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J L C CONSULTANTS, INC. **VOLUME I OF II**

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

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

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

PROJECT NO. 98245.20/04
NOVEMBER 16,2004

10 Duff Road • Suite 500 • Pittsburgh, PA 15235
(412) 241-4500 • FAX (412) 241-7500 • E-Mail: crc@cummingsriter.com

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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.

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 offish 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 Drainage way.

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/1) 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/1 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 solidity 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

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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 Ensys, Inc. (Ensys) 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 use 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.

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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

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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 rolloffs 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 mg/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

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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 perNYSDEC *Technical Administrative Guidance Memorandum on Determination of Soil Cleanup Objectives and Cleanup Levels* (TAGM) 4046.[2] 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 (Area N). 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 Ensys 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 (AreaN); 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, Pagan 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.

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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

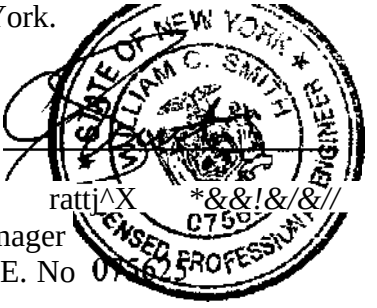
Cummings/Riter certifies that this document has been prepared in conformance with the requirements of the Consent Decree, Civil Action No. 97-CV-6555T, between CBS Corporation and USEPA for implementation of the RAWP for Industrial Drainageway Remediation, as amended (Cummings/Riter, August 15, 2001; 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 un^saj^stamp and signature as a Professional Engineer in the State of New York.



UJ(/jfa^ n/n*/flf

William C. Smith, rattj^X *&&!&/&// Date
Senior Project Manager
New York State P.E. No 075625

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TABLES

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

Interval	Sample ID	Date Sampled	Total PCB (mg/kg)"[1]	Pass/ Fail[tb]>	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	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-002	10/5/2002	0.78/<0.32[c]	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	O.210	**P**				
(bottom)	D-C-S-001	10/2/2002	3.100	F	D-C-S-B-002	11/2/2002	O.220	P				
(bottom)	O-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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INDUSTRIAL DRAINAGEWAY
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
	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	O.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	O.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-W 1-004	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-E 1-004	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-O03	10/29/2002	<0.110	P				
	G-B-S-N-001	10/10/2002	0.610	P								

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KENTUCKY AVENUE WELLFIELD SITE
HORSEHEADS, NEW YORK

Interval	Sample ID	Date Sampled	Total PCB (mg/kg)">	Pass/ Fair	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-D-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-I)-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	O.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	O.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								

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INDUSTRIAL DRAINAGEWAY
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
	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	O.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	O.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	O.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-8-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-S-N-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,			
	W-C-S-S-001	10/15/2002	0.920	P					23/W-B-S-N-001, AND 23/W-C-SS-B-001			
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	O.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	O.120	P								
22+60	Z-B-S-E-002	12/4/2002	<0.210	P								
	Z-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								
	Z-B-S-N-001	12/3/2002	O.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.

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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 DRAINAGE WAY
KENTUCKY AVENUE WELLFIELD SITE
HORSEHEADS, NEW YORK

Celt/Rolloff	Sample I.D.	Sample Data	PCB (mg/kg)[w]	TCLPCd (mgn.r	P/F[11,]	Sample I.D.	Sample Date	TCLPCd	P/F	Sample t.D.	Sample Date	TCLP Cd (mg/L)	P/F	Sample I.D.	Sample Date	TCLP Cd (mg/L)	P/F
Rotloff	RO001	9/21/2002	1.50	0.367	P												
Rolloff	RO002	9/21/2002	0.93	0.324	P												
Rollofl	RO003	9/21/2002	0.72	0.546	P												
Rolloff	RO0O4	9/21/2002	1.10	0.489	P												
Rolloff	RO005	9/21/2002	1.10	0.907	P												
RollofT	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	RO008 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	ROO40 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	RO04 5-49/58-60 CELL#4	10/14/2002	1.40	0.540	P												
5	69/71/76-78/80 COMPOSITE	10/18/2002	0.43	2.300	F	CELL *m*	10/23/2002	0.701	P								
6	RO050-060 CELL	10/14/2002	3.70	4.930	F	CELL #610 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 87 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^^^
SUMMARY OF ANALYTICAL RESULTS
DISPOSAL CHARACTERIZATION SAMPLES
INDUSTRIAL DRAINAGEWAY
KENTUCKY AVENUE WELLFIELD SITE
HORSEHEADS, NEW YORK

Cell/Rolloff	Sample I.D.	Sample Dale	PCB (mg/kg)'"	TCLPCtJ (mg/Lf>	P/F[1"]	Sample I.D.	Sample Date	TCLPCd (mg/L)	P/F	Sample I.D.	Sample Dale	TCLP Cd (mg/L)	P/F	Sample I.D.	Sample Dale	TCLP Cd (mg/L)	P/F
8 (1ST CONSTRUCTION)	CELL #8 BOTTOM OF PILE	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)	CELL#8B TRENCH MIXED	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)	CELL #8C WEST PORTION	10/28/2002	0.44	3.340	F	6 MOUNTAIN	11/1/2002	2.13	1-	8E	11/11/2002	0.352	P				
8 (1ST CONSTRUCTION)	CELL #8D EAST PORTION	10/28/2002	0.81	2.990	F	8 PACIFIC	11/1/2002	1.75	F	CELL *tt* 8 SPLIT IN 3 SECTIONS MEETS TESTING FREQ							
8 (2ND CONSTRUCTION)	2#8E	11/26/2002	<0.25O	2.330	F	3-8-E	12/5/2002	<0.05	P								
8 (2ND CONSTRUCTION)	2#8C	11/26/2002	<0.250	1.640	F	3-8-C	12/5/2002	<0.05	P								
8 (2ND CONSTRUCTION)	2#SM	11/26/2002	<0.300	2.610	F	SAMPLE OMITTED -MEETS 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			
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	AND REMIXED			
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	083	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	ION	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	0.663	P												
11 (1ST CONSTRUCTION	CELL#11E	11/6/2002	<0.25	1.530	F	11E1	11/14/2002	<0.05	P								
11 (1ST CONSTRUCTION	CELUM1C	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	CELL#11P	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-JM1-C2	12/17/2002	0.101	P								
11 (2ND CONSTRUCTION	2-#11-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	0.061	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	1???	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												

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

Cell/Rolloff	Sample I.D.	Sample Date	'PCB (mg/kg)'"	TCLP Cd (mg/Lf	P/r*'	Sample I.D.	Sample Date	TCLP Cd (mg/L)	P/F	Sample I.D.	Sample Date	TCLPCd (mg/L)	P/F	Sample I.D.	Sampla 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	12/3072002	<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 kilogram.
c. P/F = pass/fail. Threshold for Resource Conservalion and Recovery Act classification as hazardous waste is 1.0 mg/l for cadmium using Toxicity Characteristic Leachate Procedure (TCLP).

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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

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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 Inteval 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	30SxO	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	35NxO	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	67NxO	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	67NX15W	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	BrGr Gr - Cl Sit Bi - Sit Br - Sl Sd Gr
S-9	35Nx15W	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	0x15W	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	30Sx15W	1.6-2.1	ND	0-1.6 1.6-2.1 2.1 -4.0	Br - Sd Gr Bl/Br - Sl Sd Br-SlClwGr
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

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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 Inteval in ft. bgs	Rapid Assay PCB in ppm	Interval Depth in ft. bgs	Lithology
S-13	15S x 15E	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 Bl/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-SdGrwSlt Lt Gr - Cl Bl - Sit Br-ClSltwGr
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 - Cl w Gr Sd 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-SdGrwSlt Br - Cl w Sit Lt Gr - Cl Bl - Sit Br - Sit Sd & Gr w Cl
S-17	15S x 30E	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-SltSd&Gr Br/Bl - Sit Bl - Sit & Lt Gr - Cl Bl - Sit & Lt Gr - Cl Br-Cl
S-18	15S x 60E	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

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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 - Sd Gr w Sit Gr-ClwBISItGr Br-SltSd&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 Bi - Cndrs Br - Sd Gr w Sit Br - Cl w Gr Br - Sit Sd & 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 - Slty Sd & 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 - Slty Sd & 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 - Cl w Sd & Gr Br - Slty Sd w Gr
S-6	13+25	10	0-3.0 Poor Recovery	ND	0-3.0 3.0-6.0	Bl / Br - Gr Sd Br-SltSd/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-SltSdGr 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 - Sit Sd Gr Gr - Slty Cl Gr Br-Cl Br - Sit Gr
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-Ct 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-GrwSd

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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 PCBin 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-ClGr
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 - 8.0	Bl -Cndrs . Lt Tn - Sit Sd & Gr Br-SltySd&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 Sd Gr
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 DarkBr-SltyCl Gr-Cl Bl - Slty Br-SltySdGr
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 LBr - Sd Gr
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-BrGrwSltSd 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 - Sd Gr Sit

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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 - Gr w Cl 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 - Sit w Gr 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-SdSltwCl Bl-ClS!twGr 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-GrwSd Bl - Sit Br - Cl w Gr
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-SltSdClwGr

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TABLE 7
SUMMARY OF POST-EXCAVATION CONFIRMATORY SAMPLING DATA
SUPPLEMENTAL SOIL REMEDIATION
INDUSTRIAL DRAINAGEWAU
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

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FIGURES

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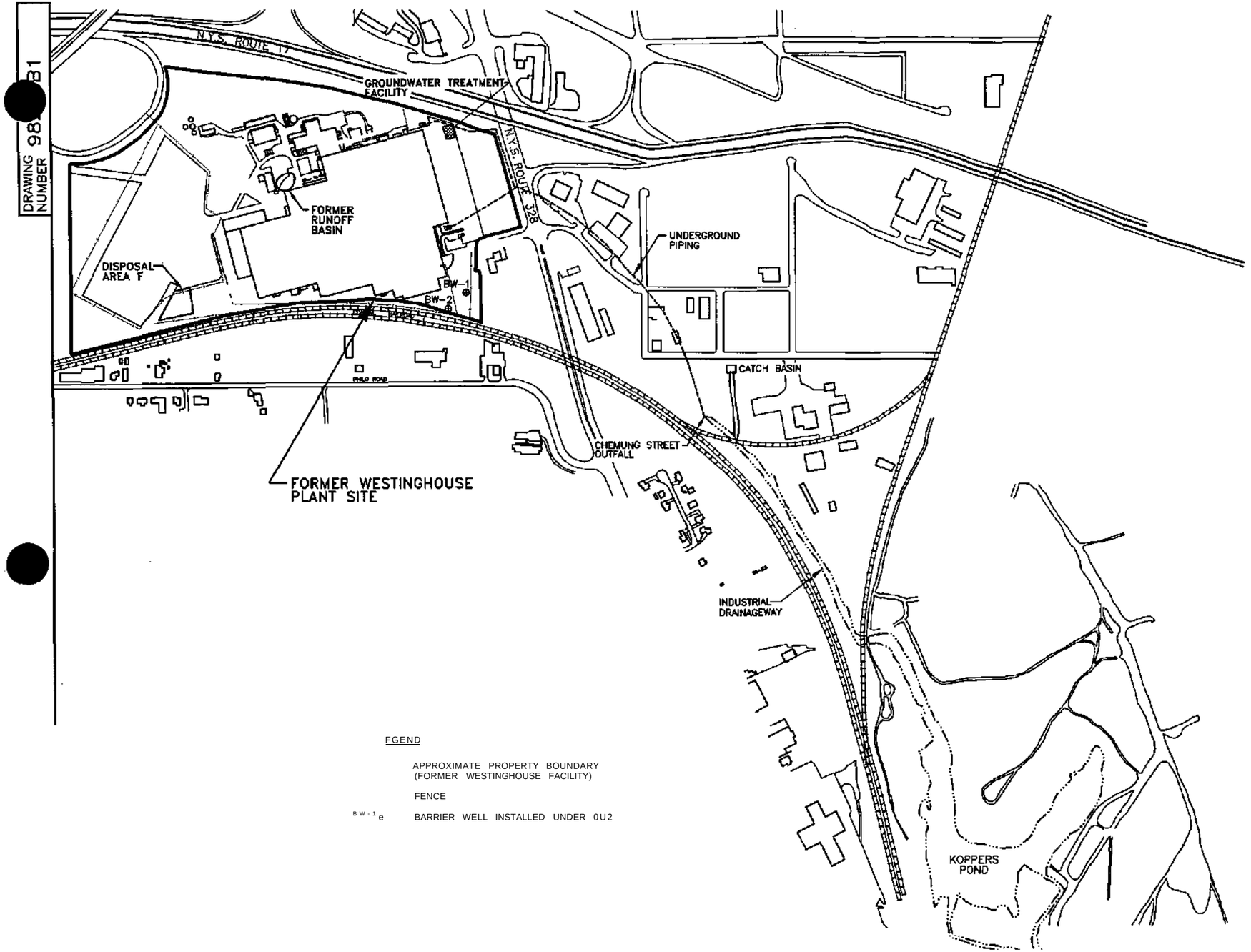
DRAWING NUMBER 98245B1



FGEND

APPROXIMATE PROPERTY BOUNDARY (FORMER WESTINGHOUSE FACILITY)

FENCE

BW-1e BARRIER WELL INSTALLED UNDER 0U2

REFERENCE:

BASE MAP PROVIDED BY PHILLIP ENVIRONMENTAL SERVICES CORPORATION DRAWING NUMBER 4271O0BV. TITLED "STUDY AREA BASE MAP", DATED 8-31-95.

"S\

KENTUCKY AVENUE WELL AND TREATMENT FACILITY

SCALE

400 0 400 800 FEET

FIGURE 1

SITE PLAN

KENTUCKY AVENUE WELLFIELD SITE - 0U3
HORSEHEADS, NEW YORK

PREPARED FOR

VIACOM INC.

PITTSBURGH, PENNSYLVANIA

CUMMINGS WRITER
J\ CONSULTANTS* INC

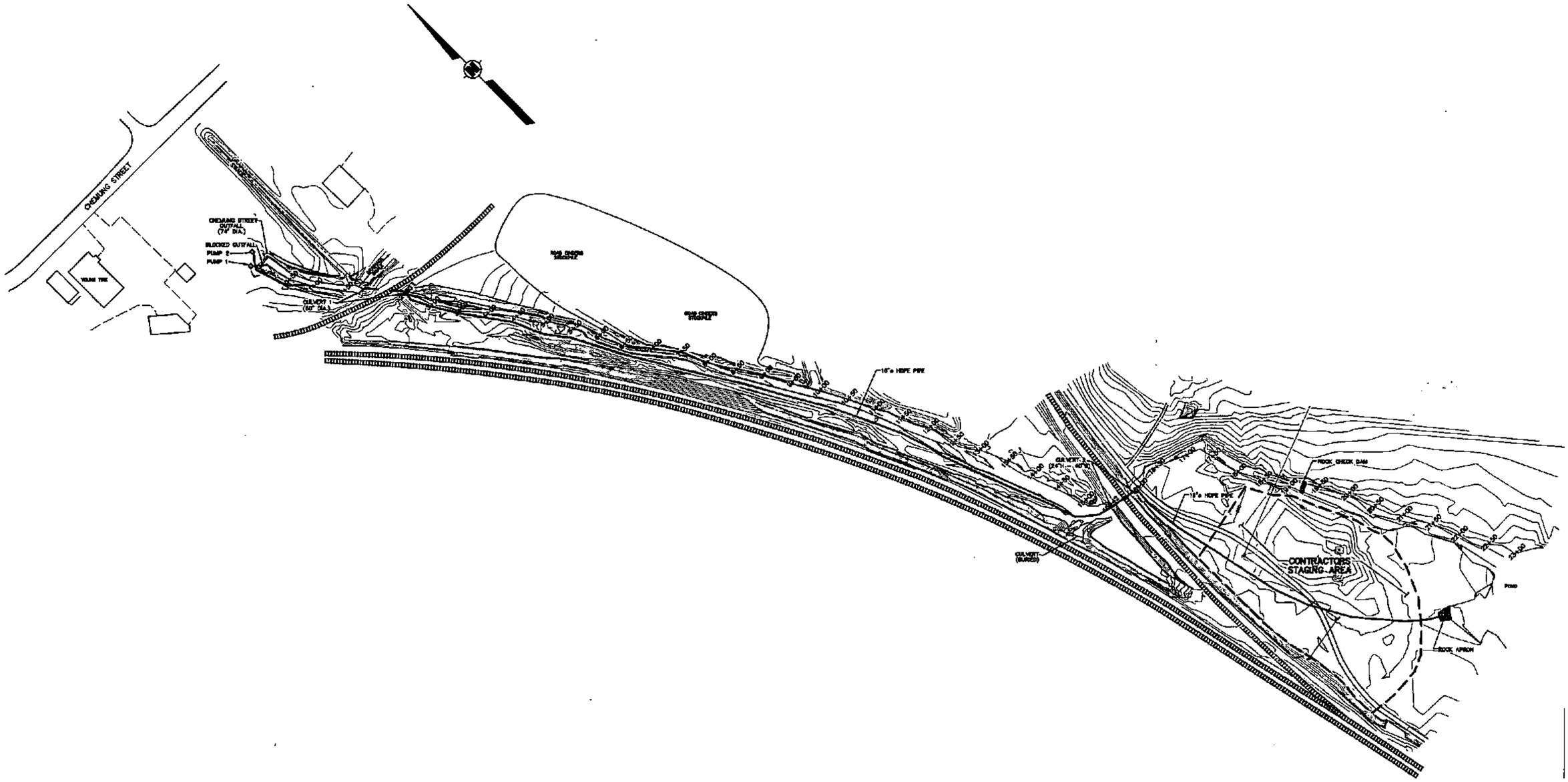
DRAWING NUMBER 98245B1

REVISION	DATE	DESCRIPTION

DRAWN BY: T.E. McKee DATE 3-5-98

CHECKED BY: B. Geno DATE 3-19-98

APPROVED BY: W. Smith DATE 3-19-98



SCALE

DATE I APPROVED I

FIGURE 2

INDUSTRIAL DRAINAGWAY
LAYOUT PUMPING PLAN

KENTUCKY AVENUE WELLFIELD STTE - 0U3
HORSEHEADS. NEW YORK
PREPARED FOR
VIACOM INC.
PITTSBURGH, PENNSYLVANIA

SCALE: T - BO' DRAWING NUMBER

DATE: J-25-OJ 98245E20

PRAWN BYi T.N. flinty
CHECKED BY:

.Aeoftaonmnc
CG8P08U1 BBfiDQDIKBB
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Ptrkn? BulldLlE Bull* 201
Mwrwll*. PA 151W
(412) 373-0240
Fu: (412) 373*0341

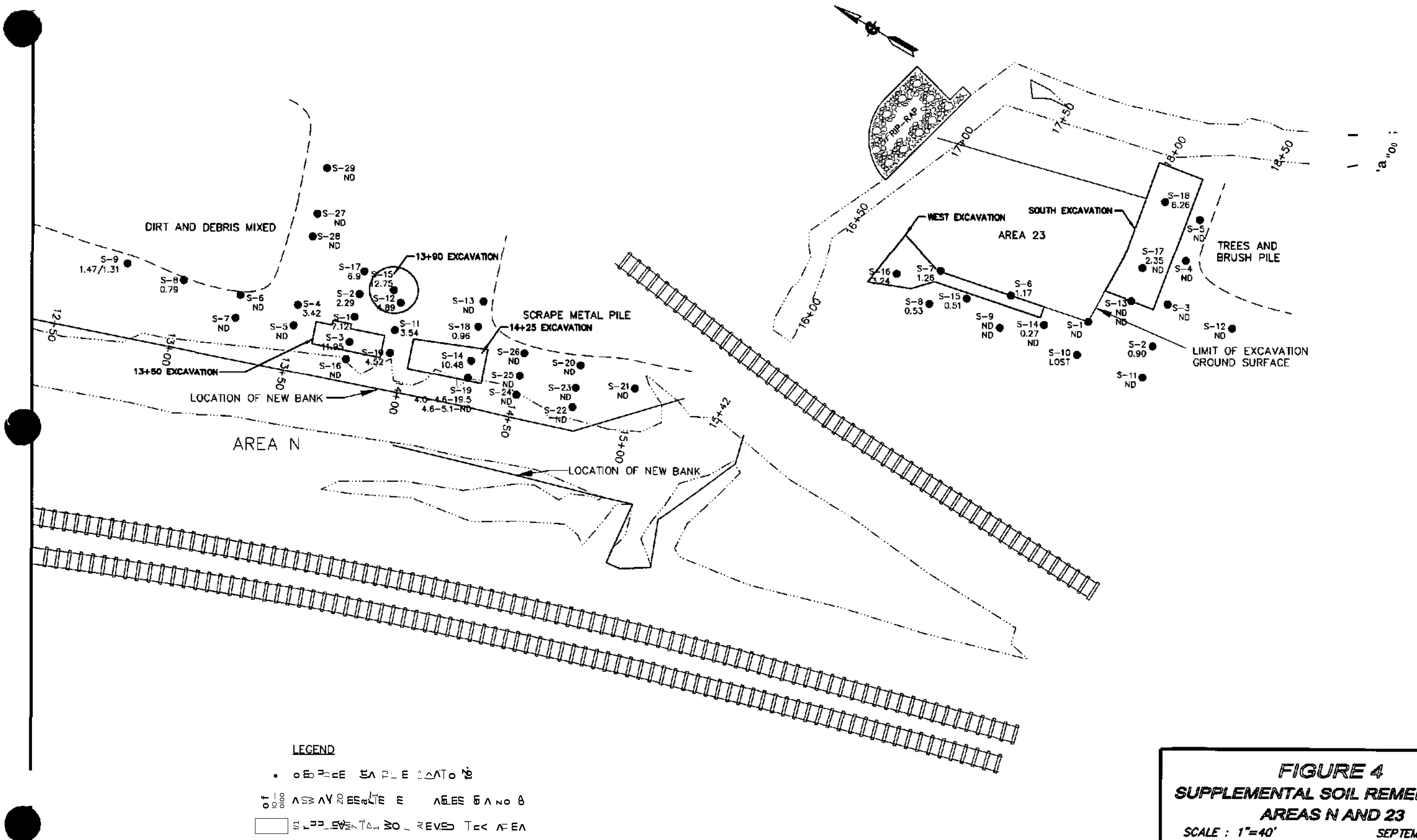
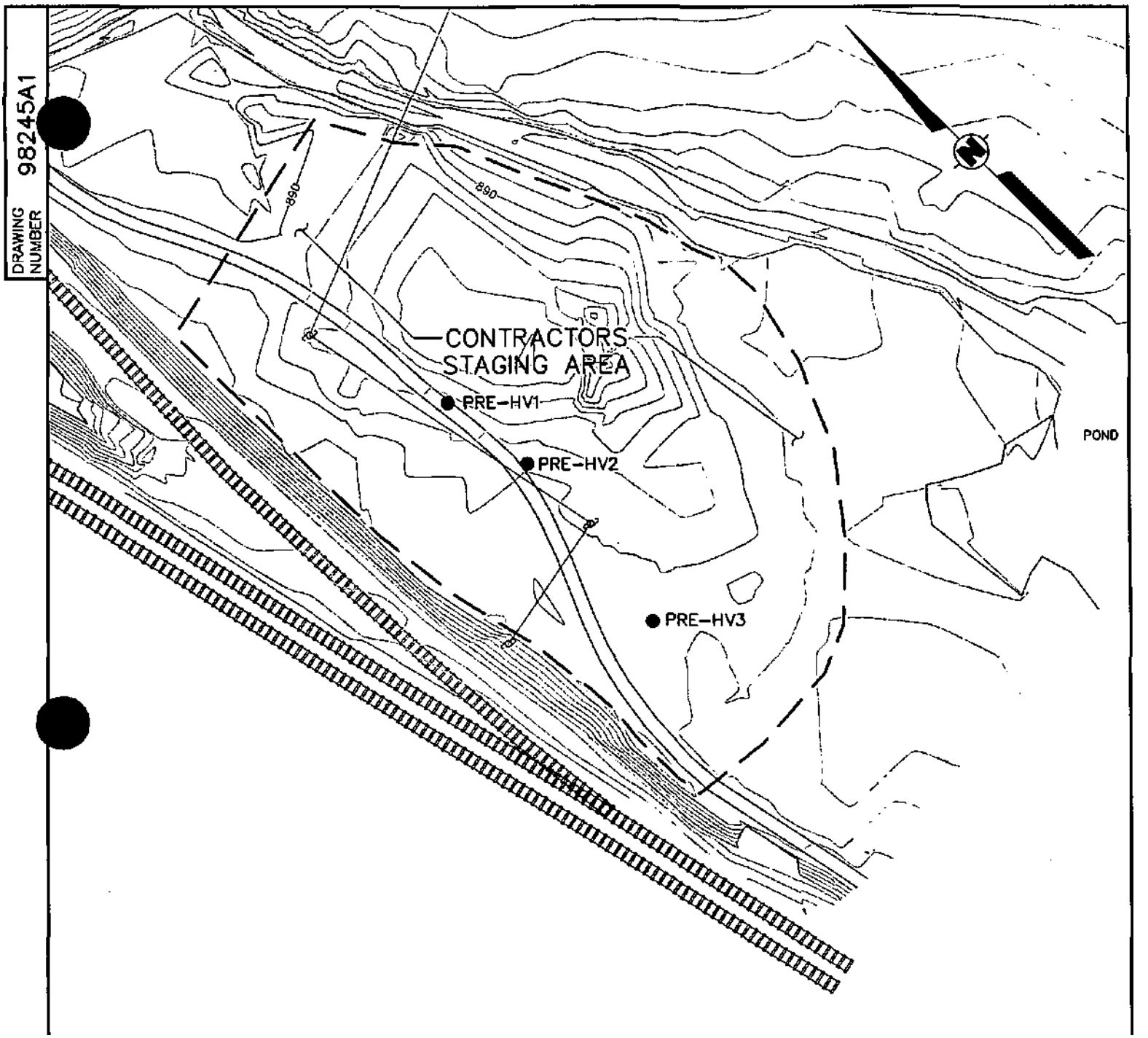


