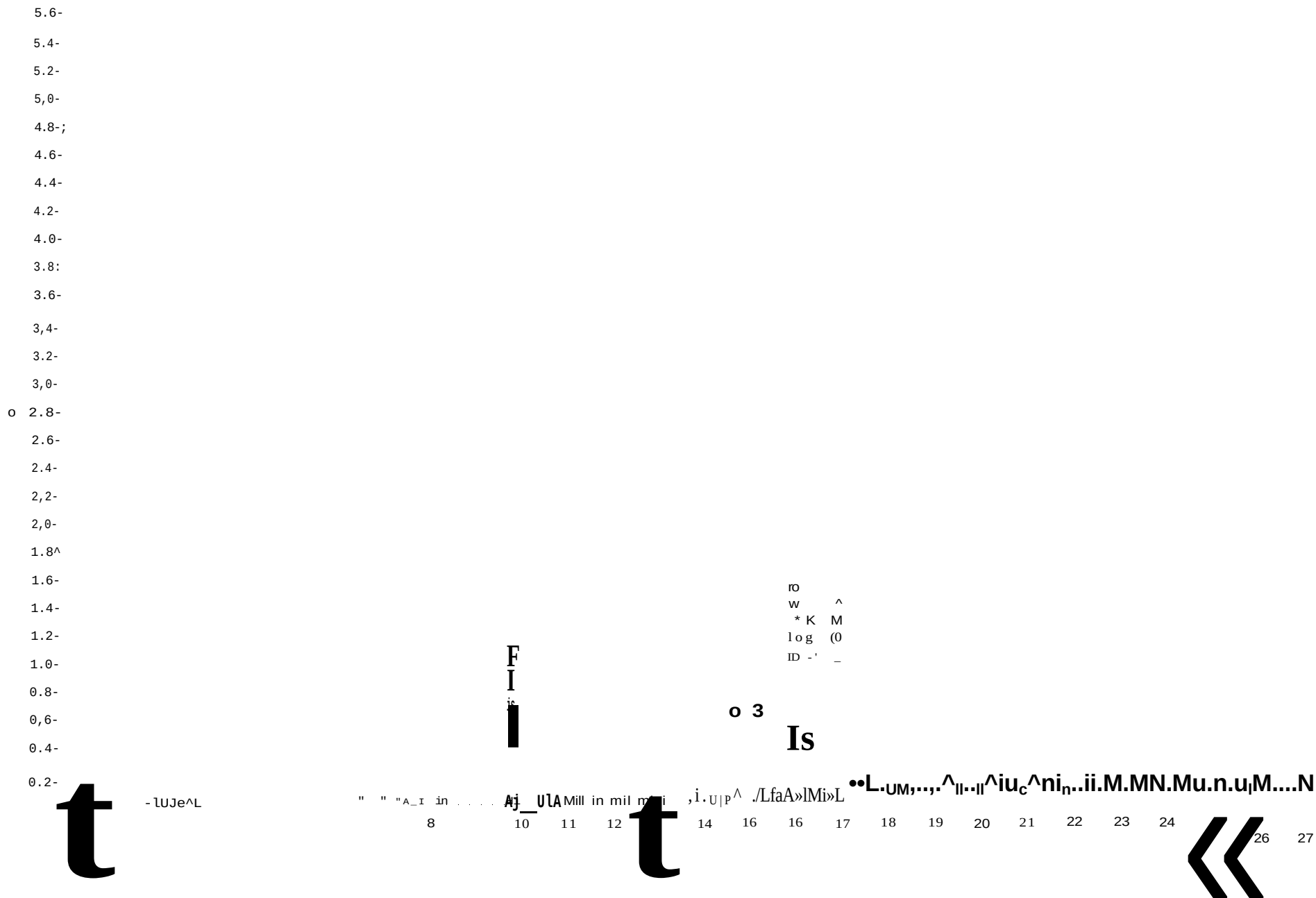
/ t/y

Data File: A>hem/hp3.i/1254FC0NFIRHa.b/E3956157.D  
Date : 19-SEP-2002 18107  
Client ID: L94081-7  
Sample Info: L94081-7  
Volume Injected (uL>: 2.0  
Column phase: RTX-CLPesticides 1

Instrument: hp3,i  
Operator! CPU  
Column diameter: 0.32

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/chen/hp3,i/1254FC0NFIRKa.b/E3956157.D



Friend Inc.