FIGURE 4
SUPPLEMENTAL SOIL REMEDIATION
AREAS N AND 23
SCALE : 1"=40' *SEPTEMBER 2004*

FAGAN ENGINEERS
Environmental Consultants
JOB # 98.028



S C A L E

80 160 FEET

FIGURE 3

VILLAGE OF HORSEHEADS PRE-CONSTRUCTION SOIL SAMPLE LOCATIONS

KENTUCKY AVENUE WELLFIELD SITE - 0U3
HORSEHEADS, NEW YORK

PREPARED FOR
VIACOM INC.
PITTSBURGH, PENNSYLVANIA

LEGEND

PRE-HV3 APPROXIMATE LOCATION OF PRE-CONSTRUCTION SOIL SAMPLE

^ UTILITY POLE

CUMMINGS IftlTER
JX CONSULTANTS, INC

DRAWING NUMBER 98245A1

DRAWN BY:	*T.N, Fltzroy*	DATE	*8-26-02*
CHECKED BY:	*W.C. Smith*	DATE	*8-27-02*
APPROVED BY:	*W.C. Smith*	DATE	*8-27-02*

REVISION DATE DESCRIPTION

APPENDIX A

RECORD DRAWINGS

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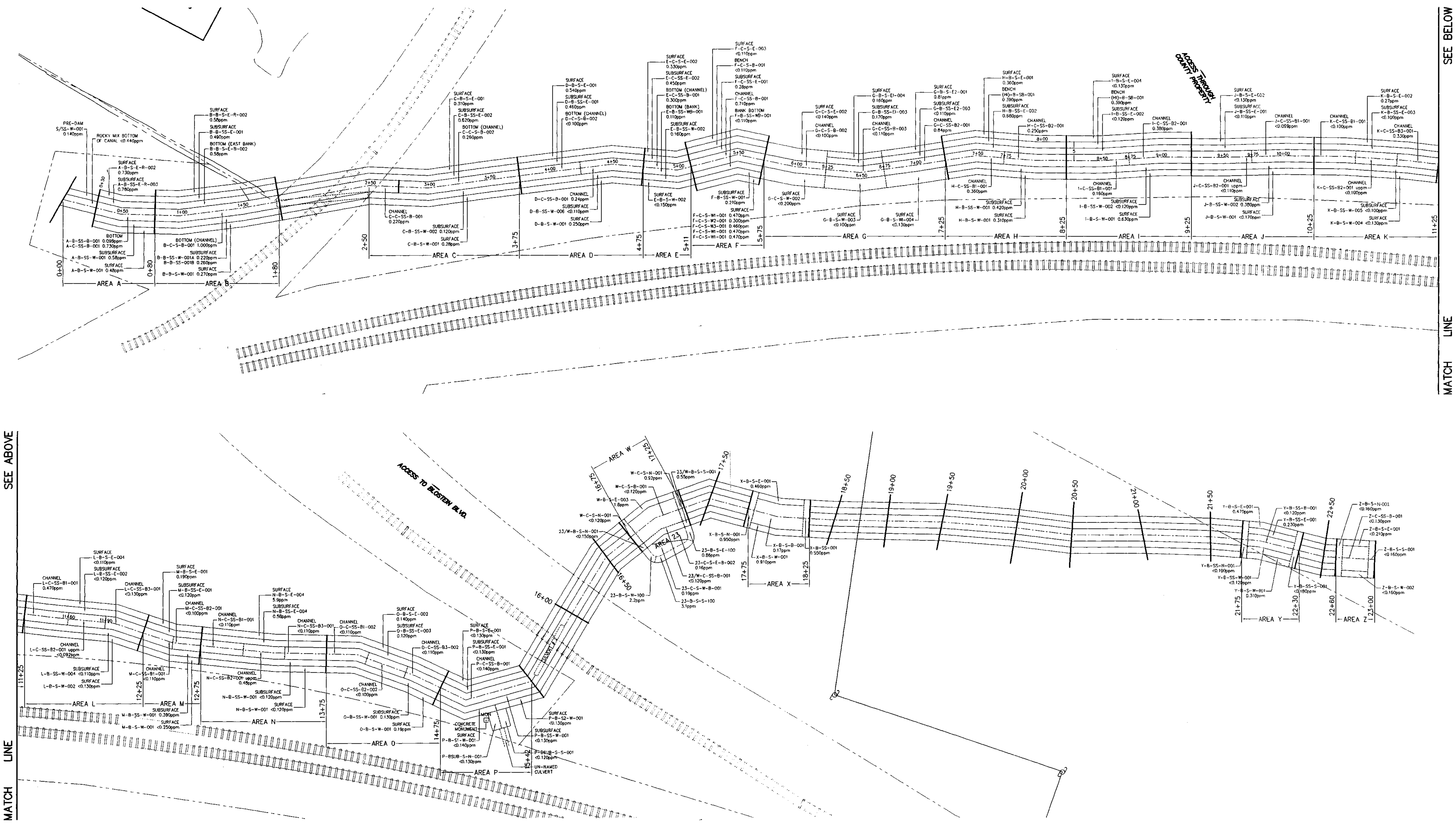

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\&?RSS*V

C BSAVESIINGIIOISE HORSEHEADS
KEMlCKi 'AVENUE
YVELLI IELD-OL3

TOWN OF HORSEHEADS, CHEMUNG COUNTY, NEW YORK

INDUSTRIAL DRAINAGE WAY
CONFIRMATORY SAMPLE ID
RESULT

3/2003

1 "=40'

C.E.L.
R.S.N.

D.A.F.

FAGAN ENGINEERS
Environmental Consultants

113 East Chemung Place
Elmira N.Y. 14904
(607) 734-2165

WIPK

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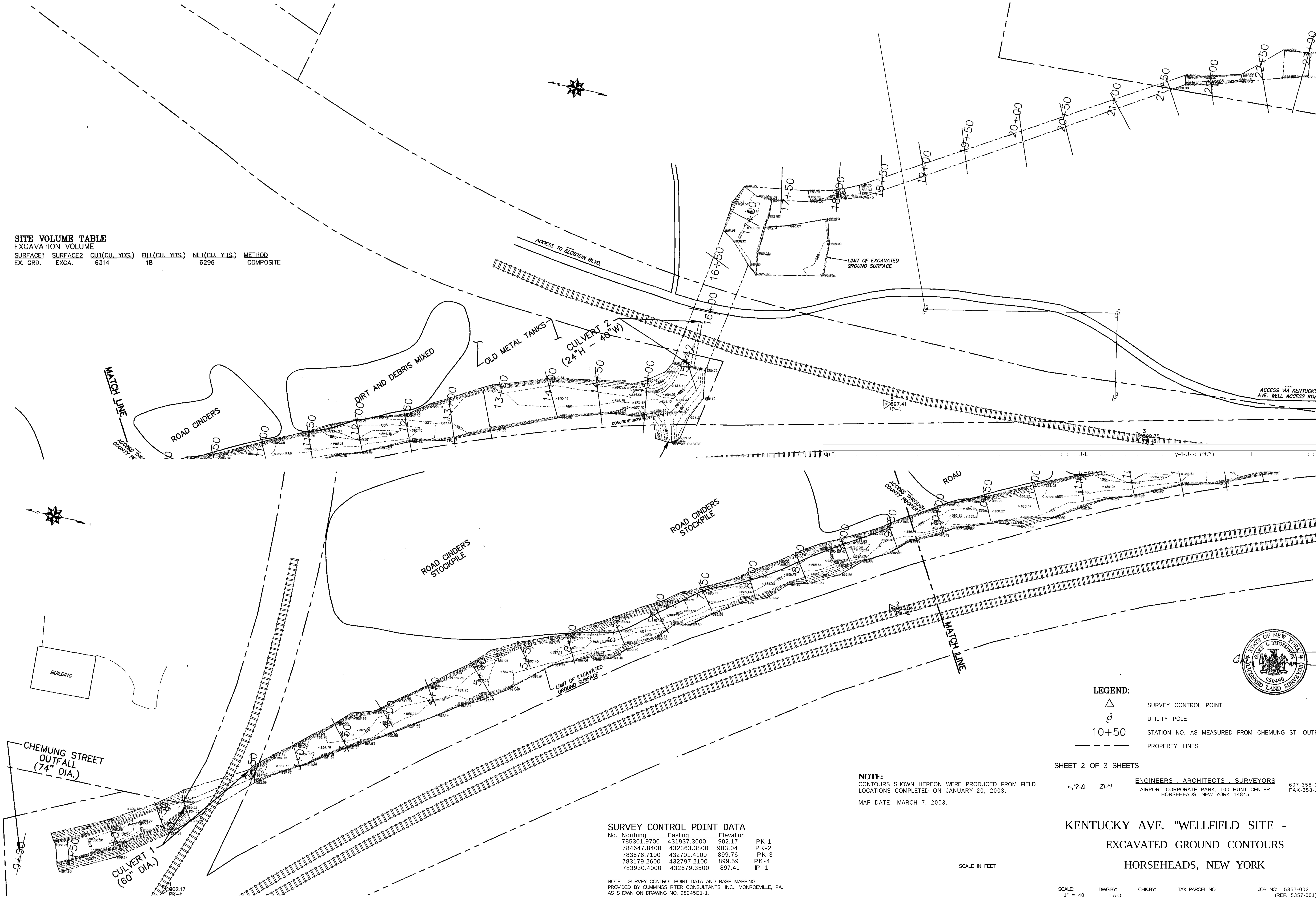


SITE VOLUME TABLE

EXCAVATION VOLUME

SURFACE1	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	
	785301.9700	431937.3000	902.17	PK-1
	784647.8400	432363.3800	903.04	PK-2
	783676.7100	432701.4100	899.76	PK-3
	783179.2600	432797.2100	899.59	PK-4
	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.

SCALE IN FEET

LEGEND:

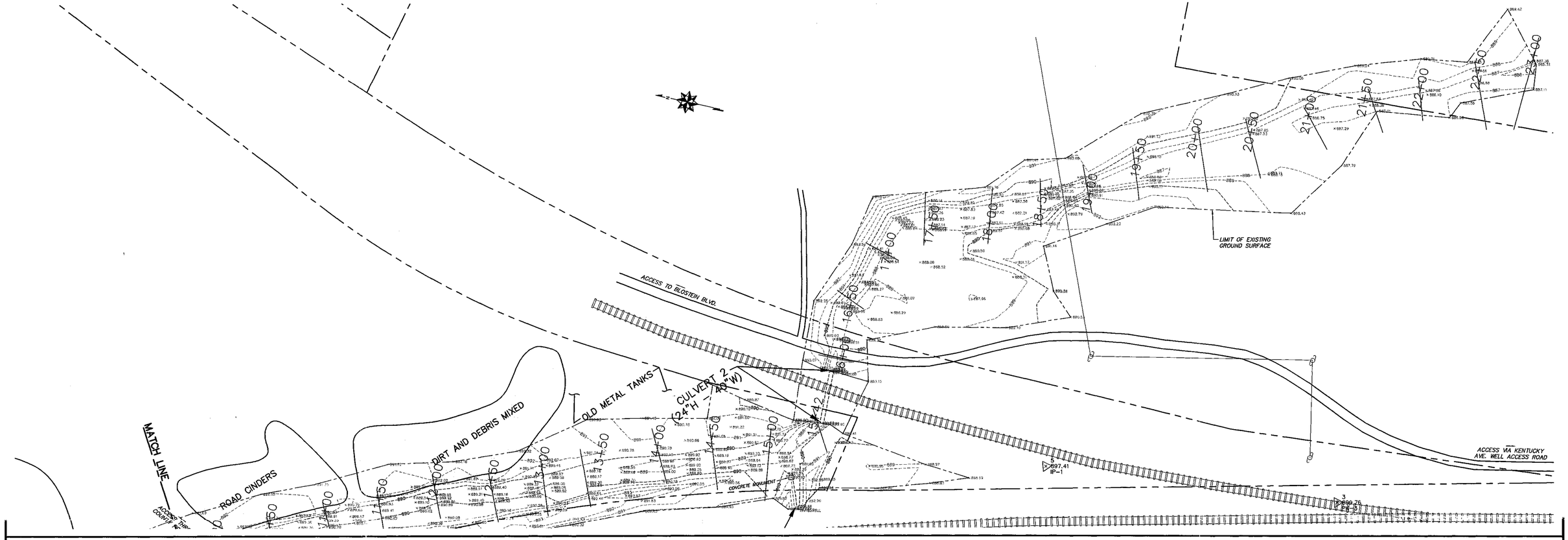
△	SURVEY CONTROL POINT
∂	UTILITY POLE
10+50	STATION NO. AS MEASURED FROM CHEMUNG ST. OUTFALL
— — — —	PROPERTY LINES

SHEET 2 OF 3 SHEETS

•-,'?-& Zi-^i
ENGINEERS . ARCHITECTS . SURVEYORS
AIRPORT CORPORATE PARK, 100 HUNT CENTER
HORSEHEADS, NEW YORK 14845
607-358-1000
FAX-358-1800

KENTUCKY AVE. "WELLFIELD SITE -
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)



LEGEND:

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

SHEET 1 OF 3 SHEETS

NOTE:
CONTOURS SHOWN HEREON WERE PRODUCED FROM FIELD LOCATIONS COMPLETED ON NOVEMBER 12, 2002.

MAP DATE: MARCH 6, 2003.

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.

SCALE IN FEET
0 20 40 80 120

STATE OF NEW YORK · GARY L. THOMPSON · 050490 · LICENSED LAND SURVEYOR

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

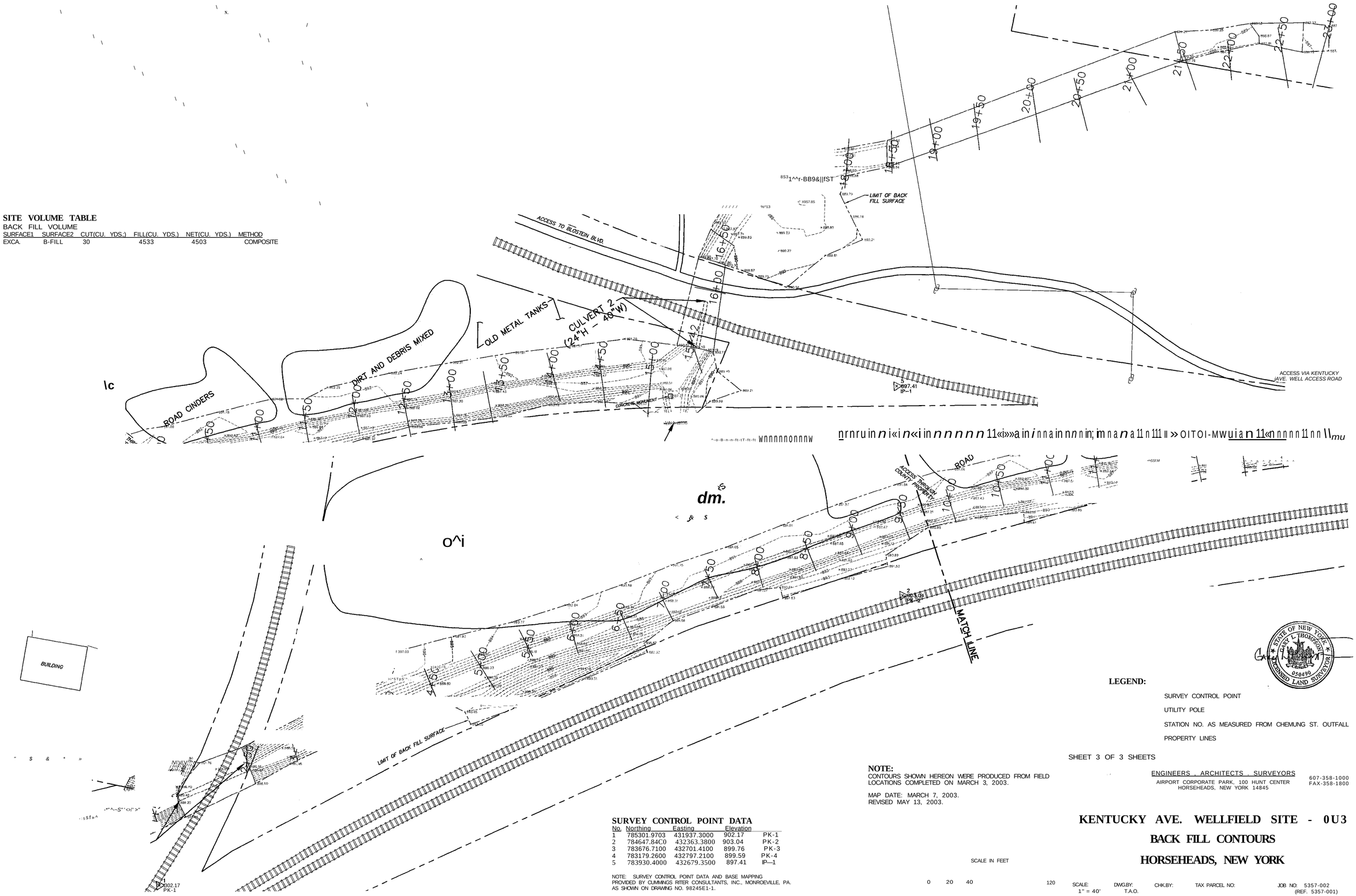
KENTUCKY AVE. WELLFIELD SITE – OU3
EXISTING GROUND CONTOURS
HORSEHEADS, NEW YORK

SCALE:	DWG.BY:	CHK.BY:	TAX PARCEL NO:	JOB NO:
1" = 40'	T.A.O.			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



SURVEY CONTROL POINT DATA

No.	Northing	Easting	Elevation	
1	785301.9703	431937.3000	902.17	PK-1
2	784647.84C0	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.

LEGEND:

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

STATE OF NEW YORK — GARY L. THOMPSON — LICENSED LAND SURVEYOR — 050490

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.

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

KENTUCKY AVE. WELLFIELD SITE - 0U3
BACK FILL CONTOURS
HORSEHEADS, NEW YORK

SCALE IN FEET

0 20 40 120

SCALE: 1" = 40'
DWG.BY: T.A.O.
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)

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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.

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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.

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APPENDIX D

DATA VALIDATION REPORT

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APR 2 9 2003

Data Validation Report

Cummings-Riter Consultants, Inc.

Kentucky Avenue Wellf ield Site OU3 - Horseheads, New York
SDG# 94773, 95433, 9717^97224,
94538,94081, 94662

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^sSL/s£ ECT.CON INC.
" ^ 5 , ^
^ ^ / I \ S ^ Environmental and Computer
I Technology Consultants

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

^\I/^r ECT.CON INC.

^ ^ / I ^^N 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	*M*

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, lOx
C-B-SS-B-001, C-B-SS-E-001, C-B-S-E-001

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.

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

Annotated Form l's

(Spreadsheet)

ELX
R I EJN P.
BORATORY

32 ITHACA STREET WAVERLY, NY 14892-1532
TELEPHONE (607) 565-3500 FAX (607) 566-4083

Date:04-OCT-2002

Lab Sample ID: L94773-1

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

Sample Source: VIAGOHHORSEHEAOS 1920s
Origin;, q-8-s-u-ooi
Description;:.-COMPOSITE
Sampled On; 30-SEP-02 16:45 by CLIENT
Date Received:;. pi-pcT-02 09=00
P.O. ife:;;;;;;N/A

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 8062						
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 6082	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:				02-OCT-02 00:00	EPA 3550	02-044-92
Surrogate Recovery:						
Tetrachloro-m-xylene	82					02-004-9998
De^a^Morobi phenyl	96					02-004-9998

Results calculated on a dry weight basis.

Approved by: Lab Director

MY 10252 NJ 73168 PA 68180 EPA NY 00033

QC

KEY: MD 0/ 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 Mas detected in the method or trip blank J _= result estimated below the quantitation limit

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

*

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ORATORY
N_- C

32 ITHACA STREET WAVERLY, NY 14892-1532
TELEPHONE (607) 565-3500 FAX (607) 565-4083

Date:04-OCT-2002

Lab Sample ID: L94773-2

AAA Environmental
Peter Porter
6679 Moore Road
Syracuse, NY 13211

Sample Source: VIACOM/HORSEHEADS 19208
Origin; C-B-SS-U-001
; 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 aoa2						
PCB 1016	U	ug/kg	160	04-OCT-02 13:08	EPA 80B2	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:						
TetrachIoro-m-xylene	80					02-004-0004
De^chlorobiphenyl	97					02-004-0004

Results calculated on a dry weight basis.

Approved by: ^€^C
Lab Director

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

FLI
FRIEND LABORATORY
N C

32' ITHACA STREET WAVERLY, NY 14892-1532
TELEPHONE (607) 565-3500 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. VIAC0H/H0RSEHEADS 1920S
Origin c-c-s^poi
Description
Sampled On 3Qr?|p^p2'-16:50 by CLIENT
Date Received 0lTpCT^q?;09:00
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
EPA 8082						
PCB 1016	u	ug/kg	170	04-OCT-02 13:39	EPA 8082	02-004-0005
PC8 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	6B00 fJj	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

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Results calculated on a dry weight basts.

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 (equfvalent to parts per billion)
mg/C = milligram per liter (equivalent to parts per million) mg/kg = milligrams per kilogram (equivalent to parts per million)
= ana^yte was detected in the method or trip blank J = result estimated below the quantitation limit

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

ELI
#B iENn QMEQBX N • C
32 ITHACA STREET WAVERLY, NY 14892-1532
TELEPHONE (607) 565-3500 PAX (607) 565-4083

Date:04-OCT-2002

Lab Sample ID: L94773-6

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

Sample Source: VIACOM/HORSEHEADS 19208
Origin: C-C-SS-B-OOI
Description: COMPOSITE
Sampled On: 30-SEP-OZ 17:00 by CLIENT
Date Received: 01-0CT-02 09:00
P.O. NO: N/A

Analysis Performed	Result	Units	Detection Limit	Date Analyzed	Method	Notebook Reference
Total Solids	as			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
PCB 1221	u	ug/kg	230	04-0CT-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
Deiachlorobiphenyl	87					02-004-9999

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Results calculated on a dry weight basis.

Approved by: Lab Director

MY 10252 HJ 73168 PA 68180 EPA NY 00033

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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

FLI
FRIEND LABORATORY
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32 ITHACA STREET WAVERLY, NY 14892-1532
TELEPHONE <607) 565-3500 FAX (607) 565-4083

Date:04-OCT-2002

Lab Sample ID: L94773-7

AAA Environmental
Peter Porter
6679 Moore Road
Syracuse, NY 13211

Sample Source: VIACOM/HORSEHEADS 19208
Origin; C-B-SS-B-001
Description COMPOSITE
Sampled On 30-SEP-02 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
Toteil Solids	69.2			01-OCT-02 00:00	CLP 3.0	02-066-79
EPA 8082						
PCB 1016	U	ug/kg	140	04-OCT-02 12:05	EPA 8082	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 8082	02-004-0002
PCB 124S	U ^	ug/kg	140	04-OCT-02 12:05	EPA 8082	02-004-0002
PCB 1254	1600 ^	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 6082	02-004-0002
Extraction Information:				02-OCT-02 00:00	EPA 3550	02-044-92
Surrogate Recovery:						
TetrachIoro-m-xylene	78	%				02-004-0002
Decachlorobiphenyl	96	% -				02-004-0002

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Results calculated on a dry weight basis.

Approved by: C^^tl
Lab Director

MY 10252 NJ 73168 PA 68180 EPA HY 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

* % mation 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.

FLT
FRIEND LABORATORY I • N • C

32 ITHACA STREET WAVERLY, NY 14892-1532
TELEPHONE (607) 565-3500 FAX (607) 565-4083

Date:04-OCT-2002

Lab Sample ID: L94773-8

AAA Environmental
Peter Porter
66 79 Moore Road
Syracuse, NY 13 211

Sample Source: VIACOMHORSEHEADS 1920B
Origin: C-B-SS-E-OOI
Descr;ip;tion: COMPOSITE
Sari^ijecl On: 3Q-SEP-02 16:35 by CLIENT
Date. Re/eeived: 01-0CT-02 09:00
R.Qj No: *a/A*

Analysis Performed	Result	Units	Detection Limit	Date Analyzed	Method	Notebook Reference
Total 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 8082	02-004-0003
PCB 1260	u	ug/kg	160	04-OCT-02 12:37	EPA 8082	02-004-0003
Extraction Information:				02-0CT702 00:00	EPA 3550	02-044-92
Surrogate Recovery:						
Tetrachloro-m-xylene	92					02-004-0003
Decachlorobiohenvl	115					02-004-0003

Results calculated on a dry weight basis.

Approved, by: Lab Director

QC

NY 10252 NJ 73168 PA 68180 EPA NY 00033

KEY: ND or 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)
= analyte was detected in the method or trip blank J = result estimated below the quantitation Umit_

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32 ITHACA STREET WAVERLY, NY 14892-1532
TELEPHONE (607) 565-3500 FAX (607) 565-4083

Date:04-OCT-2002

Lab Sample ID: L94773-9

AAA Environmental
Peter Porter
6679 Moore Road
Syracuse, NY 13211

Sample Source: VIACOH/HORSEHEADS IVZOS
Origin: C-B-S-E-OQI
Description: COMPOSITE
...."Sampled On: 30-SEP-02 16:40 by CLIENT
Dat%;' Received: OI-OCT-02 09:00
'••^'••/T- P.O. NO: N/A

Analysis Performed	Result	Units	Detection Limit	Date Analyzed	Method	Notebook Reference
Total Solids	56.7			OI-OCT-02 00:00	CLP 3.0	02-066-79
EPA 6062						
PCB 1016	U	ug/kg	170	04-OCT-02 11 36	EPA 8082	02-004-0001
PCB 1221	u	ug/kg	350	04-OCT-02 11 36	EPA 8082	02-004-0001
PCB 1232	u	ug/kg	170	04-OCT-02 11 36	EPA 6082	02-004-0001
PCB 1242	u	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 f	ug/kg	170	04-OCT-02 11 36	EPA 8082	02-004-0001
PCB 1260	u	ug/kg	170	04-OCT-02 11 36	EPA 8082	02-004-0001
Extraction Information:				02-OCT-02 00 00	EPA 3550	02-044-92
Surrogate Recovery:						
Tetrachloro-m-xylene	66					02-004-0001
	93					02-004-0001

TMB 4/28/03

Results calculated on a dry weight basis.

Approved by: Lab Director

NY 10252 NJ 73168 PA 68180 EPA NY 00033 o c ^ 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)
j^^^B^^' = analyte was detected in the method or trip blank J = result estimated below the quantitation limit

MSH

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

^sl/^r ECT.CON INC.

^^f I ^ ^ ^ ^ Environmental and Computer
I Technology Consultants

Support Documentation

COC

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CHAIN OF r ODY RECORD

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y ft *1* fe K B
^ABQ^ATORY
ONE RESEARCH CIRCLE
WAVERLY NY 14892-1532
Telephone (607) 565 3500
Fax (607) 565-4083

CLIENT: jAAA ENIft^r^&^TfcL INVOICE TO:
ADDRESS: O !**"&*£- "Deux^£*Y ADDRESS:

PHONE: FAX:
(e07-^n'8(c.ct

Sample Sfte: \4:Atoi*^eMe.HfcAT>S

PROJECT NO. / NAME

COPY TO:
ADDRESS:

94773
SAMPLE NUMBER

LAB USE ONLY

P.O. #

• DATE ft TIME OF r SAMPLC'COLLECTION	SAMPLE DESCRIPTION	NUMBER OF t CONTAINERS	ANALYSES / TESTS REQUESTED
	£-.&.-5-vsj-oc>t	X	fbB'5 'E** 5«£u
	Description: GrablC6mppsite^Other Matrix: DW WW MWgoifeAIr Other		
	OB- ss-w-aoi		ftS'S T^ Scnrc
			-3,-3,^
	Description: Grab goThposife Other Matrix: DW WW MW E^bAir Other		
	C.-C -S- JS-ofci		? C 3 ^ XT/0 So-CL.
			*.4 l
	Description: Grab ^omposrtg^Pther Matrix: DW WW MWfioTEAiTiOther		
	GC-£$-*3-60|		PCB'S T=t^ S©*A-

Qnoo

SAMPLE!

in DATE/TIME 17/0

ACCEPTED BY ^ .** ' DATE/TIME: , 0*, \ S ^TiSTO-lABORATORY '

C7

SUSPECTED CONTAMINATION LEVEL

NONE SUGHT MODERATE HIGH (please circle)

CUSTOMER

CHAIN OF C10ODY RECORD

PAGE 2 -m

T7 T T ONE RESEARCH CIRCLE
Jr J_iX WAVERLY NY 14892-1532
F R I E N~0 Telephone (607) 565 3500
{ A y y ^ Fax (607) 565-4083

Sample Site:. V ^ C ^ / H * * 5 * * 6 * ^

P.O. #

CLIENT:/\A& EM-ZtftorimEWrAL
ADDRESS: QriS^Te ~C>£cEvei*/
PHONE: FAX: 6?Q7-^&7-gtOI
PROJECT NO. / NAME

INVOICE TO:
ADDRESS:
<
COPY TO:
ADDRESS:

V^co^/victfseHexfcS

'» o l o

DATE & TIME OF SAMPLE COLLECTION	SAMPLE DESCRIPTION	NUMBER OF CONTAINERS	ANALYSES / TESTS REQUESTED	LAB NUMBER (LAB USE ONLY)
	C-13-5s-E>-oo\	*	fC6'S •*:* S*T;L.	1
	Description: Grab CCompositejOther Matrix: DW WW MW'Solkwr Other			
	C-fc-SS-G-OCsi	X	pCB'S -rt* Sc-c	
	Description: Grab CComflosiy^ Other Matrix: DW WW MWffiopAir Other			
	C 5 - S - G -oci\	/	"pCS's X^ ScTC*-	
	Description: Grab (CompositesOther Matrix: DW WW MWTSoToAir Other			
	Description Grab Composite Other Matrix DW WW MW Soil Air Other —J——L_—I___1__I__I___1.....1.....I.,			

RELINQUISHED BY SAMPLER

A. SCHLECKENBOST TRAG

&

DATS/TIME*

.ACCEPTED BY*

Tone M&ruX)

DATE/TIME 9/30

LL toi>\oa

': NOTES TO IABC3RATORY-

KAv.

SUSPECTED CONTAMINATION LEVEL

NONE SLIGHT MODERATE HIGH (please circle)

Laboratory Case Narrative

ELX
FRIEND
LABOBATQE
i • N • C

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 W

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^P 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.

ite 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: £%j* dalk. /£ fojat&x^

Date: November 5, 2002

Elizabeth A. Keator
Quality Assurance

« •

C-B-5-c*>-<=*>/ ***Vi77j-'*** ***Q&Ss^-eel*** **-7** YES **NO** **N/A**

PACKAGE COMPLETENESS AND DELIVERABLES

CASE NUMBER: *~_____ SDG#

LAB: *Iffitncf L ^ ^ ^ Hfo** SITE:___]//*/&& /&&& *fr^df*

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_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? *y* Xid-

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? _____ ***y***

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?

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?

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

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."

0 Surrogate Recovery (Form II) *fj/r &fr~ fajl&L* **fa,,** *yCtCS/^*

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

a. Water/Waste _L_L

b. Soil/Solid J_J_

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

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? I_L

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? i_l u^

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 *Ajfc JVC faJ&£ f* false

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? >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 jUfi f. fit* f /ft* ~ytf«*'

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?

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 L^

b. Waste

c. Soil/Solid J_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) 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)

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? uS

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? i ^ _

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

7.0 Contamina lias /JA (L £U i /sf** -/Ut*'t* •

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_L

7.2 Do any field/rinse blanks have positive PCB results? 1_L

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 cone > EDL but < 5 x 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? i]_ 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 *3^/ /£&•- sUv**'£*s

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_JL S

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

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

calibration verification standards

f. Laboratory Control samples (LCS) 1_L

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? ☑

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? J_L J

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 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 peak•

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) . 7^?-?£

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.

9.10 Has the percent difference (%D) exceeded ± 15% for any PCB analyte in any calibration verification/ Continuing calibration standard?

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 + 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%

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

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

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? S

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? M

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? M

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

11.0 Extraction Techniques for Sample Preparation kJ L /jtvl io>

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) L c^

2. Continuous liquid-liquid extraction (Method 3520)
3. Solid phase extraction (Method 3535) J

4. Other J

2. Solid samples: y

1. Soxhlet (Method 3540)

YES NO N/A

2. Automated Soxhlet (Method 3541) J_L ^

3. Pressurized fluid (Method 3545)

4. Microwave extraction (Method 3546)

5. Ultrasonic extraction (Method 3550)

6. Supercritical fluid {Method 3562) I_i

7. Other

11.1 Extract Cleanup - Efficiency Verification (Form IX) fjvt 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_1 ___

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? _L_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?

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)

70-130% for GPC calibration?

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 "OJ". 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? u_

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? d _

• %

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_I _ ^

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		Qualifier
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 <CROL 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.

* %

V

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 Chromatoqram 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

15.1 Were any field duplicates submitted for PCB analysis? _L_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.: SDGNo.:AAA
Lab Sample ID: MB 92 Lab File ID: E2980075
Matrix: (soil/water) SOIL Extraction:(SepF/Cont/Sonc) SONC
Sulfur Cleanup: (Y/N) N Date Extracted: 10/02/02
Date Analyzed (1): 10/08/02 Date Analyzed (2):_____
Time Analyzed (1): 1843 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	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				
17				
18				
19				
20				
21				
22				
23				
24				
25				
26				

COMMENTS•

00011

FORM IV-PEST

4C

PESTICIDE METHOD BLANK SUMMARY

NYSDEC SAMPLE NO.

MB 01

Lab Name: FRIEND LABORATORY, INC. Contract:
Lab Code: 10252 Case No.:_____ SAS No.: SDG No.: 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				
12				
13				
14				
15				
16				
17				
18				
19				
20				
21				
22				
23				
24				
25				
26				

COMMENTS:

00012

Friend Inc.

Data File: /chem/hp3.i/l254FCONFIRMa.b/E3956347.D
Method: /chem/hp3.i/12 54FCONFIRMa.b/8 082_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

EPA SAMPLE NO.

PESTICIDE ORGANICS ANALYSIS DATA SHEET

MB92 1

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: /CopQ (UL) Date Analyzed: 10/08/2

Inj ection 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	ic	OTOIr ores-	•u u
1104-28-2	Aroclor-1221	IO	u. ui	u
11141-16-5	Arocior-1232	/c	0.01	u
53469-21-9	Aroclor-1242	/€•	n m,	u
11097-69-1	Aroclor-1254	to	-frr£i	u
11096-82-5	Aroclor-1260	t'O		u
	ArocIor-1248			

Thru-Put Systems, Ine.

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

Name	Value	Description
DF	1.000	Dilution Factor
Vf,	10.000	Final volume
Ws	10.240	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 TeErachloro-m-xylene							CAS #:	
	7.990	7.997	-0.007	3939B74	4B6.020	474.61		
$ 29 Decachlorobiphenyl							CAS tt:	
	20.130	20.130	0.000	3110160	591.B12	577.92		

Data FTW: /chem/hpl, i/8032r0917.b/E2980075.D
Caj^^^8OCT-2002 18:43
Cli^^K: MB92
Sample Info: MB92
Volume Injected <uL>: 2.0
Column phase: RTX-CLPesticides 2

Instrument: hpl.i

Operator: CPU
Column diameter: 0.32

Pag

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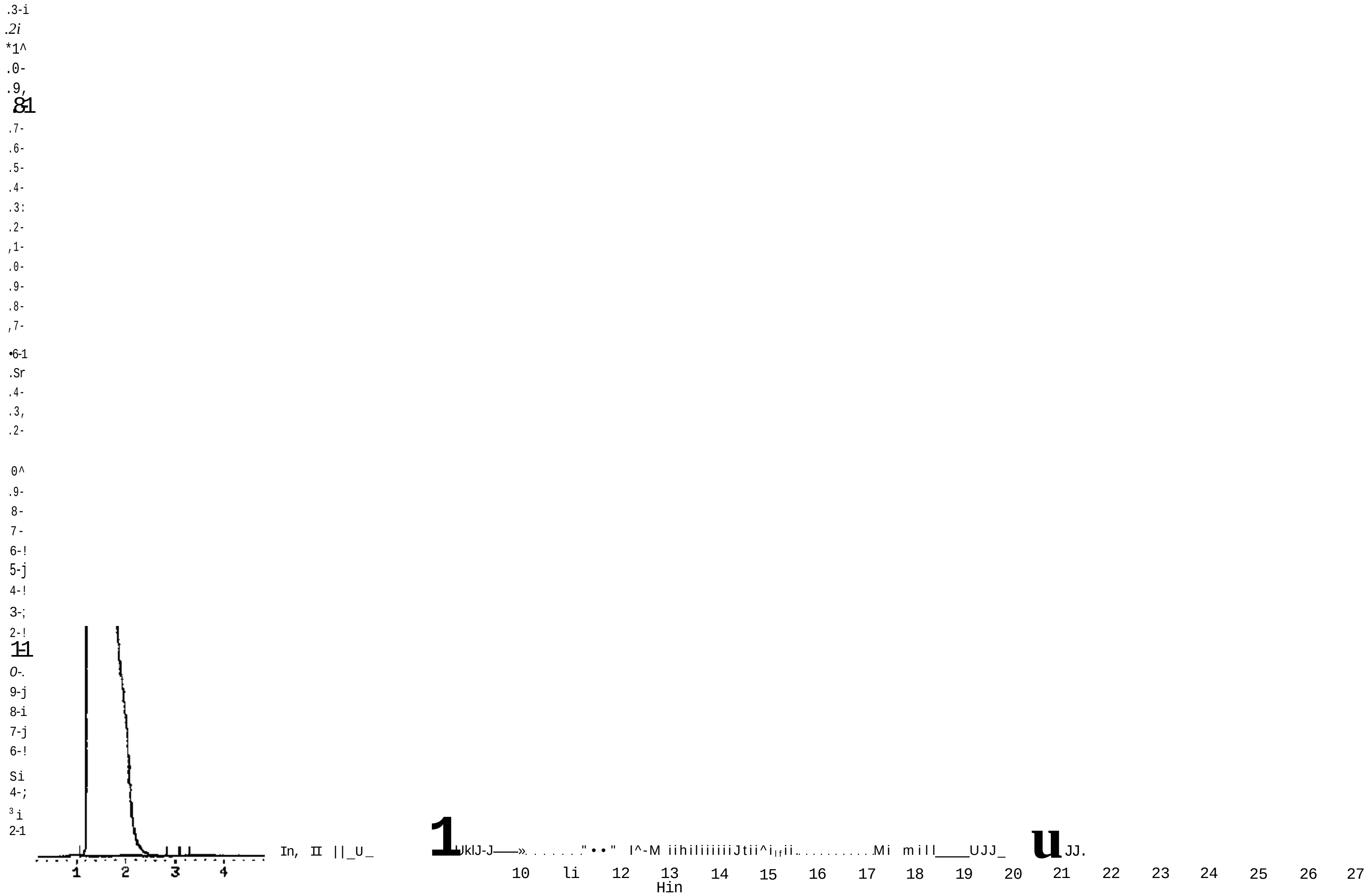
/chem/hpl.i/8082r0917,b/E2980075,D



Friend Inc.

Data File: /chem/hpl.i/8082r0917.b/E2980075.D
Method: /chem/hpl.i/8082r0917.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:

ID EPA SAMPLE NO.

PESTICIDE ORGANICS ANALYSIS DATA SHEET

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 Cg/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: /OOOO (uL) Date Analyzed: 10/07/2

Inj ection 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 '-"0.01	V
1104-28-2	Aroclor-1221		U
11141-16-5	Aroclor-1232		U
53469-21-9	Aroclor-1242		U
11097-69-1	Aroclor-1254		U
11096-82-5	Aroclor-1260		U
	Aroclor-1248	/C -Q-rQ±	U

/t/l/cx

mm

h Name: FRIEND LABORATORY, INC. . Contract:
Code: 10252 Case No.:_____ SAS No.:_____ SDG No.: AAA
strument 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 #	RT OF STANDARDS 10 ppb |	50 ppb	100 ppb	250 ppb	500 ppb	1000 ppb	MEAN RT	RTWI FROM	MDOW 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	r				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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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	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
Decachlorobipheny1	3029	3502	5170	5257	6283

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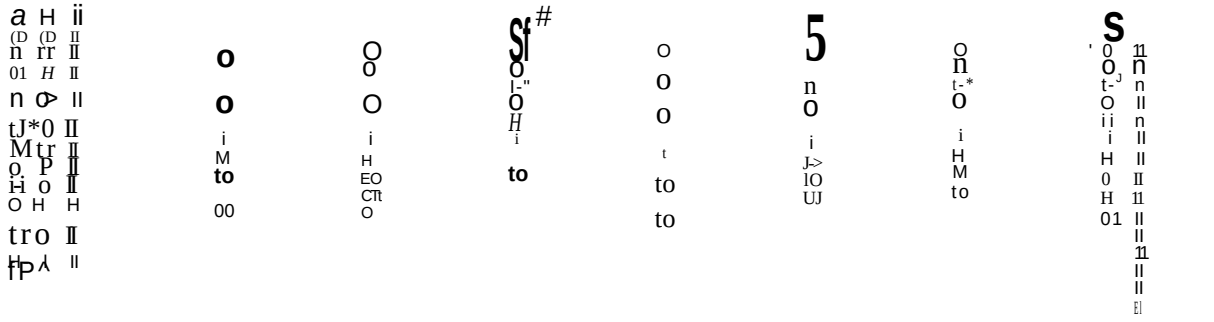

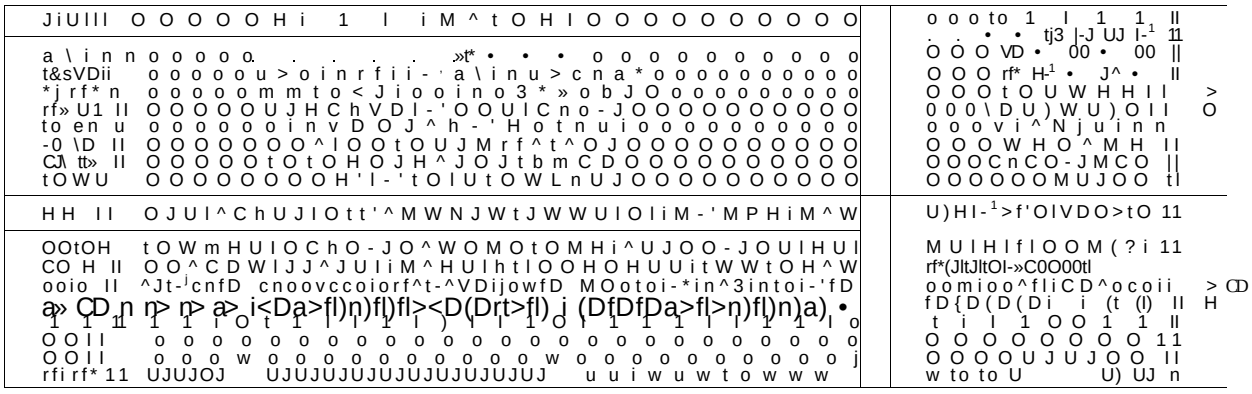

Lab Name: FRIEND LABORATORY, INC. Contract:
Lab Code: 10252 Case No.:_____ SAS No.:_____ SDG No.: AAA
Instrument ID: HP3
GC Column: RTX-CLPest1 ID: 0.32 (mm) Date(s) Analyzed: 10/03/02
File Numbers: 6274

COMPOUND	AMOUNT (ng)	PEAK	RT	RT WINDOW FROM 1	TO	CALIBRATION FACTOR
PCB 1254	250 PPB	1*	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
Decachlorobiphenyl	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
8209.7
250 S2S.31

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	RTWINDOW FROM	RTWINDOW 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
Arocldr-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
Decachlorobi phenyl	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: 250PPB 1254
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	RTWINDOW FROM	RTWINDOW 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%.

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	RTWI FROM	sJDOW TO	CALC AMOUNT	TRUE AMOUNT	%D
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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00175

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	RT WINDOW FROM	RT WINDOW 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

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

00176

8D
PCB ANALYTICAL SEQUENCE

Name: Contract:
Code: Case No. : SAS No.: SDG No.: AAA916
w^Ks trument 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	STD6I254	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	CClCCOQlJ	CC166001	09/18/2	1401	8.00	20.13
18	MB82 7	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	L9408J-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	CC16*02	CC166002	09/18/2	1815	8.01	20.13
25	L940I1-1RE	L94081-1RE	09/18/2	1846	7.98	20.13
26	L94QB1-4RE	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	L94I)81-6RE	L94081-6RE	09/18/2	2019	7.99	20.13
29	L9/081-7R	L94081-7R	09/18/2	2051	7.98	20.13
30	L9I081-1MSR	L94081-1MSR	09/18/2	2122	7.98	20.13
31	L31081-1MSDR	L94081-1MSDR	09/18/2	2153	7.97	20.11
32	CCI166003	CC166003	09/18/2	2255	8.01	20.13
33	cfl25401	CC125401	09/18/2	2327	7.99	20.13
34	Cfl25402	CC125402	09/19/2	1009	7.99	20.13
35	L§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

4»

	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. : AAA1001
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 :CNITIAL CALIBRATION
TCX: 8.00 DCB: 20.13

	EPA SAMPLE NO.	LAB SAMPLE ID	DATE ANALYZED	TIME ANALYZED	TCX RT #	DCB RT #
01	nnccim	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	L9477/-7R	L94773-7R	10/02/2	1728	7.99	20.13
06	L9477I-8R	L94773-8R	10/02/2	1759	7.99	20.13
07	L9477B-4R	L94773-4R	10/02/2	1831	7.99	20.12
08	1254dC02	1254CC02	10/02/2	1902	7.99	20.13
09	1254fC03	1254CC03	10/03/2	0929	7.98	20.12
10	MB9^E	MB92RE	10/03/2	1000 .	7.97	20.12
11	QC9^feE	QC92RE	10/03/2	. 1032	7.98	20.12
12	L94I73-2RE	L94773-2RE	10/03/2	1103	7.97	20.12
13	L94f73-7RE	L94773-7RE	10/03/2	1134	7.97	20.12
14	L94J773-8RE	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 J
17	LSR773-5RE	L94773-5RE	10/03/2	1339	7.98	20.12"
18	LW4773-6RE	L94773-6RE	10/03/2	1410	7.97	20.12
19	LI4773-2MSRE	L94773-2MSRE	10/03/2	1441	7.97	20.12
20	I«4773-2MSDR	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
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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:
ab Code: Case No. : SAS No. : SDG No. : AAA1002
nstrument 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	1254CC02	1254CC02	10/07/2	1300	7.98	20.12
02	MBOl	MBOl	10/07/2	1331	7.98	20.12
03	QCOl	QCOl	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	V;LSMCCO?L		\olci h9-			
12	LflM^-H	WM^qf-	\n/rtlln1	inn^	T .<=n	;0o*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): 09/17/2 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	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
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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:
J-ab Code: Case No. : SAS No. : SDG No. : AAA1001CONFIRM
nstrument ID: HP3 - Init. Calib. Date(s): 10/03/2 10/03/2
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: 20.92

	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 (+/- 0.10 MINUTES)
DCB = Decachlorobiphenyl (+/- 0.10 MINUTES)

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

FORM VIII PCB

8D
PCB ANALYTICAL SEQUENCE

Lab Name: Contract:
Lab Code: Case No.: SAS No. : SDG No. : AAA1002'
Instrument ID: HP3 Init. Calib. Date(s): 10/03/2 iff
GC Column: RTX-CLPESTICIDES 1 ID: 0.32 (mm) *ID/OH(GX*

THE ANALYTICAL SEQXJENCE OF PERFORMANCE EVALUATION MIXTURES, BLANKS, ujnlo-a-
SAMPLES, AND STANDARDS IS GIVEN BELOW:

	MEAN SURROGATE RT FROM INITIAL CALIBRATION TCX: -9T34 9-5Z- DCB: 30.92- *2d* °i 1 *0&JL 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
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QC LIMITS
TCX = Tetrachloro-m-xylene (+/- o.io MINUTES;
DCB = Decachlorobiphenyl (+/- O.IO 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. : AAA1007CONFIRM
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
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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

EPA SAMPLE NO.

PESTICIDE IDENTIFICATION SUMMARY
FOR MULTICOMPONENT ANALYTES

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 *ioh^hg-*

Instrument ID (1): HP1 Instrument ID (2) : HP 3

GC Column(1) : RTX-CLPESTICIDES 2 ID: 0 .32 (mm) GC Column(2) : ^V-CtP£5T j-ID: *n ,3'J~*

• ANALYTE	PEAK	RT	RT WINDOW FROM	RT WINDOW TO	CONCENTRATION	MEAN CONCENTRATION	%D
Aroclor-1254	1	13.65	13.57	13.77	47.42		
	2	14.54	14.46	14.66	338.15		
	3	14.92	14.90	15.10	429.61		
COLUMN 1	4	15.33	15.25	15.45	237.09		
	5	16.01	^15.93	16.13	348.78	280.21	
	1	*IH.3LD*		**m 3c**			
	2	*t^.lT-*	*IX. M*	*tx. •*&*	*.•^(o^.b?-*		
	3	l.-n^SL	J.S.M.3	*\&.L>-*>*	*S\ %.a>?>*		
COLUMN 2	4	i o . ^	*i S ^*	**is.<^**	3H.3.:?K		
	5	i/,-1^	/A.q*	**u*.i***	-aia.aa.		
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COLUMN 2	4						
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At least 3 peaks are required for identification of multicomponent analytes.

10B

EPA SAMPLE NO.

PESTICIDE IDENTIFICATION SUMMARY
FOR MULTICOMPONENT ANALYTES

L94773-2

Lab Name: Contract:

ab Code: Case No.: SAS No.: SDG No.: AAAlOOl

Lab Sample ID: L94773-2 Date(s) Analyzed: 10/04/2 *ioJ03J_0^~*

Instrument ID (1): HP1 Instrument ID (2): MP3

GCColumnd): RTX-CLPESTICIDES 2 ID: 0.32 (mm) GC Column(2): RTX-cU^STO- ID: O.y *(n\m)*

ANALYTE	PEAK	RT	RT w::NDOW FROM	TO	CONCENTRATION	MEAN CONCENTRATION	%D
	1	13.66	13.57	13.77	5007.55		
Aroclor-1254	2	14.55	14.46	14.66	4015.48		
	3	14.99	14.90	15.10	4008.44		
COLUMN 1	4	15.34	15.25	15.45	4812.77		
	5	16.01	15.93	16.13	2586.66	4086.18	
	1	14-3.0	(H.IO	14-30			
	2	J."i.a*	(.5.1*1	I.S.Stf	itoiD. M^		
	3	1.5,^3	*l5MZ*	I.S.<*>3	*-*F\fo(t>. ?>*		
COLUMN 2	4	15.^	IS.Ti	I S . ^	*3<\S3.0*		
	5	II*. cr*	JS.'IS	We. IS	*335Z*3*	3M ID.TO	
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COLUMN 2	4						
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At least 3 peaks are required for identification of multicomponent analytes.

FORM X PEST-2

10B

EPA SAMPLE NO.