Data File: /chem/hp3.i/l254FCONFIRMa.b/E3956157.D  
Method: /chem/hp3.i/l254FCONFIRMa.b/8082\_PCBsec.M  
Sample Info: L94081-7  
Misc Info: CONFIRMATION  
Analysis Date: 19-SEP-2002 18:07  
Sample Matrix: SOIL  
File Number: 6157

|                 |          |
|-----------------|----------|
| Dilution Factor | 100.0000 |
| Sample Weight   | 20.6774  |
| Final Volume    | 10.0000  |
| Total Solid     | 72.4000  |

Analytes (ug/Kg)

|                      |          |
|----------------------|----------|
| Aroclor-1254         | 16188.80 |
| Tetrachloro-m-xylene | 158.49%  |
| Decachlorobiphenyl   | 287.45%  |

Analyst: CPW  
Report Date: 09/20/2002 07:21

Supervisor:  
Date:

**4f41**  
7



ECT.CON INC.

Environmental and Computer  
Technology Consultants

## Data Validation Report

|                        |                                                              |
|------------------------|--------------------------------------------------------------|
| SDG#                   | 94662                                                        |
| Validation Report Date | April 28, 2003                                               |
| Validation Guidance    | USEPA Region 2 Guidelines for Data Review SW 846 Method 8082 |
| Client Name            | Cummings-Riter                                               |
| Project Name           | Viacom/Horseheads                                            |
| Laboratory             | Friend Laboratory Inc.                                       |
| Method(s) Utilized     | SW 846 8082                                                  |
| Analytical Fraction    | PCBs                                                         |

### Samples/Matrix:

| Date Sampled | Sample ID      | Laboratory ID | PCBs | Matrix |
|--------------|----------------|---------------|------|--------|
| 9/26/02      | A-B-S-E-R-002  | 94662-1       | X    | Solid  |
| 9/26/02      | A-B-SS-E-R-002 | 94662-2       | X    | Solid  |
| 9/26/02      | A-B-S-E-B-001  | 94662-3       | X    | Solid  |

Analytical data in this report were screened to determine analytical limitations of the data based on specific quality control criteria. This screening assumes analytical results are correct as reported and merely provides an interpretation of the reported quality control results. A minimum of 10% of laboratory calculations has been verified as part of this validation. Specific findings on analytical limitations are presented in this report. Annotated Form Is or spreadsheets for samples reviewed are included after the Data Assessment Findings. Form Is for the MS/MSD samples and spreadsheets are not annotated.

### SUMMARY

The sample set for Viacom/Horsehead consists of three solid field samples. These samples were analyzed for the parameters as provided above. The findings presented in this review of the analytical data assume that the information presented by the analytical laboratory is correct. This review is identified as a false positive/false negative review, and therefore, does not include the review of some quality control (QC) items. Those included in the review are listed below.

The polychlorinated biphenyl (PCBs) findings are based upon the assessment of the following:

False Positives/False Negatives Validation

- \* • Data Completeness
- \* • Holding Times
- \* • Calibration and GC Performance
- \* • Blanks
- \* • Analytical Sequence Check
- \* • Target Compound Identification
- Compound Quantitation and Reported Detection Limits
- \* • Chromatogram Quality
- \* Criteria were met for this evaluation item.

This evaluation was conducted in accordance with USEPA Region II SOP No. HW-23B (May 2002), USEPA CLP National Functional Guidelines for Organic Data Review and the analytical method. Findings from this evaluation should be considered when using the analytical data. This report presents a summary of the data qualifications based on the review of the aforementioned evaluation criteria. This is followed by annotated Form Is/spreadsheets. Finally, the worksheets used to perform the evaluation are provided.

**FINDINGS****Polychlorinated Biphenyls (PCBs)****1. Compound Quantitation**

The percent difference between columns exceeded the 25% quality control limit. For the following samples and compounds, qualify PCB results as indicated in the table below. Samples were qualified based on SOP HW-23, Section 12.6.

| <b>Sample</b> | <b>Compound</b> | <b>% Difference</b> | <b>Qualifier</b> |
|---------------|-----------------|---------------------|------------------|
| A-B-S-E-R-002 | Aroclor 1254    | <b>48.7%</b>        | <b>J</b>         |
| A-B-S-E-B-001 | Aroclor 1254    | <b>50%</b>          | <b>J</b>         |

**NOTES****Polychlorinated Biphenyls (PCBs)****Completeness**

The USEPA Region II SOP No. HW-23B has the following sections that are not applicable to this project because it is a false positive/false negative review:

- Surrogate Recovery (Form 2)
- Laboratory Control Sample
- Matrix Spikes (Form 3)
- Contamination
- GC Apparatus and Materials
- Extraction Techniques for Sample Preparation
- Field Duplicates

The cooler temperature upon receipt at the laboratory was 6 C. Data are not qualified upon this basis.

### **Calibration**

The laboratory used linear regression to calculate PCB results. The use of linear regression is permissible for SW-846 methodologies. The laboratory met the acceptance criteria specified in Section 7.5.2 of Method 8000B (r value greater than or equal to 0.99).

Data summary forms (including calibration factors) for the initial and continuing calibration is not provided for the second column except for Aroclor 1254. The second column is used only for fingerprint confirmation, therefore, the laboratory does not provide the calibration factor information. Because Aroclor 1254 was identified as a constituent of concern, the data summary information for the second column is provided for the continuing calibration. Data are not qualified on this basis.

The percent difference (%D) per peak for multi-standard Aroclors are provided. For SW 846, the laboratory used the average Aroclor concentration to determine the %D. Data are not qualified because the average value is used.

### **Retention Time**

Retention time windows are not determined by the use of three standards for single standard calibration Aroclors. The center of the retention time window is defined as the retention time of the midpoint standard from the initial calibration. For the multi-standard calibration Aroclors, the center of the retention time window is the mean of the retention time generated from each standard. The retention time windows are the mean + 0.1 minutes. Data are not qualified on this basis.

Retention time windows are not provided for the second column except for Aroclor 1254. The second column is used only for fingerprint confirmation, therefore, the laboratory does not provide the retention time window information. Because Aroclor 1254 was identified as a constituent of concern, the retention time information for the second column is provided. Data are not qualified on this basis.

### **Compound Quantitation**

Samples were analyzed and reported at a dilution due to the presence of target compounds. Dilutions for samples are presented below. Reporting limits were adjusted for percent solids and dilutions.

A-B-S-E-R-002, A-B-SS-E-R-002, IOx  
A-B-S-E-B-002

## Glossary of Data Qualifiers

|          |                   |                                                                                                                        |
|----------|-------------------|------------------------------------------------------------------------------------------------------------------------|
| <b>u</b> | Not Detected.     | The associated number indicates approximate sample concentration necessary to be detected.                             |
| UJ       | Not Detected.     | Quantitation limit may be inaccurate or imprecise.                                                                     |
| J        | Analyte Present.  | Reported value may not be accurate or precise.                                                                         |
| N        | Consider Present. | Tentative identification. Special methods may be needed to confirm its presence or absence in future sampling efforts. |
| R        | Unusable Result.  | Analyte may or may not be present in the sample.                                                                       |
| UR       | Unusable Result.  | Analyte may or may not be present in the sample.                                                                       |

**END**

**OF**