PESTICIDE IDENTIFICATION SUMMARY FOR MULTICOMPONENT ANALYTES

L94773-3MS

Lab Name: Contract:

Lab Code: Case No.: SAS No. : SDG No.: AAA1007*

Lab Sample ID: L94773-3MS 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 FROM	TO	CONCENTRATION	MEAN CONCENTRATION	%D
Aroclor-1016	COLUMN 1	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		
		4	11.97	11.88	12.08	3068.12		
		5	12.67	12.59	12.79	1234.24	1833.14	
	COLUMN 2	1						
		2						
		3						
		4						
		5						
Aroclor-1260	COLUMN 1		14.94	14.84	15.04	2018.55		
			15.35	15.25	15.45	2617.09		
			16.20	16.11	16.31	1396.65		
			16.75	16.67	16.87	1197.57		
			17.24	17.15	17.35	1118.61	1669.69	
	COLUMN 2							
	COLUMN 1	1						
		2						
		3						
		4						
		5						
	COLUMN 2	1						
		2						
		3						
		4						
		5						

X

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

10B

EPA SAMPLE NO.

PESTICIDE IDENTIFICATION SUMMARY
FOR MULTICOMPONENT ANALYTES

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 FROM	RT WINDOW TO	CONCENTRATION	MEAN CONCENTRATION	%D
	1	10.20	10.11	10.31	612.30		
Aroclor-1016	2	10.70	10.61	10.81	625.00		
	3	11.90	11.80	12.00	4477.19		
COLUMN 1	4	^.98	11.88	12.08	4096.55		
	5	12^7	12.59	12.79	1639.49	2290.10	
	1	^					
	2						
	3						
COLUMN 2	4						
	5						
		======	======	======	==========	==========	======
	1	14.94	14.84	15.04	2351.10		
Aroclor-1260	2	15.35	15.25	15.45	2964.90		
	3	16.20	16.11	16.31	1532.98		
COLUMN 1	4	16.75	16.67	16.87	1242.89		
	5	17.24	17.15	17.35'	1150.28	1848.43	
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	2						
	3						
COLUMN 2	4						
	5						
	1						
	2						
	3						
COLUMN 1	4						
	5						
	1						
	2						
	3						
COLUMN 2	4						
	5						

At least 3 peaks are required for identification of multicomponent analytes

FORM X PEST-2

00188

10B

PESTICIDE IDENTIFICATION SUMMARY FOR MULTICOMPONENT ANALYTES

EPA SAMPLE NO.

L94773-5

Lab Name: Contract:

Lab Code: Case No. : SAS No.: SDG No-: AAA1001

Lab Sample ID: L94773-5 Date{s) Analyzed: 10/04/2 fc/c3/o;L

Instrument ID (1): HP1 Instrument ID (2) : *L\P3*

GC Column(1) : RTX-CLPESTICIDES 2 ID: 0.32(mm) GC Column(2) : RTX-CLPEST^ ID: (7.33-

• ANALYTE	PEAK	RT	RT WINDOW FROM	RT WINDOW 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	m.\o	m.30	^-130^15		
	2	i^.as	i.s.R	k-5..^	M/oO.^3		
	3	/,*5-53	i^;.M3	kS-tp3	M304-11		
	4	*I3.%<*	L*5-"W	i^.qq	U^Xk.XS		
	5	*Itn.nK*	l^.^S	iz*.is	M0/e3.K4	.3^x5.*OU*>	
COLUMN 1	1						4
	2						
	3						
	4						
	5						
COLUMN 2	1						
	2						
	3						
	4						
	5						
COLUMN 1	1	===^:==	~;=;^;==^	==r:=^^	========:=== =		
	2						
	3						
	4						
	5						
COLUMN 2	1						
	2						
	3						
	4						
	5						

At least 3 peaks are required for identification of multicomponent analytes

FORM X PEST-2

10B

EPA SAMPLE NO.

PESTICIDE IDENTIFICATION SUMMARY FOR MULTICOMPONENT ANALYTES

L94773-6

Lab Name: Contract:

Lab Code: Case No.: SAS No.: SDG No.: AAA1001

Lab Sample ID: L94773-6 Date(s) Analyzed: 10/04/2 *wlo^jp^*

Instrument ID (1): HP1 Instrument ID (2): *W?3*

GC Column(1): RTX-CLPESTICIDES 2 ID: 0.32 (mm) GC Column(2): *(lTjt-ClP£SX* ±. ID: Q.3g-

ANALYTE	PEAK	RT	RT WINDOW FROM	RT WINDOW TO	CONCENTRATION	MEAN CONCENTRATION	%D
Aroclor-1254	1	13.65	13.57	13.77	141.79		
	2	14.54	14.46	14.66	274.20		
	3	14.99	14.90	15.10	295.56		
COLUMN 1	4	15.33	15.25	15.45	174.70		
	5	15.99	15.93	16.13	203.79	218.01	
	1		m.io	14..^O			
	2	/s*5.as	i^.iq	\^.*7f*\	«TK.to?>		
	3	k5~.5M	p.6.43	1^.(^3	*,:)2^.KO*		
COLUMN 2	4	L6>10	i^. ^	Ifl.^	M ^ . Ifc>		
	5	l/„.OR	*l^AK*	UD-\$	J^.^K		
	1						
	2						
	3						
COLUMN 1	4						
*	5						
	1						
	2						
	3						
COLUMN 2	4						
	5						
	1						
	2						
	3		*				
COLUMN 1	4						
	5						
	1						
	2						
	3						
COLUMN 2	4						
	5						

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

FORM X PEST-2

*

00190

10B

EPA SAMPLE NO.

PESTICIDE IDENTIFICATION SUMMARY
FOR MULTICOMPONENT ANALYTES

L94773-7

Lab Name: Contract:

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

Lab Sample ID: L94773-7 Date(s) Analyzed: 10/04/2 jO_|os|og.

Instrument ID (1): HP1 Instrument ID (2): HP3

GC Column(1) : RTX-CLPESTICIDES 2 ID: 0.32 (mm) GC Column(2) : faX-dP^X ID: *Q.33-*

ANALYTE	PEAK	RT	RT WINDOW FROM	RT WINDOW TO	CONCENTRATION	MEAN CONCENTRATION	%D
Aroclor-1254	1	13.65	13.57	13.77	2081.35		
	2	14.55	14.46	14.66	1541.13		
	3	14.99	14.90	15.10	1456.20		
COLUMN 1	4	15.33	15.25	15.45	1986.66		
	5	16.01	15.93	16.13	1072.69	1627.61	
	1	IM-30	M.I0	m-30	I3'43.\<%		
	2	i^.as	j*3.W	/,S,^	^M .^«-i		
	3	I.^.SSl	LS.M3	LS-J*3	i.^3./^		
COLUMN 2	4	1.5 ^	IS.IS	[3.1<i	IMMS.3I		
	5	1 Ie-0"^	lf5.c1K	1<VIX	t3.SM-T4	1a\a-?.I	
	1	======					======
	2						
	3						^
COLUMN 1	4						
	5						
	1						
	2						
	3						
COLUMN 2	4						
	5						
	1	======	======	======	==========		
	2				"		
	3						
COLUMN 1	4						
	5						
	1						
	2						
	3						
COLUMN 2	4						
	5						

At least 3 peaks are required for identification of multi component analytes.

FORM X PEST-2

OOiSi

10B

EPA SAMPLE NO.

PESTICIDE IDENTIFICATION SUMMARY FOR MULTICOMPONENT ANALYTES

L94773-8

Lab Name: Contract:

ab Code: , Case No. : SAS No.: SDG No. : AAA1001

Lab Sample ID: L94773-8 Date(s) Analyzed: 10/04/2 lolosldT-

Instrument ID (1): HP1 Instrument ID (2) : \W3>

GC Column(1) : RTX-CLPESTICIDES 2 ID: 0.32(mm) GC Column(2) : RTX-CLP£S7 1- ID: fl.33u

ANALYTE	PEAK	RT	RT WINDOW FROM	RT WINDOW TO	CONCENTRATION	MEAN CONCENTRATION	%D
	1	13.66	13.57	13.77	3127.77		
Aroclor-1254	2	14.55	14.46	14.66	2936.62		
	3	14.99	14.90	15.10	2791.77		
COLUMN 1	4	15.34	15.25	15.45	3911.00		
	5	16.01	15.93	16.13	2549.65	3063.36	
	1	JM-ao	14•t D	IH-30			
	2	is. as	LTIS	!.*>.?&	^I.Sl.rO.^		
	3	IS .^3	15^3,	Ii?./n^	r3K^. ^3		
COLUMN 2	4	LS.^1	|S.T?	/js.qq	, ^ ^ 1 - ^		
	5	lip-01	15 W	Ifo.lK	Jlc^, M4		
	1						
	2						
	3						
COLUMN 1	4						
	5						
	1						
	2						
	3						
COLUMN 2	4						
	5						
	1						
	2						
	3						
COLUMN 1	4						
	5						
	1						
	2						
	3						
COLUMN 2	4						
	5						

At least 3 peaks are required for identification of multicomponent analytes

10B

EPA SAMPLE NO.

PESTICIDE IDENTIFICATION SUMMARY FOR MULTICOMPONENT ANALYTES

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 \0\o^>lo^~

Instrument ID (1): HP1 Instrument ID (2): MPs3

GC Column (1): RTX-CLPESTICIDES 2 ID: 0.32 (mm) GC Column(2): *fllX'CL P£STl* ID: Q.3X. *(mm}*

7ANALYTE	PEAK	RT	RT WINDOW FROM	RT WINDOW TO	CONCENTRATION	MEAN CONCENTRATION	%D
Aroclor-1254 COLUMN 1	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 2	1		IM.IO				
	2	/6.3S	L5.l^	^.*Zft*	^5?S>3^		
	3	*k^.SZ-*	1,6. M3	i.S.^3	M^-3O		
	4	*I^.K-Z*	**K%^n**	i.<=y.<ff	-qqa.^3		
	5	/k-Ol	L^S	w*.l1f	,3^0.<l4		*SO.V*
COLUMN 1	1						
	2						
	3						*m*
	4						^
	5						
COLUMN 2	1						
	2						
	3						
	4						
	5						
COLUMN 1	1						
	2						
	3						
	4						
	5						
COLUMN 2	1						
	2						
	3						
	4						
	5						
1							

At least 3 peaks are required for identification of multicomponent analytes

FORM X PEST-2

00193

ID EPA SAMPLE NO.

PESTICIDE ORGANICS ANALYSIS DATA SHEET

L94773-1

ab 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: —0-H3.H decanted: (Y/N) N Date Received: 10/01/2'

Extraction: (SepF/Cont/Sonc) SONC Date Extracted:10/02/2

Concentrated Extract Volume: *j00(?0* (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
1104-28-2	-Aroclor- 1221"	350 6-7^5-	U
11141-16-5	-Aroclor- 1232"	no .0.17	u
53469-21-9	-Axoclor- 1242"		u
11097-69-1	-Aroclor- 1254"	280.21	
11096-82-5	-Aroclor- 1260"	[1® 6^i5-|	U
	-Aroclor- 1248"		u

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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

	RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COL (ug/L)	PINAL (ug/Kg)	TARGET RANGE	RATIO
$ 1	Tetrachloro-m-xylene					CAS tf:		
	7.977	7.997	-0.020	2B9496	40.8955	710.09		
S 29	Decachlorobiphenyl					CAS ft:		
	20.120	20.130	-0.010	228917	47.8645	B31.09		
25	Aroclor-1254					CAS ft: 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	348.78	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

* .

*

Tetrachloro-m-xylene <7.977)

-Aroclor-1254 <13,650>

-Aroolor-1254 (14.540>
-Aroclor-12S4 <14.917)
-ftroclor-1254 <15.330>

-Aroclor-1254 <16*007>

Decachlorobiphenyl (20*120)

Flag Legend

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

•ft

*

Y <xl0"-5>

Tetrachloro-m-xylene <9.330>

t-ftroclor-1254 C14.197)

fe-Aroclor-1254 <15.273)
r-Aroclor-1254 <15.520)
l-Aroclor-1254 <15.883)
fc-Aroclor-1254 <16.120)

Decachlorobiphenyl <20«913)

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-SEPT2002 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	10.967	Weight of sample extracted
Uf	0.100	Unit Correction Factor
Ts	55.800	Total Solid

RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COX, { ug/L)	FINAL (ug/Kg)	TARGET RANGE	RATIO
$ 1 Tetrachloro-m-xylene						CAS tt:	
7.980	7.997	-0.017	2B0155	39.7565	649.66		
$ 29 Decachlorobiphenyl						CAS #:	
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	SO.00- 120.00	100.00(MH)
14.550	14.563	-0.013	101298	245.731	4015.48	95.00- 135.B0	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.B0- 78.80	SB.44
16.010	16.033	-0.023	53299	1S8.293	2586.66	78.24- 118.24	56.04
Average of Peak Concentrations •					4086.18		

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

l^QC Flag Legend

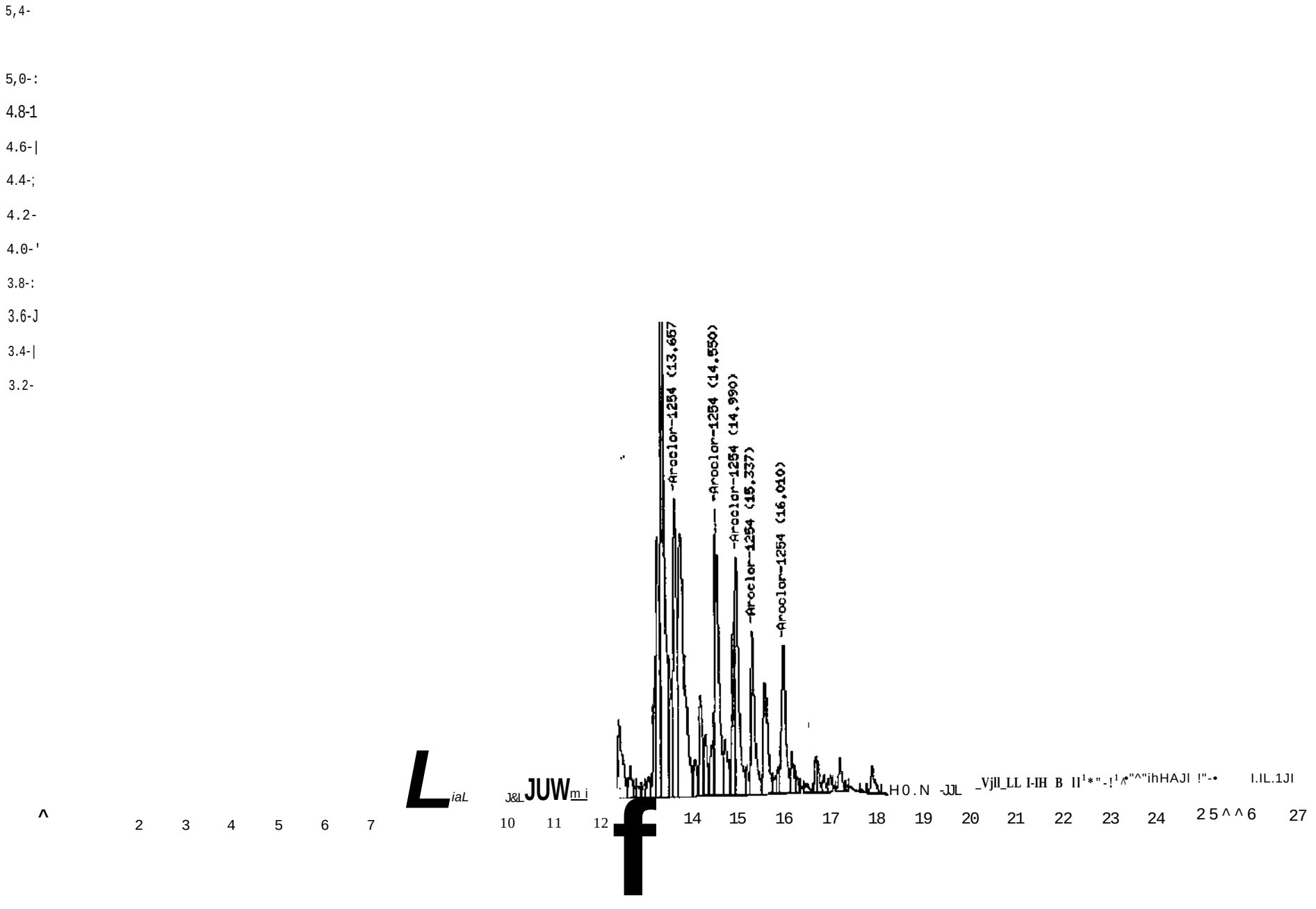
M - Compound response manually integrated.
H - Operator selected an alternate compound hit.

Data File: /chem/hpl.i/8032r0917.b/E2980004.D
Date : 04-0CT-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

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



Friend Inc.

Data File	/chem/hpl.i/8082r0917.b/E2980004.D
Method	/chem/hpl.i/8082r0917.b/80 82_PCBsec.M
Sample Info	L94773-2
Misc Info	WG32995,02-004
Analysis Date	04-OCT-2002 13:08
Sample Matrix:	SOIL
File Number:	0004

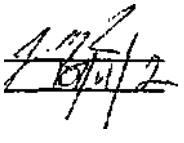
Dilution Factor	10.0000
Sample Weight	10.9670
Final Volume	10.0000
Total Solid	55.8000

Analytes (ug/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.

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Data File: /chem/hp3.i/1254FCONFIRMa.b/E3956275.d
Method: /chem/hp3.i/1254FCONFIRMa.b/8082_PCBsec.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:

Y <xl0*6>

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P--L

ro-L

-Tetrachloro-m-xylene (9,337)

la-[1]

-Aroclor-1254 (14,203)

•Aroclor-1254 (15.280)
-Aroclor-1254 <15.527)

h- -

P-

-Decachlorobiphenyl <20,913)

K:

8-:

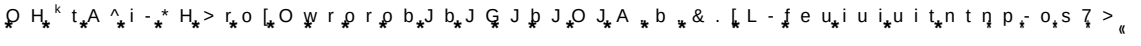
C0030

[redacted] Flag Legend

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

[redacted]

Y <xIO"4)



Tetrachloro-m-xylene C7.97Q>

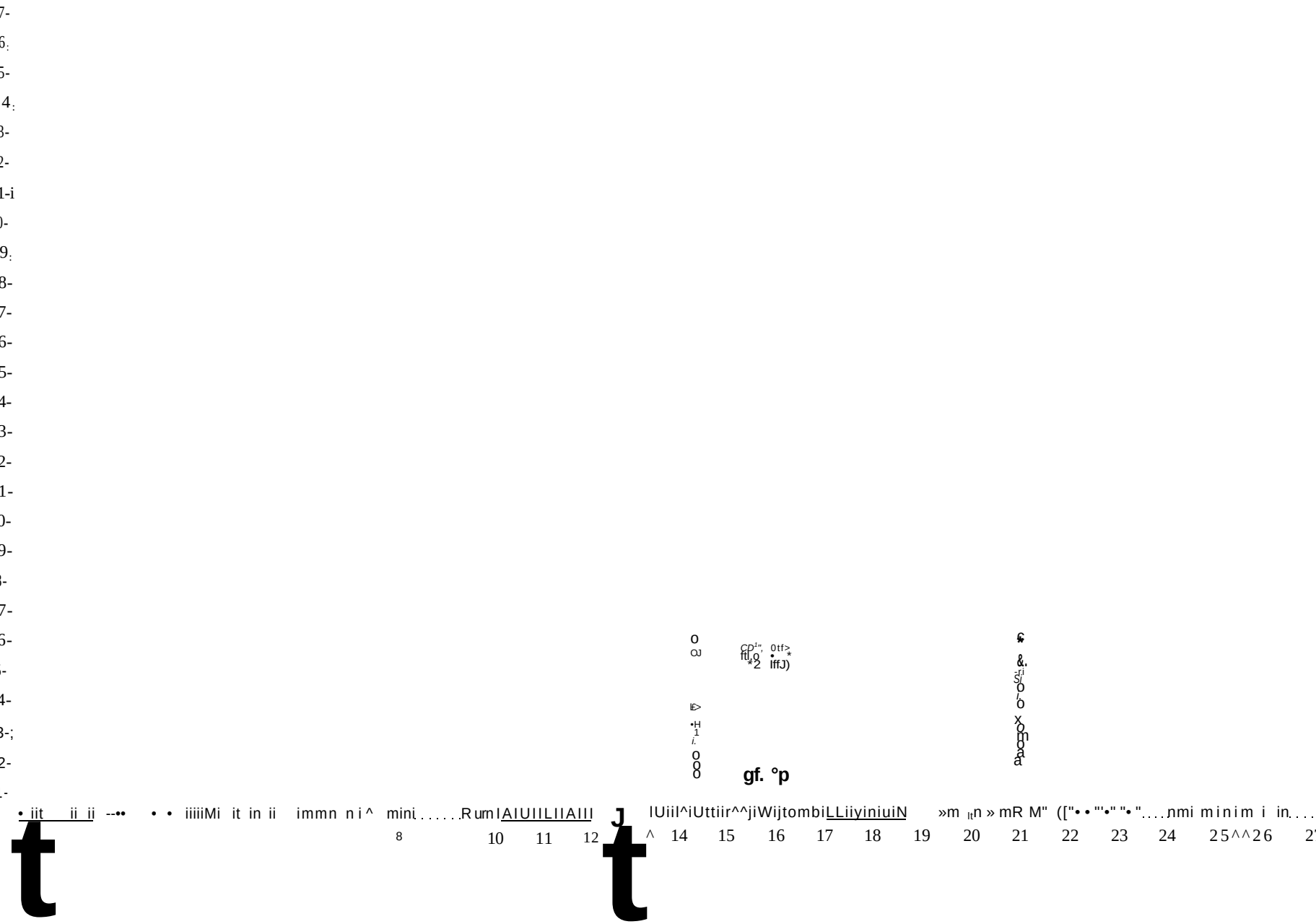
-Aroclor-1254 <13.657>

-Aroolor-1254 C14.550J

-Aroclor-1254 <14,990)

Decachlorobiphenyl (20.120)

•chem/hp3.i/1254FC0NFIRMa.b/E3956280.d



Friend Inc.

Data File; /chem/hp3.i'/l254FCONFIRMa.b/E3956280.d
Method; /chem/hp3.i/1254FCONFIRMa.b/8082_PCBsec.M
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

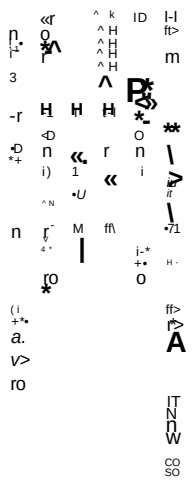
Supervisor:
Date:

Flag Legend

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

Y <x!0^A4)

M (0 i S O | i N W A C I P V e D i S O P * N U A O I « » M C I) D O P N W 4 i (J I P \ | (» < S O P N W * 0 1 5 i



Tetrachloro-m-xylene C7.977)

-Aroclor-1254 <13.650)

-Aroclor—1254 <14.540>
^-Aroclor-1254 (14.987)
• -Aroclor--1254 (15.327)

--Aroclor-1254 (15.997)

Decachlorobiphenyl (20.117)

* . Flag Legend

M - Compound response manually integrated.

H

Y (xl0~5>

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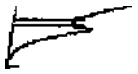

Tetrachloro-m-xylene <9.343>

»- -Aroolor-1254 <14.213)

-Aroclor-1254 <15,2S3>

-Aroclor-1254 (15.5375

Decachlorobiphenyl (20+923)

w.

ID

EPA SAMPLE NO.

PESTICIDE ORGANICS ANALYSIS DATA SHEET

L94773-7

ab Name: Contract:

•ijab 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: -Q-3C% decanted: (Y/N) N Date Received: 10/01/2

Extraction: (SepF/Cont/Sonc) SONC Date Extracted:10/02/2

Concentrated Extract Volume: \OQOO (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	0.14	
1104-28-2	-Aroclor- 1221"	n T7	
11141-16-5	-Aroclor- 1232"	NO 0.14	HU
53469-21-9	-Aroclor- 1242"	^° -Gri4	U
11097-69-1	-Aroclor- 1254"	1627.61	
11096-82-5	-Aroclor- 1260"		
	-Aroclor- 1248"	IHC -0^4	

II/H/OSL

Friend Inc.

Data File: /chem/hp3.i/1254FCONFIRMa.b/E3956281.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/Kgi

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

	RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COL (ug/L)	FINAL (ug/Kg)	TARGET RANGE	RATIO
$ 1 Tetrachloro-m-xylene						CAS #:		
	7.980	7.997	-0.017	275926	39.2408	53S.72		
$ 29 Decachlorobiphenyl						CAS #:		
	20.117	20.130	-0.013	229948	48.0591	656.11		
25 Aroclor-1254						CAS #: 11097-69-1		
	13.653	13.670	-0.017	48297	152.457	20B1.3S	80.00- 120.00	100.00(MH)
	14.547	14.563	-0.016	42567	112.BB6	1541.13	95.BO- 135.80	88.14
	14.990	15.003	-0.013	32524	106.665	1456.20	B5.16- 125.18	67.34
	15.333	IS.350	-0.017	27029	145.521	1986.66	38.80- 78.80	55.96
	16.010	16.033	-0.023	24322	78.5730	1072.69	78.24- 118.24	50.36

Average at Peak Concentrations = 1627.61

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

QC Flag Legend

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

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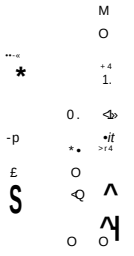


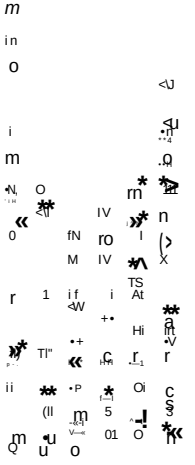
<0TO*9T) ^gaT-«JOtooj«-

<£££*97) t723T-JOtoouy-

<066*>7> t-SST—loioouy-

<£Q9*£7) frSZT-^oioojy-

<036*£) 3uaifix-ui-o_iomoe_i^aj.-



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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: //oPfl/?

Thru-Put Systems, Inc.

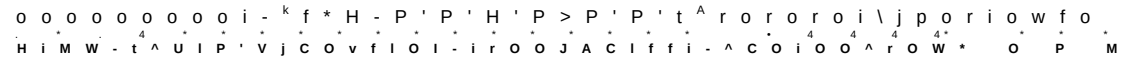
Data file : \chem\hp3.i\1254FCONFIRMa.b\E3956276.d
Lab Smp Id: L94773-7 Client Smp ID: L94773-7
Inj Date : 03-OCT-2002 17:38
Operator : CPW Inst ID: hp3.i
Smp Info : L94773-7
Misc Info : CONFIRMATION
Comment :
Method : \chem\hp3.i\1254FCONFIRMa.b\8082_PCBsec.M
Meth Date : 04-Oct-2002 08:42 Administra 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

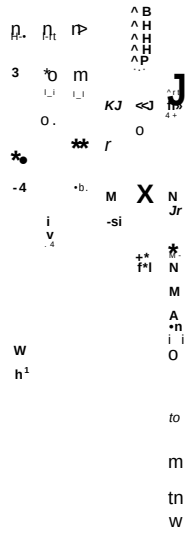
Concentration Formula: Amt * DF * ((Vf / Ws) * Uf) / Ts * 1000

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

	RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COL (ug/L)	FINAL (ug/Kg)	TARGET RANGE	RATIO
S 1 Tetrachlqro-m-xylene						CAS #:		
	9.333	9.337	-0.004	435300	50.7344	733.16		
25 Aroclor-1254						CAS ft: 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	46B82	95.0595	1373.69	126.59- 166.59	150.24
	15.887	15.890	-0.003	26346	100.223	144B.31	57.35- 97.35	84.43
	16.073	16.077	-0.004	36168	93.7479	1354.74	84.54- 124.54	IIS.90
Average of Peak Concentrations =						1212.31		
S 29 Decachlorobiphenyl						CAS it:		
	20.913	20.920	-0.007	317129	56.0946	810.62		

Y (xl0^6)





-Tetraohloro-w-xylene (9.333)

E-ftroclor-1254 (14.200)

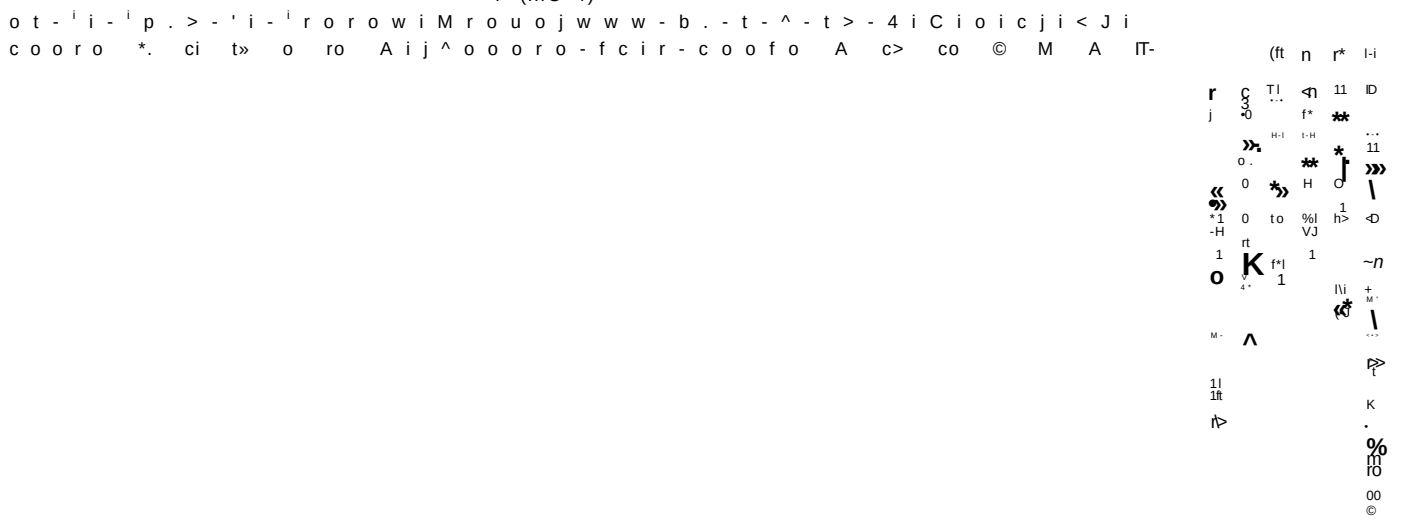
f. -firoclor-1254 (15.280)

•: -Aroclor-1254 (15.523)

E-Aroclor-1254 (15.887)

^-Aroclol—1254 (16.073)

-Decachlorobiphenyl (20.913)


Tetrachloro-m-xylene (7.973)
-Aroclor-1254 <13.657)
-Aroclor-1254 (14.550)
-Aroclor-1254 (14.987)
-Aroclor-1254 (15.337)
Aroolor-1254 (16.013)
Decachlorobiphenyl (20.120)

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 15:08

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 <g)
Uf	0.100	Unit Correction Factor
Ts	62.400	Total Solid

•m

RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COL t ug/L)	FINAL (ug/Kg)	TARGET RANGE	RATIO
$ 1 Tetrachloro-m-xylene					CAS ft:		
9.330	9.337	-0.007	479S97	55.8972	690.95		
25 Aroclor-1254					CAS tt: 11097-69-1		
14.200	14.203	-0..003	46196	140.674	2242.22	B0.00- 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	88968	180.395	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		
S 29 Decachlorobiphenyl					CAS #:		
20.920	20.920	0.000	339425	60.0384	956.96		

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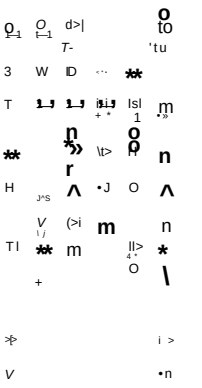


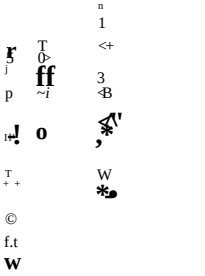
-Tetrachloro-m-xylene (9,330)

-Aroclor-1254 (14.200)

-Aroclor-1254 (15,283)

Aroclor-1254 (15,527)

-^%ir^m^m%



-Decachlorobiphenyl (20,920)

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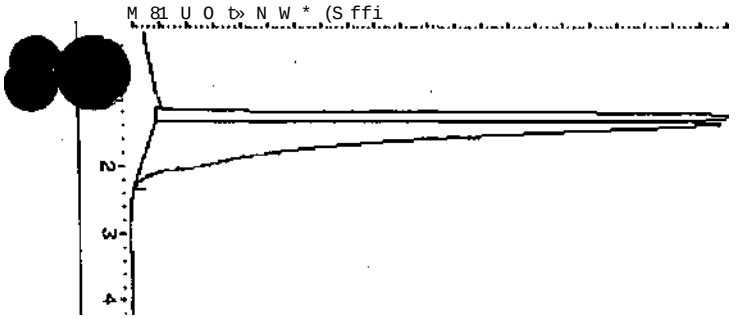
Y Cxl0"4)



Tetrachloro-m-xylene <7.980>

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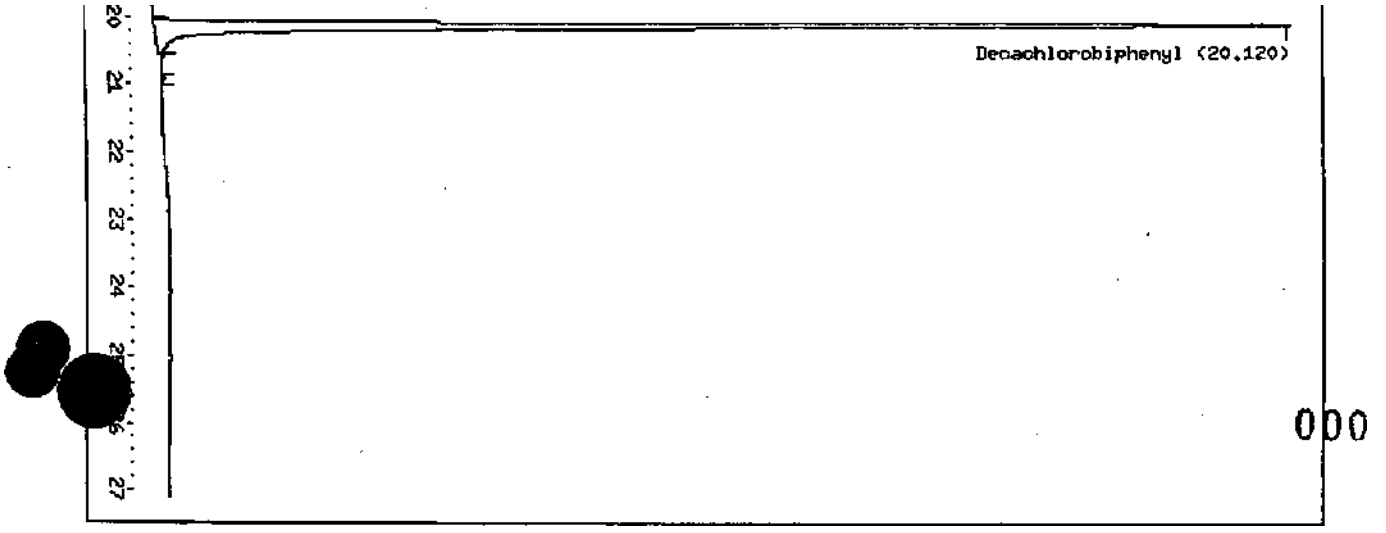
-Aroclor-1254 <13.653>

-Aroclor-1254 <14.543>
^-Aroclor-1254 (14.993)
-flroclor-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: /chem<-'hp3,i/1254FC0NFIRMa.b/E3956278.d
Date : 03-QCT-2002 18:40
Client ID: L94773-9
Sample Info; L94773-9
Volume Injected <uL>: 2.0
Column phase: RTX-CLPesticides 1

Instrument: hp3.i

Operator: CPW
Column diameter: 0.32

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/chem/hp3.i/1254FC0NFIRHa.b/E3956278.d

1.4
1.3
1.2
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0.6
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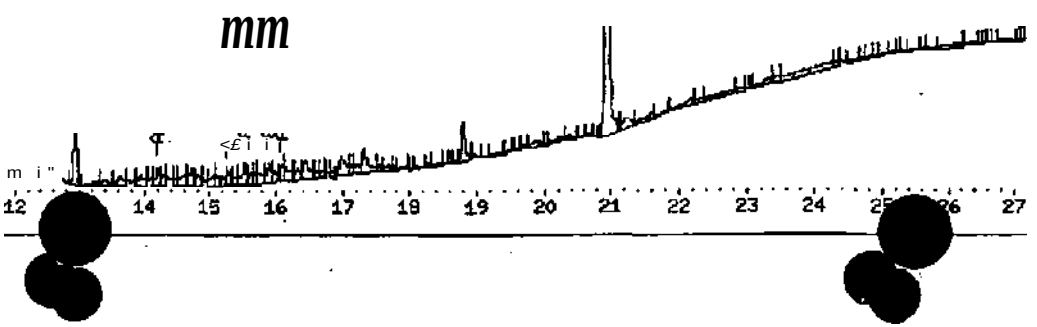

Friend Inc.

Data File: /chem/hp3.i/l254FCONFIRMa.b/E3956278.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/Kgi

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

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

Supervisor:
Date:

Notebook : 02-066
Start Date : 01-OCT-02 12:36
End Date : 01-OCT-02 12:36

Sample I.D.	Analysis Date Time	Anal Init	Method	Dish#	Volume (mls)	Initial Weight	1st&2nd Weight	3rd&4th Weight	5th&6th Weight	7th&8th Weight	9th&10th Weight	Final Result	Rpd	Units
94626-1	Start:01-OCT-02 12:36 Stop :01-OCT-02 12:36		CLP 3.0	3	6.0566	1.2443	6.8267					92.2		%
Comments :														
94629-1	Start:01-OCT-02 12:36 Stop :01-OCT-02 12:36		CLP 3.0	4	5.3261	1.2489	5.766					83.7		%
Comments :														
94629-2	Start:01-OCT-02 12:36 Stop :01-OCT-02 12:36		CLP 3.0	5	5.1671	1.2503	5.2409					77.2		%
Comments :														
94633-1	Start:01-OCT-02 12:36 Stop :01-OCT-02 12:36		CLP 3.0	6	5.2256	1.2499	4.6867					65.8		%
Comments :														
94662-1	Start:01-OCT-02 12:36 Stop :01-OCT-02 12:36		CLP 3.0	7	5.8458	1.2548	4.4105					56.7		%
Comments :														
94662-2	Start:01-OCT-02 12:36 Stop :01-OCT-02 12:36		CLP 3.0	8	5.7358	1.2451	5.1445					68		%
Comments :														
94662-3	Start:01-OCT-02 12:36 Stop :01-OCT-02 12:36		CLP 3.0	9	7.0602	1.24	6.8967					80.1		%
Comments :														
[redacted]	Start:01-OCT-02 12:36 Stop :01-OCT-02 12:36		CLP 3.0	10	5.2742	1.2581	5.7958					86		%
Comments :														
94773-1	Start:01-OCT-02 12:36 Stop :01-OCT-02 12:36		CLP 3.0	11	5.0625	1.2475	4.114					56.6		%
Comments :														
94773-2	Start:01-OCT-02 12:36 Stop :01-OCT-02 12:36		CLP 3.0	12	5.8879	1.2387	4.5246					55.8	.179	%

Calculations: Final Results = (fnl wgt - initial wgt) x 1000000

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:

WET CHEMISTRY TOTAL SOLIDS *H* t

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notebook : 02-066
Start Date : 01-OCT-02 12:36
End Date : 01-OCT-02 12:36

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Sterr.01-Of.T-02 12:36 CLP 3.0

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Start:01-OCT-02 12:36 CLP 3.0

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Comments

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Calculations: **Final Results = (fnl - initial) x 1000000**
wgt wgt

fils of sample

Analyst Signature

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'Dal
fo/A2

Manager Signature *6-&JL* *?¥-*

/C>&/QZ-
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Notebook : 02-066
Start Date : 05-OCT-02 09:31
End Date 05-OCT-02 09:31

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££Start:05*0C-Tr02.09:31 immO. P3;0Jj# !|!|l-nopii:fl5|pCfr02v09" &i^f1||::W?km itmsm^y^sBu^msm mmmzw ^|il|||&|i

L^Sm2p^:fStairt:05^pCT^02.-:09:31V:P!^CLP3:0: •'•'"•^iiiuStog:;;: 05?bOTsb2:!09:i3T,;;lii&£":# ll?lli5iiiiP2TCiiiiMi ^lllflllli :|||||g|||86;6;i •^ISISIII

fbtttfA^:'; Start:05-OCT-02 09:31'^ttLfo*(P§||^|p.|^t^§;p||0qf|p2;09i3it|^l^j-^1 ?EemK3*tBgfe T—272T21—vim—57ms* ....w$mm iixs

r^i^MMite^JiJMMi •111

[^^i:S^»::Sta«-t05rO0T^0?:09:31:'^^CLP.3iO:. "8 6.4C59 l.24U 055T

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Slip* TM

^&;Q£Sps^; Start:OsloCTr02V09:31££p&CLP3il llp^^ppi^>Stb'p:f*Q5 ?0CT V02l 09:31 ZM®&1^& 10 6.9196——T246———T^9IT i§§||§$&^:

mmmmwmmmmmmmmmm 1IBE11

|^W^f-Start;05S0OT?b2::-O^i3i^MictR3^- ^rjigiiiii.^iiipi

|jES^t^^Ss;||:

|?^!J!$!gi§i§-:: Srta rt: 05-MT^p?^0?:31;.;: gjg§!CLR3:p; ffiSBii^ii^isll •wmmmi mmm&-

Stop :05-C^f-b2:b9:31

Calculations: • Final Results = (fnl - initial) x 1000000

$$\frac{\text{wgt ugt}}{\text{mls of sample}}$$

^4vA^y^~- M.
/ Analyst Signature

Manager Signature

~Dite

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CD
CO
CD
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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 1 s/ 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-B1-001, H-C-SS-B2-001, H-B-S-W-001, H-B-SS-W-001_____lOx

Data Reviewer

Date' * 4/28/03

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.

^\Lc^ ECT.CON INC.

^^f I \ ^ ^ ^ Environmental and Computer
I Technology Consultants

Annotated Form l's

(Spreadsheet)

JELL

32 ITHACA STREET WAVERLY, NY 14892-1532
TELEPHONE (607) 565-3500 FAX (607) 565-4083

Date:17-OCT-2002

Lab Sample ID: L95433-1

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

Sample Source: VIACOM/HQRSEHEADS 1920S
Origin: H-C-SS-B1-Q01
Description: COMPOSITE .
Sampled On: 14-QCT-02.10:20 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	92			15-OCT-02 00:00	CLP 3.0	02-066-87
EPAJJ082						
PCB 1016	CU	ug/kg	100	16-OCT-02 17:10	EPA 8082	02-004-0185
PCB 1221		ug/kg	200	16-0CT-02 17:10	EPA 8082	02-004-0185
PCB 1232		ug/kg	100	16-OCT-02 17:10	EPA 8082	02-004-0185
PCB 1242		ug/kg	100	16-OCT-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 0	ug/kg	100	16-OCT-02 17:10	EPA 8082	02-004-0185
PCB 1260		ug/kg	100	16-OCT-02 17:10	EPA 6082	02-004-0185
Extraction Information:				15-OCT-02 00:00	EPA 3550	02-090-12
Surrogate Recovery:						
TetrachIoro-m-xylene	82					02-004-0185
DecachIorobi phenyl	106					02-004-0185

Results calculated on a dry weight basis.

Approved by: ^€^C
Lab Director

NY 10252 NJ 73168 PA 68180 EPA NY 00033

QC &4.A-

KEY: ND or" U = None Detected < = less than ug/L = micrograms per liter (equivalent to parts per bit lion)
mg/C = 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 or trip blank J = result estimated below the quantitation limit

FLI
FRIEND LABORATORY I • N • C
32 ITHACA STREET WAVERLY, NY 14892-1532
TELEPHONE (607) 565-3500 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: V1ACOM/H0RSEHEADS 19208
Origin: H-C-SS-82-001
Description: COMPOSITE
Sampled On: 14-OCT-02 10:25 by CLIENT
Date Received: 14-0CT-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						
PCB 1016	~~U~~	ug/kg	110	16-OCT-02 17:42	EPA 8082	02-004-0186
PCB 1221	~~U~~	ug/kg	220	16-OCT-02 17:42	EPA 8062	02-004-0186
PCB 1232	~~U~~	ug/kg	110	16-OCT-02 17:42	EPA 6082	02-004-0186
PCB 1242	~~U~~	ug/kg	110	16-OCT-02 17:42	EPA 8082	02-004-0186
PCB 1248	~~U~~	ug/kg	110	16-OCT-02 17:42	EPA 8082	02-004-0186
PCB 1254	250 J	ug/kg	110	16-OCT-02 17:42	EPA 8082	02-004-0186
PCB 1260	~~U~~ J	ug/kg	110	16-OCT-02 17:42	EPA 8082	02-004-0186
Extraction Information:				15-OCT-02 00:00	EPA 3550	02-090-12
Surrogate Recovery:						
TetrachIoro-m-xylene	92					02-004^0186
OecachIorobiphenyl	143					02-05[redacted]

* r^b A

Results calculated on a dry weight basis.

Approved by: C^^d
Lab Director

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 = miUigram 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 LABORATORY N • C
32 ITHACA STREET WAVERLY, NY 14892-1582
TELEPHONE (607) 565-3500 FAX (607) 565-4083

Date:17-OCT-2002

Lab Sample ID: L95433-3

AAA Environmental
Peter Porter
66 7 9 Moore Road
Syracuse, NY 13211

Sample Source: VIACOM/HORSEHEADS I°208
Origin: H-B-S-U-OOI
Description-, COMPOSITE
Sampled On: H-OCT-OZ 10:30 by CLIENT
Date Received: K-OCT-02 15:54
P.O. No: N/A

Analysis Performed	Result	Units	Detection Limit	Date Analyzed	Hethod	Notebook Reference
Total Solids	**62.2**			**15-OCT-02 00:00**	**CLP 3.0**	**02-066-87**
EPA 8082						
PCB 1016	1 Uf	ug/kg	160	16-OCT-02 18:13	EPA 8082	02-004-0187
PCB 1221	I	ug/kg	310	16-OCT-02 18:13	EPA 8082	02-004-0187
PCB 1232	I	ug/kg	160	16-OCT-02 18:13	EPA 8082	02-004-0187
PCB 1242	I	ug/kg	160	16-OCT-02 18:13	EPA 8082	02-004-0187
PCB 1246		ug/kg	160	16-OCT-02 18:13	EPA 8082	02-004-0187
PCB 1254	3103	ug/kg	160	16-OCT-Q2 18:13	EPA 80B2	02-004-0187
PCS 1260	/*S	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:						
TetrachIoro-m-xylene	**85**					**02-004-0187**
DecachIorobiphenyl	**112**					**02-004-0187**

Results calculated on a dry weight basis.

Approved by: Lab Director

NY 10252 NJ 73168 PA 68180 EPA NY 00033 QC^.k

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

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

ELI
LABORATORY
I • N • C

32 ITHACA STREET WAVERLY, NY 14892-1532
TELEPHONE (607) 565-3500 FAX (607) 565-4083

Date:17-OCT-2002

Lab Sample ID: L95433-4

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

Sample Source: VIACOM/H0RSEHEADS 19208
Origin: H-B-SS-W-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	U 45	ug/kg	160	16-OCT-02 1B:44	EPA 8082	02-004-0188
PCB 1221	U	ug/k9	330	16-OCT-02 18:44	EPA 8082	02-004-0188
PCB 1232	U	ug/kg	160	16-OCT-02 18:44	EPA 8082	02-004-0188
PCB 1242	U	ug/kg	160	16-0CT-02 18:44	EPA 8082	02-004-0188
PCB 1248	U	ug/kg	160	16-OCT-02 18:44	EPA B082	02-004-0188
PCB 1254	420 J	ug/kg	160	16-OCT-02 18:44	EPA 8082	02-004-0188
PCB 1260	45 J	ug/kg	160	16-OCT-02 18:44	EPA 8082	02-004-0188
Extraction Information:				15-OCT-02 00:00	EPA 3550	02-090-12
Surrogate Recovery:						
Tetrachloro-tn- xylene	102					02-004-0188
Decachl Petachlorobi phenyl	141					O2-0O^Mfi&

nvf> i

Results calculated on a dry weight basis.

Approved by: Lab Director

NY 10252 NJ 73168 PA 681B0 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

^\l/^r ECT.CON INC.

Environmental Computer
Technology Consultants

Support Documentation

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CUSTOMER # _____

CHAIN OF ODY RECORD

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FLI
ONE RESEARCH CIRCLE
WAVERLY NY 14892-1532
f~¥* nTfrTB Telephone (607) 565 3500
^ABQRATORY , Fax (607) 565-4083

CLIENT: AAA e>^XTZoMM£'rra* - INVOICE TO:
ADDRESS: £>M3^e ADDRESS:

PHONE: ^ FAX:
(cD7~ ZZ7-S£fcDi
PROJECT NO. / NAME

COPY TO:
ADDRESS:

Sample Site:. \^ ^ (^ ^ /rfoii$e*&^£

P.O. #

Si u o

Q5US3.

DATE ft TIME OF SAMPLE COLLECTION	SAMPLE.PESCMPTION	NUMBER OF CONTAINERS	ANALYSES / TESTS REQUESTED	** NUMBER - LAB USE ONLY-
id/fi/oi <& J&Z-0	H-C-SS-Bl-ooi	"X	fCB'S,	I
	H-c-ss-|2^-ooi	1	pcb's, Sox:,-~	
tozs	H-6-S-vv/-ooi	X	PCS \ ^or:-	- 3
1 ' <£, /£>3<±				
/o/ W/o-z.	H-&-ss,-v/-oo	y	POc^, £o^<~	4
1V3S				

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

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

Description: Grab vComDOsiiiOQther
Matrix: DW WW MwSJKir Other

Description: Grab^CombosijS Other
Matrix: DW WWMWI^joipMr Other

' RELINQUISHED BY. '
SAMPLER
A-'ScriEgq^os T

DATE /TIME	ACCEPTED BY	DATE/TIME
10/14/02	Fred Gonnan	3:15 10-14-02
	Tom Jones	10/14/02 3:54

NOTES TO LABORATORY

SUSPECTED CONTAMINATION LEVEL

NONE SLIGHT MODERATE HIGH (please circle)

Laboratory Case Narrative

F R 1 E N P

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 *&%k#&g£h. /Is/GatS^*

Date: December 20, 2002

Elizabeth A. Keator
Quality Assurance

Worksheets

tf -0-6J -d \-°°' **^S-^3-** / YES N0 N/A

PACKAGE COMPLETENESS AND DELIVERABLES

CASE NUMBER: _____ SDG# ***9*v*****

LAB: *"ffjfr\cl Uhora-hsu ±At.* RTTF.: *\Ziofcm //b&eJ&aJj*

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?

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? /
Tvl

3.0 Data Validation Checklist

3.1 Does this data package contain:

Water data?

Waste data?

Soil/solid data? *iiz 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? TVH

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

YES NO N/A

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

0 Surrogate Recovery (Form II) *Ukfrphr /{j*'/!*"*

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 **7**

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 _L_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? J_L ___ /

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?_____I_L ^ *y*

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 *fih faflA* * tp# '/*"'*'*

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%) J_

4.4 If no, were Laboratory Control Samples re-analyzed? J_1

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)? J_L

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

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

b. Waste r l •

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) \ 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)

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? 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? 

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. J

7.2 Do any field/rinse blanks have positive * r, t, ^ PCB results? J^

ats? \$o\ ^u-A>(fyE<(7^r*' fin^ -* f<Sr'

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 cone > EDL but < 5 x 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? *pdrjUL<J>*»-uX.J^^e[^l* W - ^ v * * - "~ J_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 *}JP** **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) f1

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

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? N/A ___

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? ***J***

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. ***yiy***

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

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? ***U***

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

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

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

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).

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.

9.10 Has the percent difference (%D) exceeded ± 15% for any PCB analyte in any calibration verification/ Continuing calibration standard?

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 ± 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%

YES NO N/A

between raw data and data summary forms? *S

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? ☑

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

11.0 Extraction Techniques for Sample Preparation

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: i L
   1. Soxhlet (Method 3540)

*

YES NO N/A

2. Automated Soxhlet (Method 3541) f1

3. Pressurized fluid (Method 3545) */

4. Microwave extraction (Method 3546)

5. Ultrasonic extraction (Method 3550)

6. Supercritical fluid (Method 3562) ~S

7. Other

11.1 Extract Cleanup - Efficiency Verification (Form IX) ^Jfr for false or / false A ,t-OS'

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_1

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?

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?

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)

70-130% for GPC calibration?

« #

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? *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? ☑

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	Qualifier
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? ✓

en.

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

$$10\left[\frac{\times \frac{10}{10.82} \times .1}{92 \times 100}\right] = 9.998 \times 10^{-6}$$

$\approx 100\ \mu g/kg.$

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.

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 Chromatoqram 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 /JA fU fJ* t false /ULtAbS

15.1 Were any field duplicates submitted for PCB analysis? _L_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 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 *(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	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-O01	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

H

FORM IV-PEST

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.: QC 12 Date Extracted: 10/15/02

COMPOUND	SPIKE ADDED (ug/kg)	SAMPLE CONCENTRATION (ug/kg)	MS CONCENTRATION (ug/kg)	MS % REC	#	QC LIMITS REC
PCB 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 EPA SAMPLE NO.

PESTICIDE ORGANICS ANALYSIS DATA SHEET

MB12

Name: Contract:

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: 1000 (uL) 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	Q
12674-11-2	-Aroclor- 1016	9.7 ~~0.01~~	U
1104-28-2	-Aroclor- 1221"	19 ~~0.02~~	U
11141-16-5	-Aroclor- 1232"	9.7 ~~0.01~~	U
53469-21-9	-Aroclor- 1242"	9.7 ~~0.01~~	U
11097-69-1	-Aroclor- 1254"	9.7 ~~0.01~~	U
11096-82-5	-Aroclor- 1260"	9.7 ~~0.01~~	U
	-Aroclor- 1248"	9.7 ~~0.01~~	U

eak
12/30/02

FORM I PEST

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: Amt * DF * ((Vf / Ws) * Uf) / 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

	RT	EXP RT	DLT.RT	RESPONSE	CONCENTRATIONS ON-COL (ug/L)	FINAL (ug/Kg)	TARGET RANGE	RATIO
S	l Tetrachloro-m-xylene						CAS #:	
	7.990	7.997	-0.007	4186757	516.125	502.64		
S	29 Decachlorobiphenyl						CAS tt:	
	20.133	20.130	0.003	3383203	643.359	626.55		

Y <xlO^5)

Tetrachloro-m-xylene <7.990>

Deoachlorobiphenyl <20,133)

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:

ZMSPr

01/12/02	RTX-CLPEST 1		PG ON COLUMN			IDL	UG/LIN WATER	CRDL (UG/L)
Instrument#3	Run#l	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#l	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 EPA SAMPLE NO.

PESTICIDE ORGANICS ANALYSIS DATA SHEET

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:%.0 decanted: (Y/N) N Date Received: 10/14/2

Extraction: (SepF/Cont/Sonc) SONC Date Extracted:10/15/2

Concentrated Extract Volume: jQOOO (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		u
1104-28-2	Aroclor-1221	zoo o.2e	u
11141-16-5	Aroclor-1232	.too o.ie	u
53469-21-9	Aroclor-1242	too &^io	u
11097-69-1	Aroclor-1254	364.09	u
11096-82-5	Aroclor-1260		u
	Aroclor-1248	t°° -Q-rtfr	

7AA3O/03L

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	
Comment	WG33196,02-004
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: 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

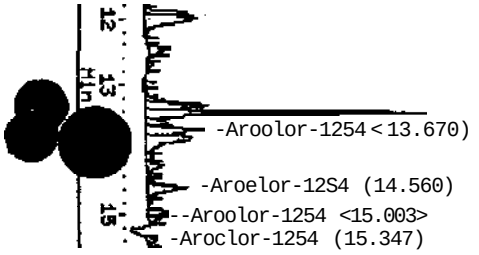
	RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COL (ug/L)	FINAL (ug/Kg)	TARGET RANGE	RATIO
S 1 Tetrachloro-m-xylene						CAS #:		
	B.013	7.997	0.016	291540	41.1447	411.34		
$ 29 Decachlorobiphenyl						CAS #:		
	20.130	20.130	0.000	257101	53.1853	531.72		
25 Aroclor-1254						CAS tt: 11097-69-1		
	13.670	13.670	0.000	19700	58.3757	5B3.61	BO.00- 120.00	lOO.OO(MH)
	14.560	14.563	-0.003	15670	52.0458	520.33	103.67- 143.67	79.54
	15.003	15.003	0.000	4685	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		

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.

-Tetrachloro-m-xylene (8,013)



-Aroolor-1254 < 13.670)
-Aroelor-12S4 (14.560)
--Aroolor-1254 <15.003>
-Aroclor-1254 (15.347)
-Aroclor-1254 (15.987)

-Decachlorobiphenyl (20,130)

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
fetrachloro-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\1254FCONFIRMIIIa 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\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: Amt * DF * {(Vf / Ws) * Uf) / Ts * 1000

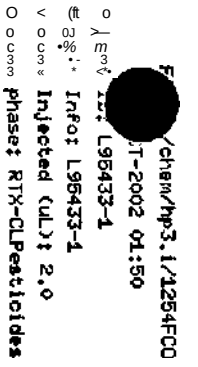
Name	Value	Description
DF	10.000	Dilution Factor
Vf	10.000	Final volume
Ws	10.872	Weight of sample extracted (g)
Uf	0.100	Unit Correction Factor
Ts	92.000	Total Solid

* »

RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COL (ug/L)	FINAL fug/Kg)	TARGET RANGE	RA'no
$ 1 Tetrachloro-m-xylene					CAS #:		
9.343	9.337	0.006	B95741	58.8131	587-98		
25 Aroclor-1254					CAS tt: 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.B2- 123.82	14..14
15.540	15.537	0.003	60374	58.9038	588.89	136.90- 176.90	110..9.3
16.067	16.087	0.000	26892	32.0221	320.14	111.13- 151.13	49..41
16.450	16.447	0.003	30197	33.450B	334.42	119.15- 159.15	55..48
Average of Peak Concentrations «					439.97		
S 29 Decachlorobiphenyl					CAS ft:		
20.930	20.927	0.003	693518	63.9260	639.10		

%

Y (xlO^G)

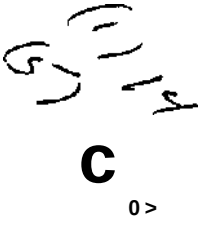


-Tetrachloro-m-xylene <9.343>

-Aroclor-1254 (14.213)

^-Aroclor-1254 C15.287)
a- -Aroclor-1254 (15.540?

-Aroclor-1254 (16.087)
c-Aroolor-1254 (16.450)



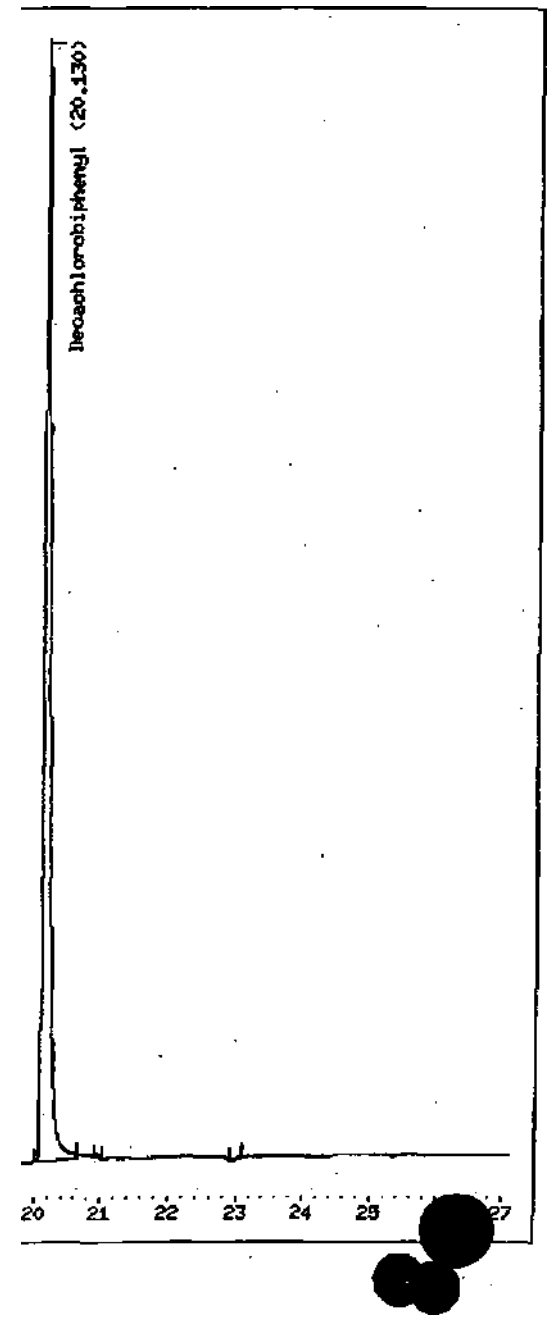
-Decachlorobiphenyl (20,930)

a-

Data File; /chem/'hpl,i/8082r0917,b/E2980186.D
Date { 16-0CT-2002 17;42
Client ID; L95433-2
Sample Info*. L95433-2
Volume Injected <uL): 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: ***/J jf I***
Date:

Thru-Put Systems, Inc.

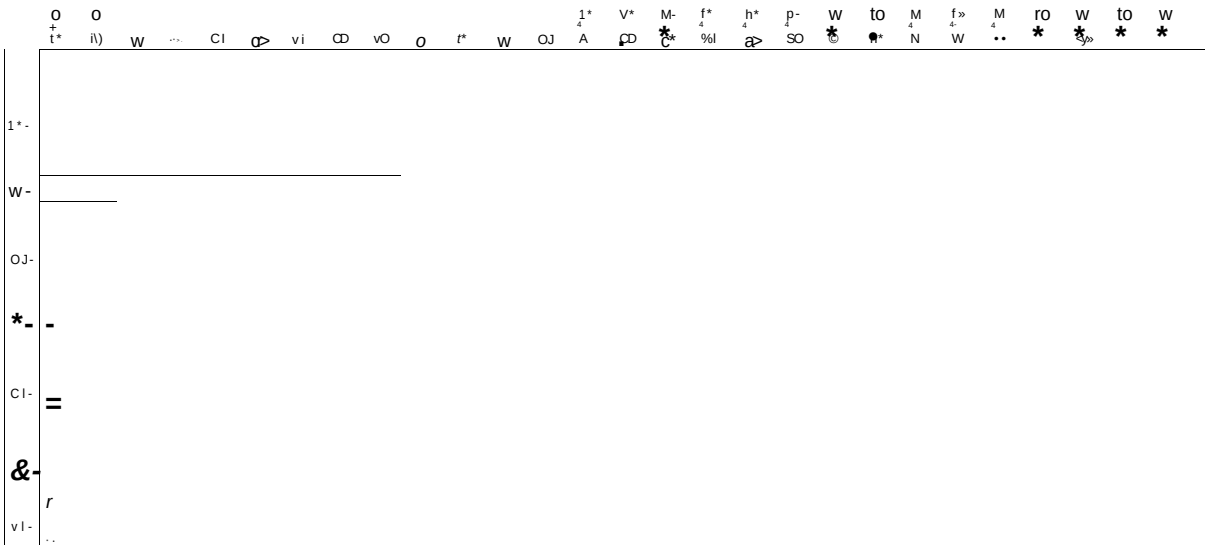
Data file \chem\hp3.i\1254FCONFIRMIIIa b\E3956427.D
Lab Smp Id L95433-2 Client Smp ID: L95433-2
Inj Date 16-OCT-2002 02:22
Operator CPW Inst ID: hp3.i
Smp Info L95433-2
Misc Info CONFIRMATION
Comment
Method \chem\hp3.i\1254FCONFIRMIIIa b\8082_PCBsec.M
Meth Date 16-Oct-2002 12:27 Administra Quant Type: 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: Amt * DF * ({Vf / Ws) * Uf) / 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

to

RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COL { ug/L)	CONCENTRATIONS FINAL (ug/Kg)	TARGET RANGE	RATIO
$ 1 Tetrachloro-m-xylene					CAS «:		
9.340	9.337	0.003	916638	60.1852	649.39		
25 Aroclor-1254					CAS tt: 11097-69-1		
14.213	14.213	0.000	35096	54.2694	5B5.56	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
16.0B7	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- 1S9.15	39.37
Average of Peak Concentrations •					252.27		
$ 29 Decachlorobiphenyl					CASft:		
20.923	20.927	-0.004	630169	SB.0867	626.75		



Tetrachloro-m-xylene (9,340) o

-Aroolor-1254 (14.213)

E-Aroclor-1254 C1B,290)
— -Aroclor-1254 (15.540)

F-ftroclor-1254 (16,087)
h -Aroolor-1254 (16,447)

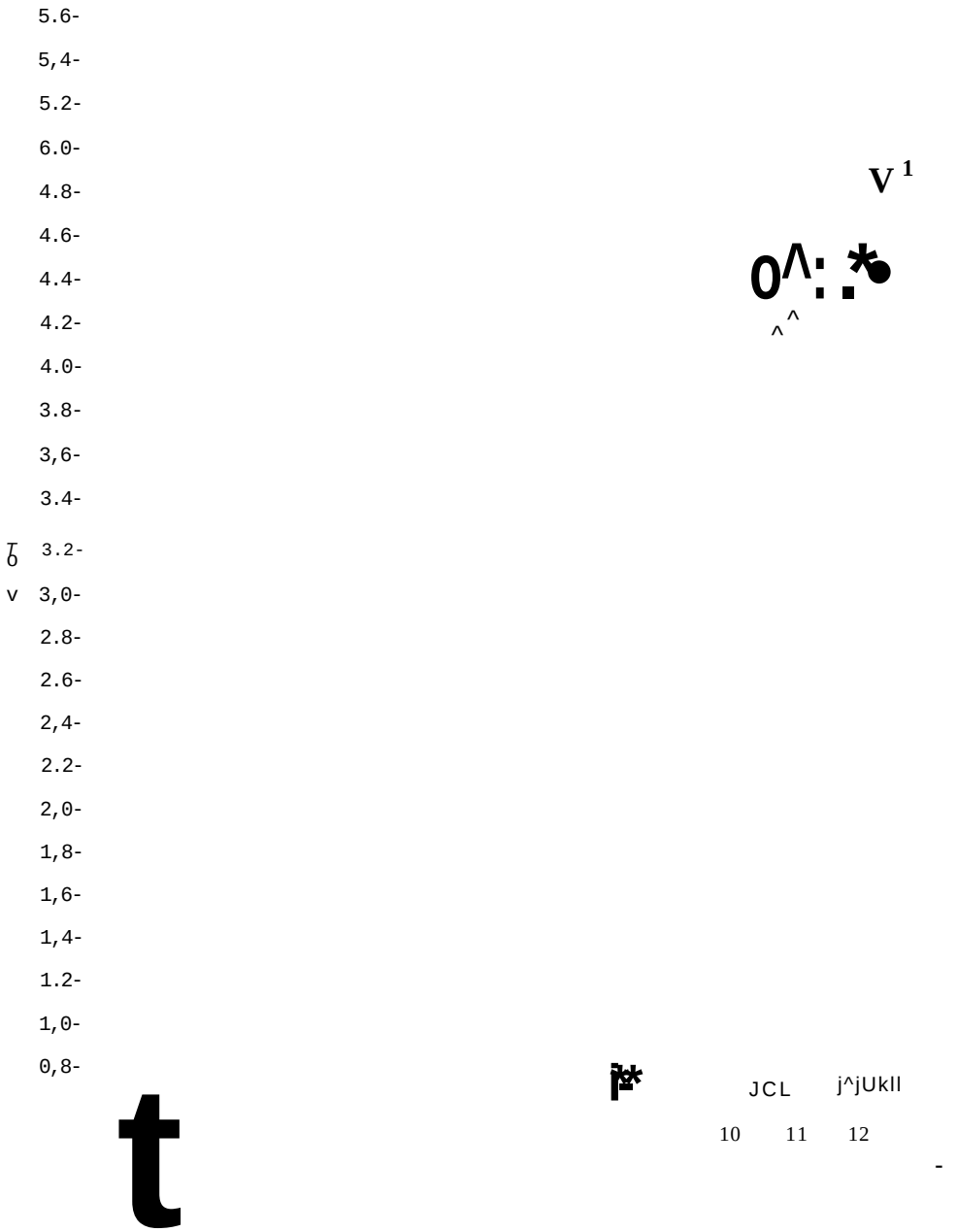
Decaohlorobiphenyl (20.923)

Data File: /chem/hpl,i/8082r09i7.b/E2980187,D
Date J 16-0CT-2002 18:13
Client ID: L95433-3
Sample Info: L95433-3
Volume Injected <uUj 2.0
Column phase; RTX-CLPesticides 2

Instrument: hpl.i

Operator: CPU
Column diameter: 0.32

A;he»/h|>l.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

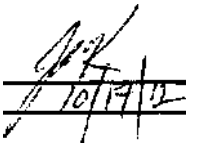
Dilution Factor	10.0000
Sample Weight	10.2286
Final Volume	10.0000
Total Solid	62.2000

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:



Thru-Put Systems, Inc.

Data file : \chem\hp3.i\1254FCONFIRJVIIIIa. 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

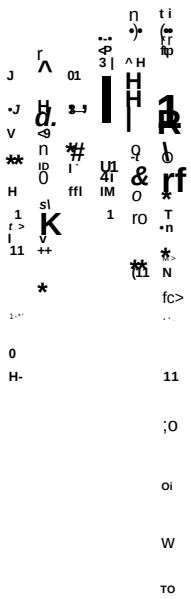
Concentration Formula: Amt * DF * ((Vf / Ws) * Uf) / Ts * 1000

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

*

	RT	EXt> RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COL (ug/L)	FINAL (ug/Kg)	TARGET RANGE	RATIO
S	1 Tetrachloro-m-xylene					CAS ftt		
	9.343	9.337	0.006	904557	59.3919	933.51		
	25 Aroclor-1254					CAS *Hi* 11097-69-1		
	14.217	14.213	0.004	10896	16.B4B6	264,82	80.00- 120.00	100.00
	15.293	15.297	-0.004	4B11	7.19550	113.10	83.B2- 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.B576	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 ft:		
	20.937	20.927	0.010	700911	64.6075	1015.49		

Y <xlO^5>



Tetrachloro-w-xglene <9.343> o

\ $

» -firoolor-1254 C14.217>

r -Aroclor-1254 C15.293)
•*m.* -Aroclor-1254 <15,540)
-Aroclor-1254 <16.090>
• -flroclor-1254 <16.450>

" ^
- ^ V>i
'.\

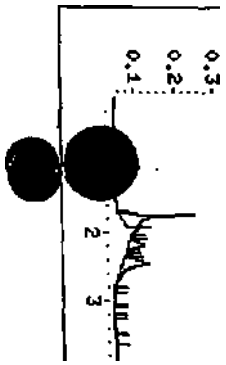
Instrument: hp3
Operator: CPW
Column diameter

8-

r

Decachlorobiphenyl <2Q,937>

finnoo



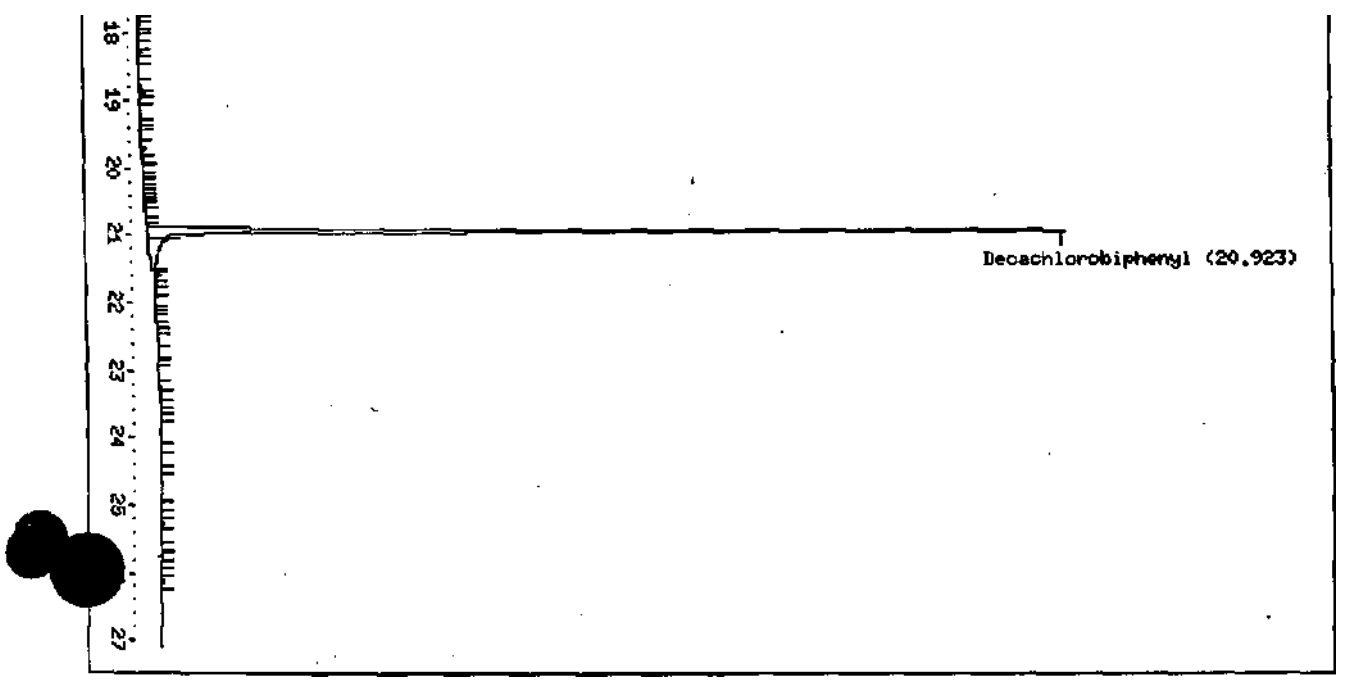
Y (xW5>

Tetrachloro-m-xylene <9,337> o

-Aroclor-1254 <14.207>

I -Aroolor-1254 <15.287>
^- -Aroolor-1254 C15.533>

£• -Aroclor-1254 <16.Q80>
-ftroclor-1254 <16.443>



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

Name	Value	Description
DF	10.000	Dilution Factor
Vf	10.000	Final volume
Ws	10.723	Weight of sample extracted
Uf	0.100	Unit Correction Factor
Ts	56.900	Total Solid

RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COL (ug/L)	FINAL (ug/Kg)	TARGET RANGE	RATIO
$ 1 Tetrachloro-m-xylene					CAS #:		
9.337	9.337	0.000	924496	60.7011	994.91		
25 Aroclor-1254					CAS »t: 11097-69-1		
14.207	14.213	-0 006	20051	31.0051	508.18	80.00- 120.00	100.00
15.28-7	15.297	-0 010	6978	10.4365	171.06	83.82- 123.82	34.B0
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					CAStt:		
20.923	20.927	-0.004	614584	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%

•ft Analyst: CPW.
eport Date: 10/17/2002 07:45

Supervisor:
Date:

10/17/02

Y (xlO^4)

1

Tetrachloro-n-xylene (7.987)

g- -Aroclor-1254 (13.663)

^- -Aroolor-1254 (14.557)

^-Aroclor-1254 <15.0O7)

» -Aroclor-1254 (15.340)

\ -Aroclor-1254 (16.020)

Decachlorobiphenyl (20.130)

Lab Name: FRIEND LABORATORY, INC. Contract:

J> Code: 10252 Case No.: SAS No.:_____ SDG No.: AAA

mentID: HP1

w^rc 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 10 ppb |	50 ppb	100 ppb	250 ppb |	500 ppb |	1000 ppb	MEAN RT	RTWI FROM	MDOW TO
PCB 1016	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
fl£B 1248	1*				11.19			11.19	11.09	11.29
m	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 ail compounds.

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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	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
Decachlorobipheny1	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
trument 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	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	i.ood
	(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.doooooo	4.432e-003	1.000
	(4)		LINR	0.00000000	6.138e-003	1.000
	(5)		LINR	0.00000000	5.111e-003	1.000
•Cocior-12b4		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	l'.219e-004	0.991
Decachlorobiphenyl		5238	LINR	4.64742762	1.888e-004	0.999

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

COMPOUND	AMOUNT (ng)	PEAK	RT	RT WINDOW FROM	TO	CALIBRATION FACTOR
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
Decachlorobi phenyl	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.

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	RTWI^DOW FROM	TO	CALC AMOUNT	TRUE AMOUNT	%D
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
Decachlorobi phenyl	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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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 FROM	RT WINDOW TO	CALC AMOUNT	TRUE AMOUNT	%D
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
Tetrachloro-m-xylene	1	8.01	7.89	8.09	319.44	300.00	6.48
Decachlorobiphenyl	1	20.13	20.03	20.23	343.54	300.00	14.51 *d*

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

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FORM VII-PCB-2

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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	RTWINDOW FROM	RTWINDOW 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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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 FROM	RT WINDOW TO	CALC AMOUNT	TRUE AMOUNT	%D
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
Decachlorobi phenyl	1	20.13	20.03	20.23	333.62	300.00	11.21 *A*

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

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FORM VII-PCB-2

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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 FROM	RT WINDOW TO	CALC AMOUNT	TRUE AMOUNT	%D
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
Decachlorobi phenyl	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%.

$\left(\frac{271-250}{250}\right) \times 100 = 8.4$

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 09/17/2
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	OC1GG003|	CC166001	09/18/2	1401	8.00	20.13
18	MB82 7	MB82	09/18/2	1433	8.02	20.13
19	QC82 /	QC82	09/18/2	1507	8.02	20.13
20	L94080/LRE	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	CC16§002	CC166002	09/18/2	1815	8.01	20.13
25	L940I1-1RE	L94081-1RE	09/18/2	1846	7.98	20.13
26	L94QB1-4RE	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	L9/081-7R	L94081-7R	09/18/2	2051	7.98	20.13
30	L9I081-1MSR	L94081-1MSR	09/18/2	2122	7.98	20.13
31	L31081-1MSDR	L94081-1MSDR	09/18/2	2153	7.97	20.11
32	CC|l66003	CC166003	09/18/2	2255	8.01	20.13
33	CJ125401	CC125401	09/18/2	2327	7.99	20.13
34	cfl25402	CC125402	09/19/2	1009	7.99	20.13
35	1*4080-1	L94080-1	09/19/2	1038	7.99	20.13
36	IB4080-3R	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 QC limits.

8D
PCB ANALYTICAL SEQUENCE

Name: Contract:
Code: Case No.: SAS No. : SDG No. : AAA1014
nstrument 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	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 '	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 J	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	L953463l	L95346-11	10/17/2	0202	7.99	20.13
21	L9542QF1	L95420-1	10/17/2	0233	•7.99	20.13
22	L954J0-1MS	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	L9^20-7	L95420-7	10/17/2	0407	8.00	20.13
25		1254CC05	.10/17/2	0510	8.00	20.13
26						
27						
28						
29						
30						
31						
32						
33						
34						
35						
36						
37						

QC LIMITS
TCX = Tetraohloro-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.

FORM VIII PCB

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/[redacted]/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-l*/	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						
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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.

FORM VIII PCB

n n t i r

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:

[redacted]

10/17/2

Notebook : 02-066
Start Date : 15-OCT-OZ 11:18
End Date : 15-OCT-02 11:18

Sample KD.	Analysis Date Time	Anal tnit	Method	Dish#	Volume (mis)	initial Weight	1$ti2fid Vefght	3rd&4th Weight	SthA6tft Weight	7th&8th Weight	9th&1flth Wel^t	Final Result	ftps*	Units
[illegible] Comments	**Start:1S-OCT-02 11:'1B"" StDp :15*OCT-02 11:18**		**CLP 5.0**	4"	r^1fe""-i.252i"^'^							"64T"	n$r	
toniner*t.s	Stert:15-OCT-0? 11:18 Stop M5-OCT-02 11:18		CLP 3.0	ri	5.39*9	1.2-.3[7]	JTOVT					70.7		
195433-1 CoBments £	Start:15-OCT-02 11:18 Stop :15-OCT-02 11:18		CLP 3.0	6	3.9/Ji	1.2*61	"oT?AT5	"ZTTY/J"**		h*t'j&f~	T-f7Ji ^	92		
L95433^0 Go(ttnent£ J	**Start:15-OCT-02 11:18 Stop :15-OCT-02 11:18**		CLP 3.0	IS"	S*^.	"1.2424	4;025&'					"52T		
i%iit-i CoflVnents *t*	Start:15-OCT-02 11:18 Stop :15-OCT-02 11:18		CLP 3.0	i6	*i:m*	"12515	raw					"stx		
tW433-i5 ^Ceditepts	Start:15-OCT-02 11:18 ' Stop :15-0CT-0Z 11:18		CLP 3.0	1?	3.1043	"1.2476	OS6T					64.8		
19555V2~ Cvtrmentfi	Start:15-OCT-02 11 slB Stop :15-OCT-02 11:18		"CLP 3.0		5*3219	TT2541	57TI8"					91.4		
'ffIVS&S. comments :	Start:1*-OCT-02 11:18 Stop :lS*OCT-02 11:1B		CLP 4.0	"8"	5.9"s-86	" 1.24G7	4.971B					62.2		
l9Sm"t...."" fcSHittent* t	Starf.lS-OCT-62 11:18.....CLP 3.0 Stop :15-0CT-02 11:18			'9"	o m.....i'.24A3		e m s[1]					"56T"		
l^3$[L]5	Startil5-OCT-02 l1i18 Stop :15-OCT-02 11:18		CLP 3.0	TO5.3357		1.2356	5-^57^					75		

Calculations: Final Results = (fnl - initial) x 1000000
wgt wgt

mis of sample

/? Analyst' Signature /Date' Manager Signature '-' Date

CD
O
ro

Organic Extractions

i£.G. ^'6,7V

Notebook: 02-090

Page: h

Extracted By: KJB

Date Extracted: 10/16/02

Sur Ref.: Wm^m$&&Hmi :«i

.Sur Cone:

Analysis: 8082

Matrix: Soil (3550)

Spike Ref.l^^^^^^gr

Spike Cone.:_____"'

1 D.	Customer-	int. size	Fin. vol.	Sr. amt.	Spk amt.	Wit., by	Clean-ups
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Extracts Reliquished to:

Comments:

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ECT.CONINC.
Environmental and Computer
Technology Consultants

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-Sl-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/MjSD 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 Is/ 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 Arolcor 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 Arolcor 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-Bl-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

Data Reviewer

Date vA*-/^

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.

ECT.CON INC.

Environmental and Computer
Technology Consultants

Annotated Form 1's

(Spreadsheet)

4m& BOTTOM

32 ITHACA STREET WAVERLY, NY 14892-1532
TELEPHONE (607) 565-3500 FAX (607) 565-4083

Date:25-NOV-2002

Lab Sample ID: L97127-1

AAA Environmental
Peter Porter
6679 Moore Road
Syracuse, NY 13211

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J#:-?;?S^n^>leGL^;Ori;;•;-;':20^NOVr02"io&aqiii&if£I;E(ftlill£|©^'OK

Analysis Performed	Result	Units	Detection Limit	Date Analyzed	Hethod	Notebook Reference
Total Solids	76.8			21-NOV-02 00:00	CLP 3.0	02-123-7
EPA 8082						
PCB 1016	***u-uX***	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**	**X**				**02-117-0777**
De^^ilorobiphenyl	**115**	**X**				**02-117-0777**

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Results calculated on a dry weight basis.

Approved by: Lab Director

NY 10252 NJ 73168 PA 68180 EPA NY 00033

QC *ftiK.*

KEY: ND o/ U = None Detected < = less than ug/L = micrograms per liter (equivalent to parts per billion)
mg/L = miUigram 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

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

32 ITHACA STREET WAVERLY, NY 14892-1532
TELEPHONE (607) 565-3500 PAX (607) 565-4083

FRIEND LABORATORY

Date:25-NOV-2002

Lab Sample ID: L97127-2

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	78.3			21-NOV-02 00:00	CLP 3.0	02-123-7
EPA 8082						
PCB 1016	-a-lAT	ug/kg	120	23-NOV-02 03:28	EPA 8082	02-117-0778
PCB 1221	U	ug/kg	240	23-NOV-02 03:28	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 124S	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					02-11J
^^^agchlorobiphenyl	100					

Results calculated on a dry weight basis.

Approved by: Lab Director

NY 10252 NJ 73168 PA 68180 EPA NY 00033

QC(J£A^

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

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

32 ITHACA STREET WAVERLY, NY 14892-1532
TELEPHONE (607) 565-3500 PAX (607) 565-4083

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N • C

Date:25-NOV-2002

Lab Sample ID: L97127-3

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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	**90.5**			**21-N0V-02 00:00**	**CLP 3.0**	**02-123-7**
EPA 8082						
PCB 1016	7	**ug/kg**	**110**	**23-N0V-02 03:59**	**EPA 8082**	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-N0V-02 03:59**	**EPA 8082**	02-117-0779
PCS 1242	U	**ug/kg**	**110**	**23-N0V-02 03:59**	**EPA 8082**	02-117-0779
PCB 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**	**110**	**23-NOV-02 03:59**	**EPA 8082**	02-117-0779
Extraction Information:				**22-N0V-02 00:00**	**EPA 3550**	02-090-42
Surrogate Recovery:						
Tetrachloro-m-xylene	**91**					**02-117-0779**
Decachlorobiphenyl	**B7**					**02-117-0779**

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Results calculated on a dry weight basis.

Approved by: Lab Director

NY 10252 NJ 73168 PA 68180 EPA NY 00033

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KEY: ND or U a 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)
s ar>alyte was detected in the method or trip blank J « result estimated below the quantitation limit

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

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FLT
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MORATORY

32 ITHACA STREET WAVERLY, NY 14892-1532
TELEPHONE (607) 565-3500 PAX (607) 565-4083

Date:02-DEC-2002

Lab Sample ID: L97127-4

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AAA Environmental
Peter Porter
6679 Moore Road
Syracuse, NY 13211

:^^^^K^ifeS)^^^^lp?:W='0^ CLIENT *:"
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Analysis Performed	Result	Units	Detection Limit	Date Analyzed	Method	Notebook Reference
Total Solids	**88.1**			**21-NOV-02 00:00**	**CLP 3.0**	**02-123-7**
EPA 8082						
PCB 1016	U	ug/kg	110	26-NOV-02 14:08	EPA 8082	02-117-0837
PCB 1221	U	ug/kg	220	26-NOV-02 14:08	EPA 8082	02-117-0837
PCB 1232	U	ug/kg	110	26-NOV-02 14:08	EPA 8082	02-117-0837
PCB 1242	U	ug/kg	110	26-NOV-Q2 14:08	EPA 8082	02-117-0837
PCB 1248	U S	ug/kg	110	26-NOV-02 14:08	EPA 8082	02-117-0837
PCB 1254		ug/kg	110	26-NOV-02 14:08	EPA 8082	02-117-0837
PCB 1260	480 J U	ug/kg	110	26-NOV-02 14:08	EPA 8082	02-117-0837
Extraction Information:				**22-NOV-02 00:00**	**EPA 3550**	**02-090-42**
Surrogate Recovery.						
Tetrachloro-m-xylene	121					**02-11**
Decachlorobiphenyl	149					**02-11**

Results calculated on a dry weight basis.

Approved by: _____ Lab Director

NY 10252 NJ 73168 PA 68180 EPA NY 00033

QC *JV fi-

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^oiilion)
= analyte was detected in the method or trip blank J ' = result estimated below the quantitation limit

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

FLI
FRIEND LABORATORY
I · N · C

32 ITHACA STREET WAVERLY, NY 14892-1532
TELEPHONE (607) 565-3500 FAX (607) 565-4083

Date:25-NOV-2002

Lab Sample ID: L97127-5

Sample S'purce;r;tW(p^

-; "B esc £• i^^^f^^^^^X^W.^yi_^:

AAA Environmental
Peter Porter
6679 Moore Road
Syracuse, NY 13211

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 S082						
PCB 1016	**JCf	ug/kg	110	23-NOV-02 05:01	EPA 80S2	02-117-0781
PCS 1221		ug/kg	220	23-NOV-02 05:01	EPA 80B2	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	no	23-NOV-02 05:01	EPA 8082	02-117-0781
PCS 1260		ug/kg	110	23-NOV-02 05:01	EPA 6062	02-117-0781
Extraction Information:				22-NOV-02 00:00	EPA 3550	02-090-42
Surrogate Recovery:						
Tetrachloro-m-xyIene	95					02-117-0781
Decachlorobiphenyl	114					02-117-0781

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Results calculated on a dry weight basis.

Approved by: Lab Director

NY 10252 NJ 73168 PA 681SO EPA NY 00033

KEY: ND o/ U = Mone 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)
= anatyte was detected in the method or trip blank J = result estimated below the quantitation limit

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

« *

^ % FRIEND
32 ITHACA STREET WAVERLY, NY 14892-1532
TELEPHONE (607) 565-3500 FAX (607) 565-4083

Date:25-NOV-2002

Lab Sample ID: L97127-6

AAA Environmental
Peter Porter
6679 Moore Road
Syracuse, NY 13211

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V-§ ^amp^^^n^;i .2Q^iiqv p& 1 pi 00,;by,;dL;i'ENf •-
ID ate'^Rec.e&i^sfc& • 2^NOV;?62 osi$k ••'•• \"-/ ;^ & ^ -I

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 8082	02-117-0784
PCB 1221	U	ug/kg	260	23-N0V-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 124B	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 6082	02-117-0784
PCB 1260	U	ug/kg	130	23-NOV-02 06:35	EPA 8082	02-117-0784
Extraction Information:				22-NOV-02 00:00	EPA 3550	02-090-42
Surrogate Recovery:						
Tetrachloro-m-xylene	104	%				02-117-0784
D^^hlorobi phenyl	120	X				02-1^^K

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 *UK.

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^

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

FLI
FRIEND LABORATORY INC

32 ITHACA STREET WAVERLY, NY 14892-1532
TELEPHONE (607) 565-3500 PAX (607) 565-4083

Date:25-NOV-2002

Lab Sample ID: L97127-7

AAA Environmental
Peter Porter
6679 Moore Road
Syracuse, NY 13211

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i> Z&.'iQ ^; S & & i ^ W :.# Li ?B.- SS^ E-0Q£ I Y^MSm \ W^MM^^M^.
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Da"te^;Rece:^we'd"r/7:2fc NOV: o z ^ M ^ l f s J) $ w &&W££M:-&£
IHEi3#:#-:• Nd}:^M/A}\ ••• '••^^:£%M£W$M liiisi.::

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
EPA 8082						
PCS 1016	U	ug/kg	120	23-NOV-02 07:06	EPA 8082	02-117-0785
PCS 1221	U	ug/kg	230	23-NOV-02 07:06	EPA 8082	02-117-0785
PCB 1232	U	ug/kg	120	23-N0V-02 07:06	EPA 8082	02-117-0785
PCB 1242	U	ug/kg	120	23-N0V-02 07:06	EPA 8082	02-117-0785
PCB 1248	U	ug/kg	120	23-MOV-02 07:06	EPA 8082	02-117-0785
PCB 1254	U	ug/kg	120	23-N0V-02 07:06	EPA 80B2	02-117-0785
PCB 1260	U	ug/kg	120	23-NOV-02 07:06	EPA 8082	02-117-0785
Extraction Information:				22-MOV-02 00:00	EPA 3550	02-090-42
Surrogate Recovery:						
Tetrachloro-m-xylene	110	X				02-117-0785
Decachlorobiphenyl	120	%				02-117-0785

Results calculated on a dry weight basis.

Approved by: Lab Director

NY 10252 NJ 73168 PA 681B0 EPA NY 00033 *QCi/a£*V

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 belon the quantitation limit

mation 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 Me are advised otherwise. -'--

FLI
FRIEND LABORATORY INC

32 ITHACA STREET
TELEPHONE (607) 565-3500

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

Date:04-DEC-2002

Lab Sample ID: L97224-1

jSouree: VIACOM/HORSEH|ws^?^8^j||fi

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	**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 S0B2**	**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:						
Tetrachtoro-m-xylene	**132**					**02-11[illegible]15**
Decachlorobiphenyl	**164**					**02-1[illegible]**

[illegible]ysis Comment:D - Diluted.

Results calculated on a dry weight basis.

Approved by: Lab Director

NY 10252 NJ 73168 PA 68180 EPA NY 00033

QC: *£tZ£-*

KEY: ND or U = None Detected < = less than ug/L = micrograms per titer (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)
B ..... analyse was detected in the method or trip blank J = result estimated below the quantitation limit

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

FLI
32 ITHACA STREET WAVERLY, NY 14892-1532
TELEPHONE (607) 565-3500 FAX (607) 565-4083

Date:03-DEC-2002

Lab Sample ID: L97224-2

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		**ug/kg**	**130**	**26-NOV-02 01:55**	**EPA 8082**	**02-117-0816**
PCB 1221		**ug/kg**	**250**	**26-N0V-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-N0V-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-KOV-02 01:55**	**EPA 8082**	**02-117-0816**
Extraction Information:				**25-N0V-02 00:00**	**EPA 3550**	**02-090-45**
Surrogate Recovery:						
TetrachIoro-m-xylene	**128**					**02-117-0816**
^£ea^^horobiphenyI	**165**					**02-117-0816**

is Comnent:D - Diluted

Results calculated on a dry weight basis.

Approved by: Lab Director

MY 10252 NJ 73168 PA 68180 EPA NY 00033

QC^a

KEY: ND or U = None Detected < = less than ug/L = micrograms per liter (equivalent to parts per billion)
mg/L = milligrain 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 = result estimated below the quantitation limit

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

FLI
FRIEND LABORATORY I • N • C
32 ITHACA STREET WAVERLY, NY 14892-1532
TELEPHONE (607) 565-3500 FAX (607) 565-4083

Date:03-DEC-2002

Lab Sample ID: L97224-3

AAA Environmental
Peter Porter
6679 Moore Road
Syracuse, NY 13211

';SSa^^

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-WOV-02 02:27	EPA 8082	02-117-0817
PCB 1232		ug/kg	140	26-NOV-02 02:27	EPA 6082	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-N0V-02 02:27	EPA 8082	02-117-0817
Extraction Information:				25-NOV-02 00:00	EPA 3550	02-090-45
Surrogate Recovery:						
TetrachIoro-m-xyIene	127					02-11^^T7
DecachIorobiphenyI	160					02-1

[redacted]ysis Comnent:D - Diluted

Results calculated on a dry weight basts.

Approved by: Lab Director

NY 10252 NJ 73168 PA 68180 EPA NY 00033

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)
B 8 analyte was detected in the method or trip blank J = result estimated below the quantitation limit

32 ITHACA STREET WAVERLY, NY 14892-1532
TELEPHONE (607) 565-3500 FAX (607) 565-4083

Date:03-DEC-2002

Lab Sample ID: L97224-4

AAA Environmental
Peter Porter
6679 Moore Road
Syracuse, NY 13211

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 B082						
PCB 1016		**ug/kg**	**140**	**26-NOV-02 02:58**	**EPA 8082**	**02-117-0818**
PCB 1221		**ug/kg**	**270**	**26-N0V-02 02:58**	**EPA 8082**	**02-117-0818**
PCB 1232		**ug/kg**	**140**	**26-N0V-02 02:58**	**EPA 8082**	**02-117-0818**
PCB 1242		**ug/kg**	**140**	**26-HOV-02 02:5B**	**EPA 8082**	**02-117-0818**
PCB 1248		**ug/kg**	**140**	**26-NOV-02 02:58**	**EPA 8082**	**02-117-0818**
PCB 1254		**ug/kg**	**140**	**26-NOV-02 02:58**	**EPA 8082**	**02-117-0818**
PCB 1260		**ug/kg**	**140**	**26-HOV-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**
Deca^^orobiphenyL	**161**					**02-117-0818**

s Comment:D - Diluted

Results calculated on a dry weight basis.

Approved by: Lab Director

NY 10252 HJ 73168 PA 68180 EPA NY 00033

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KEY: ND 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)
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FRIEND LABORATORY INC

32 ITHACA STREET WAVERLY, NY 14892-1532
TELEPHONE (607) 565-3500 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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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							
PCS 1016	U		ug/kg	130	26-NOV-02 03:29	EPA B082	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-HOV-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	132		%				02-1JMA19
Decachlorobiphenyl	164	D	%				02- '^^m>

sis Comment:D - Diluted

Results calculated on a dry weight basis.

Approved by: [signature]
Lab Director

NY 10252 NJ 73168 PA 68180 EPA NY 00033

QC iti*

KEY: ND or U o None Detected < = less than ug/L - micrograms per liter {equivalent to parts per billion)
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rmation in this report is accurate to the best of our knowledge and ability. In no event shall our liability exceed! 1st
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32 ITHACA STREET WAVERLY, NY 14892-1532
TELEPHONE (607) 565-3500 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	02-123-8
EPA 8082						
PCB 1016	U	ug/kg	120	26-NOV-02 04:00	EPA 8082	02-117-0820
PCB 1221	U	ug/kg	250	26-NOV-02 04:00	EPA 8082	02-117-0820
PCB 1232	U	ug/kg	120	26-NOV-02 04:00	EPA B082	02-117-0820
PCB 1242	U	ug/kg	120	26-NOV-02 04:00	EPA 8082	02-117-0820
PCB 1248	U	ug/kg	120	26-NOV-02 04:00	EPA 8082	02-117-0820
PCB 1254	U	ug/kg	120	26-NOV-02 04:00	EPA 8082	02-117-0820
PCB 1260	U	ug/kg	120	26-NOV-02 04:00	EPA 8082	02-117-0820
Extraction Information:				25-NOV-02 00:00	EPA 3550	02-090-45
Surrogate Recovery:						
Tet rachIoro-m-xyIene	122	%				02-117-0S20
Decachlorobiphenyl	150	X				0Z-117-0B2O

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Results calculated on a dry weight basis.

Approved by: Lab Director

NY 10252 NJ 73168 PA 68180 EPA NY 00033 QC

KEY: NO 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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MORATORY
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32 ITHACA STREET WAVERLY, NY 14892-1532
TELEPHONE (607) 565-3500 PAX (607) 565-4083

Date:03-DEC-2002

Lab Sample ID: L97224-7

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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	77.7			27-N0V-02 13:32	CLP 3.0	02-123-8
EPA 8082						
PCB 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:				25-NOV-02 00:00	EPA 3550	02-090-45
Surrogate Recovery:						
Tetrachloro-m-xylene	102					02-117-0823
Decachlorobiphenyl	115					02-1; [illegible]23

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Results calculated on a dry weight basis.

Approved by: O^dC
Lab Director

NY 10252 NJ 73168 PA 68180 EPA NY 00033

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

^^^^Ks rmation in this report is accurate to the best of our knowledge and ability. In no event shall our liability exceed^ i)St
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I E N D
ORATORY

32 ITHACA STREET WAVERLY, NY 14892-1532
TELEPHONE (607) 565-3500 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	*A**Xf*	**ug/kg**	**130**	**26-N0V-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-N0V-02 06:05**	**EPA 8082**	**02-117-0824**
PCB 1248		**ug/kg**	**130**	**26-N0V-Q2 06:05**	**EPA 8082**	**02-117-0824**
PCB 1254		**ug/kg**	**130**	**26-N0V-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**
Decj^Lprobi phenyl	**117**					**02-117-0824**

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Results calculated on a dry weight basis.

Approved by: Lab Director

Page 1 of 1
NY 10252 HJ 73168 PA 68180 EPA MY 00033 **QC/**

KEY: NO *tj* U s 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)
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ORATORY
N

32 ITHACA STREET WAVERLY, NY 14892-1532
TELEPHONE (607) 565-3500 FAX (607) 565-4083

Date:03-DEC-2002

Lab Sample ID: L97224-9

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	87.8	X		27-NOV-02 13:32	CLP 3.0	02-123-8
EPA 8082						
PCB 1016	*uj^	ug/kg	110	26-HOV-02 06:36	EPA 8082	02-117-0825
PCB 1221	U	ug/kg	210	26-N0V-02 06:36	EPA 8082	02-117-0825
PC8 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 8032	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	no	26-NOV-02 06:36	EPA 8082	02-117-0825
Extraction Information:				25-NOV-02 00:00	EPA 3550	02-090-45
Surrogate Recovery:						
Tetrachloro-m-xylene	115	X				02-117-0825
DeeachIorobiphenyl	131	%				02-1itt|25

%

Results calculated on a dry weight basis.

#

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FLI
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BORATORY
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32 ITHACA STREET WAVERLY, NY 14892-1532
TELEPHONE (607) 565-3500 FAX (607) 565-4083

Date:03-DEC-2002

Lab Sample ID: L97224-10

/©^•SaiirG &:;;'.;; v i %tm/ HORSEH EADS^ZOB;;;;;!

AAA Environmental
Peter Porter
6679 Moore Road
Syracuse, NY 13211

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E@#:£i|<s^;e'i&ea^

Analysis Performed	Result	Units	Detection Limit	Date Analyzed	Method	Notebook Reference
Total Solids	**87.8**			**27-H0V-02 13:32**	**CLP 3.0**	**02-123-8**
EPA 8082						
PCB 1016	-tr^C^	**ug/kg**	**110**	26-NOV-02 07:07	EPA 6082	02-117-0826
PC8 1221		**ug/kg**	**220**	26-NOV-02 07:07	EPA 80B2	02-117-0826
PCB 1232		**ug/kg**	no	26-NOV-02 07:07	EPA 8082	02-117-0826
PCB 1242		**ug/kg**	**110**	26-HOV-02 07:07	EPA 8082	02-117-0826
PCB 1248		**ug/kg**	**110**	26-H0V-02 07:07	EPA 8082	02-117-D826
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**
irobi phenyl	**114**					**02-117-0826**

#

MB 4/25/03

Results calculated on a dry weight basis.

Approved by: Lab Director

NY 10252 NJ 73168 PA 68180 EPA NY 00033 **QC** ***ftkR.***

KEY: ND o/ U = None Detected < = less than ug/L = micrograms per liter (equivalent to parts per billion)
mg/C a milligram per liter (equivalent to parts per million) mg/kg = milligrams per kilogram (equivalent to parts per million)
_r_ª.ⁿ^Ly^JLª.^.detect<|ᵈ M in the method or trip blank J = result estimated below the quantitation limit

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

^NI/^ ECT.CON INC.

Environmental and Computer
Technology Consultants

Support Documentation

COC

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PAGE * n

FLI
ONE RESEARCH CIRCK
WAVERLY NY 14892-1532
fr'R~I EH~5 Telephone(607)5653500
JURATORY Fax (607) 565-4083

CLIENT: AM G^Vtffc
ADDRESS: c____

INVOICE TO:
ADDRESS:

PHONE: FAX:

^

Sample Srtei ^ f ^ ^ A T ^)

PROJECT NO. / NAME

COPY TO:
ADDRESS:

P.O. #

DATE & TIME OF SAMPLE COLLECTION	>\\ SAMPLE DESCRIPTION*,	< NUMBER OF CONTAINERS	ANALYSES / TESTS REQUESTED	SAMPLE^ NUMBER
		3		97127
\\mjox.	^-\3-S-^-ooi	f	"Ft^'5	< UBUSE'ONIY
0130		Description: Grab^Cgmposlle—Other Matrix: DW WW MW/s3t>Air Other		t
	N-6-SS-VJ-OOI	1	tt#5	
		Description: Grab Com ppsjtfl^ Other Matrix: DW WW MW/5oj»Air Other		~ &
ttft^u e> ctf'fC	^)-C-S^ »S>v -oo\	¥	?c&s	3
		Description: Grab^Compos^ Other Matrix: DW WW MWrfSOAir Other		
u\zc\or <a^ 01Y^	N'C-^S-TSX'OOi	X>	Peg'5	4 t.
		Description: Grab "CtfnTpgsjie^ Other Matrix: DW WW MV^§IAir Other		

RELINQUISHED BY
SAMPLER
• 4?&/£&c&ji&
^fcto^

DATE /TIME 11/20/02 1600 11/21/02 830
ACCEPTED BY^S
Q/CJ

DATE/TIME 11/20 1600 11/21/02 854
^2-

JjlOTES TO LABORATORY

SUSPECTED CONTAMINATION LEVEL
NONE SLIGHT MODERATE HIGH (please circle)

CUSTOME. y CHAIN OF QfljTODY RECORD PAGE

FLI ONE RESEARQffciRCLE
WAVERLY NY 14892-1532
fr hi E N TJ Telephone (607) 565 3500
frABQRATORY FflX (607) 565-4083

CLIENT: t;/^a°^w3"fT t'WacE TO:
ADDRESS: OMSom^ ADDRESS:
PHONE: FAX:

Sample Site:. fkee**^

PROJECT NO. / NAME
COPY TO:
ADDRESS:

P.O. #

d» la:

DATE & TIME OF SAMPLE COLLECTION	SAMPLE DESCRIPTION	NUMBER OF CONTAINERS	ANALYSES / TESTS REQUESTED	LAB NUMBER
uf^/<	|0-t-Ss-(33-oo|	f	Tfeg'<J	

USE ONLY

-£

Description: Grab Cbintiosiflg Other
Matrix: DW WW MWgfijfoir 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

RELINGUISHIDBY^
SAMPLER
W,SmigM^

DATE/TIME
14/20/02
1600
11/21/02

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DATE/TIME,
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NOTES, TO LABORATORY

SUSPECTED CONTAMINATION LEVEL
NONE SLIGHT MODERATE HIGH (please circle)

CUSTOMER # _____

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11/20/02

PAGE 1 of 1

FLI FRIEND LABORATORY I • N • C

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

Sample Site: HORSEHEADS

P.O. #

Untreated	Sodium thiosulfate	HCl pH <2	Ascorbic acid & HCl pH <2	HNO_3 pH <2	H_2SO_4 pH <2	NaOH pH >12	NaOH & Zinc acetate pH >9	Acetic Buffer pH <3	Sodium sulfite

CLIENT: AAA ENVIRONMENTAL
ADDRESS: ONSITE
PHONE: FAX:

INVOICE TO:
ADDRESS:

PROJECT NO. / NAME
11208

COPY TO:
ADDRESS:

97127

DATE & TIME OF SAMPLE COLLECTION	SAMPLE DESCRIPTION	NUMBER OF CONTAINERS	ANALYSES / TESTS REQUESTED	SAMPLE NUMBER LAB USE ONLY
11/20/02 @ 1006	L-B-S-W-002	X Description: Grab Composite Other Matrix: DW WW MW Soil Air Other	PCB's	-6
11/20/02 @ 1005	L-B-SS-E-002	X Description: Grab Composite Other Matrix: DW WW MW Soil Air Other	PCB's	-7
		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	DATE/TIME	NOTES TO LABORATORY
SAMPLER A. Schreckenhost RAS R Wilbanks	11/20/02 1600 11/21/02 830	R Wilbanks Tom Jones	11/20/02 1600 11/21/02 854	

SUSPECTED CONTAMINATION LEVEL
NONE SLIGHT MODERATE HIGH (please circle)

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CHAIN OF CUSTODY RECORD

PAGE 3t

FLI
ERIE ITD LABORATORY

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

CLIENT: ERM-NORTHEAST

ADDRESS:

INVOICE TO:
ADDRESS:

PHONE: FAX:

PROJECT NO. / NAME

COPY TO:
ADDRESS:

Sample Site.

P.O. #

DATE & TIME OF SAMPLE COLLECTION	SAMPLE DESCRIPTION	NUMBER OF CONTAINERS	ANALYSES / TESTS REQUESTED	SAMPLE NUMBER
11/20/02	E-13-SS-W-005"	*	PCB's	97127
		Description: Grab dgmpositg Other Matrix: DW WW MW/SojPAlr Other		LAB USE ONLY
				-8,-9,-10
			PCB's	
				-11
11/20/02	C-13-SS-E-003	Description: Grab Composite Other Matrix: DW WW MW Soil Air Other		
	MID	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	DATE/TIME
SAMPLER A. SCHRECKENBOST	11/20/02 1600		11/20/02 1600
	11/21/02 830	Toni Jones	11/21/02 854

NOTES TO LABORATORY

SUSPECTED CONTAMINATION LEVEL

NONE SLIGHT MODERATE HIGH (please circle)

CUSTOMER # _____ 11.22.02

CHAIN OF CUSTODY RECORD

PAGE 1 of 1

FLI FRIEND LABORATORY I • N • C

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

CLIENT: AAA ENVIRONMENTAL
ADDRESS: ONSITE
PHONE: FAX:

INVOICE TO:
ADDRESS:

PROJECT NO. / NAME
19208
HORSEHEADS

COPY TO:
ADDRESS:

Sample Site:

P.O. #

97224

DATE & TIME OF SAMPLE COLLECTION	SAMPLE DESCRIPTION	NUMBER OF CONTAINERS (Untreated / Sodium thiosulfate / HCl pH <2 / Ascorbic acid & HCl pH <2 / HNO_3 pH <2 / H_2SO_4 pH <2 / NaOH pH >12 / NaOH & Zinc acetate pH >9 / Acetic Buffer pH <3 / Sodium sulfite)	ANALYSES / TESTS REQUESTED	LAB USE ONLY SAMPLE NUMBER
11/21/02 @ 1515	P-B-SS-W-001	1 — Description: Grab Composite Other; Matrix: DW WW MW Soil Air Other	PCB's	97224-1
11/21/02 @ 1635	P-B-S-E-001	X — Description: Grab Composite Other; Matrix: DW WW MW Soil Air Other	PCB's	97224-2
11/21/02 @ 1230	P-C-SS-B-001	X — Description: Grab Composite Other; Matrix: DW WW MW Soil Air Other	PCB's	97224-3
11/21/02 @ 1605	P13-S1-W-001	X — Description: Grab Composite Other; Matrix: DW WW MW Soil Air Other	PCB's	97224-4

RELINQUISHED BY	DATE /TIME	ACCEPTED BY	DATE/TIME
SAMPLER: A. SCHREIBMAIER	11/21/02		
	11/22/02 2pm	Tom Jones	11/22/02 245

NOTES TO LABORATORY

SUSPECTED CONTAMINATION LEVEL
NONE SLIGHT MODERATE HIGH (please circle)

CUSTOMER ^ B e #

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T? T T ONE RESEARCH CIRCLE
J? J^j JL WAVERLY NY 14892-1532
F R Jt E WT5 Telephone (607) 565 3500
LABORATORY Fax (607} 565_4083

CLIENT: AAfl cf^ *>3^w i ^ r o ^ INVOICE TO:
ADDRESS: ADDRESS:

PHONE: FAX:

Sample SItei PROJECT NO. / NAME COPY TO:
ADDRESS:

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DATE & TIME OF SAMPLE COLLECTION | SAMPLE DESCRIPTION | NUMBER OF CONTAINERS | ANALYSES / TESTS REQUESTED | LAB USE ONLY

97224

vM^ -^s-S-U-o* (ffcE'S

C2_

Description: GrafiBom Other
Matrix: DW WW MW^SjgJ Air Other

u|>'|0T- e f-^ OB -S-S-oai t ? ^

'H5

Description: Grab f€bff>posTte> Other
Matrix: DW WW MW=So^Air Other

I'^C^ (33 P-8-5?-fc-co/ ? ?c5>

<='^0

Description: Grab ^oKjposftg Other
Matrix: DW WW MW'Boll Air Other

"/^•(i: P-B-S^-U3-08| < PCZTs

ur · v <

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Description: Grab<Coji]lihsit»^Dther
Matrix: DW WW MW^S^il Air Other

RELINQUISHED BY	DATE /TIME	ACCEPTED BY	DATE/TIME	NOTES TO LABORATORY
SAMPLER A. SCHRECKENGOST	11/21/02		11/22/02 1250	
	11/22/02 2Pm	Tom Jones	11/22/02 245	

SUSPECTED CONTAMINATION LEVEL

NONE SLIGHT MODERATE HIGH (please circle)

CUSTOMER # 11/22/02

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LABORATORY
ONE RE&ARCH CIRCLE
WAV^RLY NY 14892-1532
Telephone (607) 565 3500
Fax (607} 565-4083

CLIENT:
ADDRESS: <2>/0Sxn=-

INVOICE TO:
ADDRESS:

PHONE: FAX:

Sample Sltei

PROJECT NO. / NAME

COPY TO:
ADDRESS:

P.O. *n*

DATE & TIME OF SAMPLE COLLECTION

SAMPLE DESCRIPTION,

TTgT^Tw^pf
-603 BL
- GO

NUMBER OF CONTAINERS

%

Description: Grab CumpositjQOther
Matrix: DW WW MW^oItAir Other

.ANALYSES / TESTS REQUESTED I * -> NUMBER

fcS'S

ft^is

LAB USE ONLY

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ibtO

Description: Grab Other
Matrix: DW WW M\ iflJAtr 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

SAMPLEB

^ ^ # ^ -

I jSz^fazr-x-Xr.r:*

*IJ^Z^*

DATE /TIME

11/21/02

ACCEPTED BY

<M?i;CiHun

DATE/TIME

11/22/02
245

NOTES TO LABORATORY

SUSPECTED CONTAMINATION LEVEL

NONE SLIGHT MODERATE HIGH (please circle)

Laboratory Case Narrative

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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 autosampfer 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: Elyy^&^/feafo,

Date: March 31, 2003

Elizabeth A. Keator
Quality Assurance

Worksheets

PAC&GE COMPIiETENESS AND DELIVERABLES

CASE NUMBER: _____ SDG#

LAB: ^ V d UaWfrk*/^ T/>(L- SITE: *Ml&TPM / fM)$£ %^*dl*

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? J.

3.0 Data Validation Checklist

3.1 Does this data package contain:

Water data? _____ J/

Waste data? _____ J

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? /

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? • _____ IJA ____

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

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) VA $' p***- lp**~' <4JJf*'

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

c. Soil/Solid J_L_____\,S

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? S J_L _____

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 _i_ .•

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 /U/4 *S* *v/^e>*s*

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)? T1

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)? _L_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?

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

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)? J_L

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

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 1_L

b. Waste J_J.

c. Soil/Solid i_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) J-L

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)

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. *usT*

7.2 Do any field/rinse blanks have positive PCB results? A V / ^^-"'L_ad^U /U-f-"'-_____ L L

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 cone > EDL but < 5 x 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? j^ j^tA (A- *Ittnk** /V^p^f^L _1 _ __

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 __ *JJ fa- J^ £jej-* /- / ^ > - ^

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) r 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.

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/r©submittal, 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.

if we for multi-std. we for single-std.

9.5 Were RT windows on the confirmation column established using three standards as described above? pr[1,y] flU- K i j_l

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 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) . [✓]

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.

9.10 Has the percent difference (%D) exceeded ± 15% for any PCB analyte in any calibration verification/ Continuing calibration standard? _____

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 ± 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%

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 1.6), using RTs from the associated calibration verification/continuing standard?

A

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

« •

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? [✓]

Action: If no, see "Action" in section 9.14 above. .ion" in section 9.14 above n

11.0 Extraction Techniques for Sample Preparation *jjfc P^ iLv^ ^ '^*

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) J—L
   2. Continuous liquid-liquid extraction (Method 3520)
   3. Solid phase extraction (Method 3535)
   4. Other **J_L**

2. Solid samples:

   1. Soxhlet (Method 3540)

	YES	NO	N/A
2. Automated Soxhlet (Method 3541)	J_I		y
3. Pressurized fluid (Method 3545)	J_I		
4. Microwave extraction (Method 3546)	_L_L		
5. Ultrasonic extraction (Method 3550)	J_L		^
6. Supercritical fluid (Method 3562)	J_L		
7. Other			x/

11.1 Extract Cleanup - Efficiency Verification (Form IX) Wfir/Uut/fy-

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? y

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

11.3 Was GPC Cleanup (method 3640A) performed? _L_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? 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?

• #

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? ***u***

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? [√]

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

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.

97127 under

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%	"J"
71-100%	"NJ"
>100% *	"R"
100-200% Interference detected)**	"NJ"
>50% (PCBs value is <CROL)	"U"

When the reported PCBs value is <CROL 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.

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 Chromatoqram Quality

14.1 Were baselines stable?

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

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

15.0 Field Duplicates *k) flr Uf U^ "f / jU^ '//i/l>*

15.1 Were any field duplicates submitted for PCB analysis? *i /*

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				
20				
21				
22				
23				
24				
25				
26				

COMMENTS:

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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26				

CO WMENTS:

ID EPA SAMPLE NO.

PESTICIDE ORGANICS ANALYSIS DATA SHEET __^__

MB42

ab Name: Contract:

^P^K'.ab 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: *iOOOQ* (uL) 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	
12674-11-2	Aroclor-1016	S - Z. 0 . 01 y	u
1104-28-2	Aroclor-1221	/8[1] 0.02	u
11141-16-5	Aroclor-1232	<? • z 0.0/.	u
53469-21-9	Aroclor-1242	*f--z-* 0.01	u
11097-69-1	Aroclor-1254		u
11096-82-5	Aroclor-1260	*? Z- 0/01	u
	Aroclor-1248	^.2. ^_&±	u
		eaJZ.	

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FORM I PEST

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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: Amt * DF * ((Vf / Ws) * Uf) / 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

		RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COL (iig/L)	FINAL (ug/Kg)	TARGET RANGE	RATIO
S	1 Tetrachloro-m-xylene							CAS «:	
		7.957	7.960	-0.023	4124732	481.610	442.23		
$	29 Decachlorobiphenyl							CAS «:	
		20.103	20.127	-0.024	2666674	455.108	417.90		

OO^IG

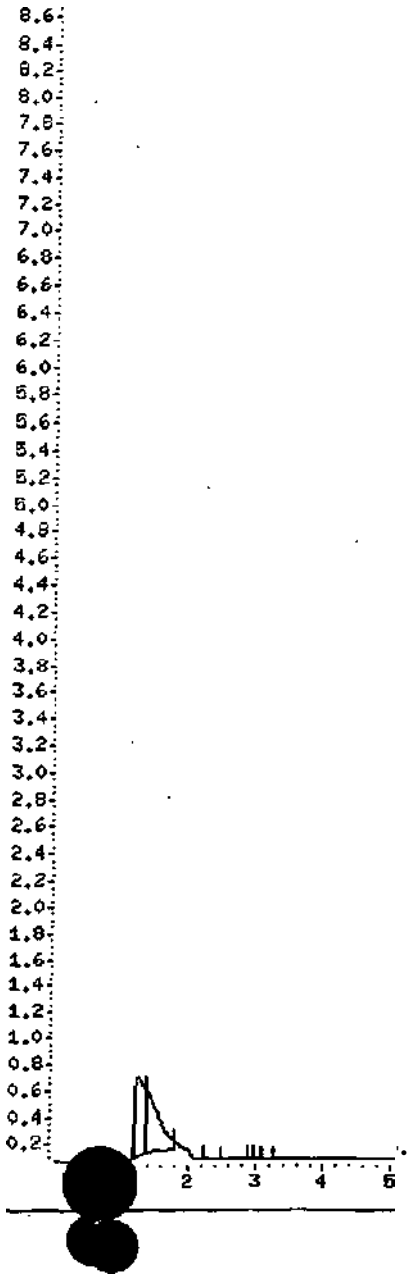
Data File: /chem/hpl4i/30S2rll22.b/'E2930770,D
D-aU : 22-N0V-2OO2 23:17
Client ID: HE42
Sample Info: HB42
Volume Injected <ul_>; 2.0
Column phase: RTX-CLPesticides 2

Instrument: hpl.i

Operator; CPW
Column diameter: 0.32

/IT- \
O

/chem/hpl.i/8082rll22.b/E2980770.D



$

10 11 12 14 15 16 17 18 19 20 21 22 23 24 27

Friend Inc.

Data File: /chem/hpl.i/8082rll22.b/E2980770.D
Method: /chem/hpl.i/8082rll22.b/8082_PCBsec.M
Sample Info: MB42 \
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: ~7

^9-

ID EPA SAMPLE NO.

PESTICIDE ORGANICS ANALYSIS DATA SHEET _____

MB45

Name: Contract:

W^Eab 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: 10000 (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		
12674-11-2	Aroclor-1016	<\.3	0. 01	U
1104-28-2	Aroclor-1221	m.	0.02/	U
11141-16-5	Aroclor-1232		0.01	u
. 53469-21-9	Aroclor-1242		0.01	u
11097-69-1	Aroclor-1254	<?.3	0./)l	u
11096-82-5	Aroclor-1260	^•3	0/01	u
	Aroclor-1248	<?.3		-u

3/31/03

FORM I PEST

%

oo^is

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: 3.40 Sample Matrix: SOIL
Processing Host: TARGET3

Concentration Formula: Amt * DF * ((Vf / Ws) * Uf) / 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 tt'.	
	7.943	7.980	-0.037	439183B	513.275	475.64		
S 29 Decachlorobiphenyl							CAS tt:	
	20.090	20.127	-0.037	3678835	630.346	584.13		

T2C00

<060*0Z> lfiuau,eltqojomoeoaii

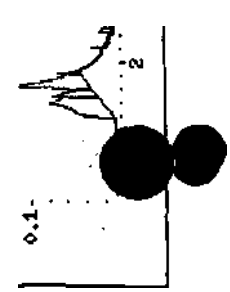
1

-CO

_r^

_M>

<£fr6*i) euatfix-w-oJomoeJ^ei



Friend Inc.

Data File: /chem/hpl.i/8082rll22.b/E2980813.D
Method: /chem/hpl.i/8082rll22.b/8082_PCBsec.M
Sample Info; MB45
Misc Info:
Analysis Date 26-NOV-2002 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	102.66%
Decachlorobiphenyl	126.07%

Analyst: CPW
Report Date: 11/26/2002 08:05

Supervisor:
Date:

01/12/02	RTX-CLPEST 1		UG/L ON COLUMN			IDL	UG/L IN WATER	CRDL (UG/L)
Instruments	Run #1	Run #2	Run #3	Average	SO	SD"6.9S	IDL	
PCB1016	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)
Instrumental	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 1242	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

ID EPA SAMPLE NO.

PESTICIDE ORGANICS. /ANALYSIS DATA SHEET

L97127-1

Lab Name: Contract:

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: ^23."2- decanted: {Y/N) N Date Received: 11/21/2

out. 3bvlo3

Extraction: (SepF/Cont/Sonc) SONC Date Extracted:11/22/2

Concentrated Extract Volume: *\Q00O* (uL) Date Analyzed: 11/23/2

Inj ection 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	*V2-0* ~o~r'l"2	U
1104-28-2	Aroclor-1221	*2 so* 0. 2jfe	u
11141-16-5	Aroclor-1232	J2-^ 0.]fc	u
53469-21-9	Aroclor-1242	i*°- 0.A2	u
11097-69-1	Aroclor-1254	<*-° • 0/12	u
11096-82-5	Aroclor-1260	*fZ-O* 0/.12	u
	Aroclor-1248	l"2-0 g.12-	u

3l3ii03

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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: 3.4 0 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	10.462	Weight of sample extracted (g)
Uf	0.100	Unit Correction Factor
Ts	76.800	Total Solid

	RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COL (Ug/L)	FINAL (ug/Kg)	TARGET RANGE	RATIO
S 1 Tetrachloro-m-xylene'							CAS H:	
	7,963	7.9B0	-0.017	505480	52.5475	654.01		
S 39 Decachlorobiphenyl							CAS ft:	
	20.107	20.127	-0.020	37103B	57.6579	717.61		

D^^Bkle: /chert/hpl. i /80S2rll22, b/E2980777, D

Page^^

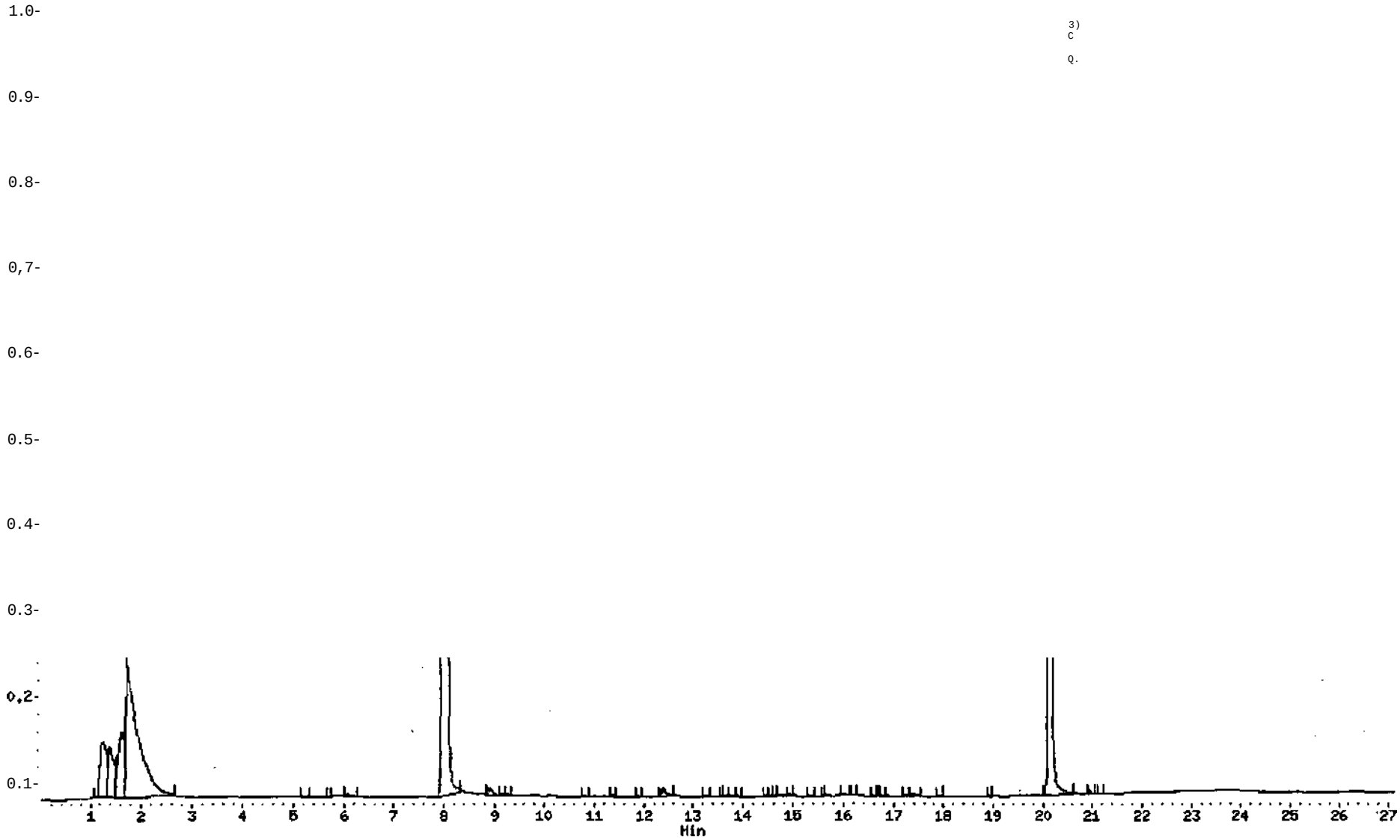
Cli^TC ID: L97127-1
Sample Info: L97127-1
Volume Injected <uL): 2.0
Column phase: RTX-CLPesticides 2

Instrument* hpl.i

Operator: CPU
Column diameter: 0,32

o

/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	1*033714,02-117	
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: Amt * DF * ((Vf / Ws) * Uf) / Ts * 1000

Name	Value	Description
DF	10.000	Dilution Factor
Vf	10.000	Final volume
Ws	10.549	Weight of sample extracted (g!
Uf	0.100	Unit Correction Factor
Ts	78.300	Total Solid

				CONCENTRATIONS ON-COL	FINAL		
	RT	EXP RT	DLT RT	RESPONSE	(ug/L)	(ug/Kg)	TARGET RANGE	RATIO
$ 1 Tetrachloro-m-xylene							CAS «:	
	1.970	7.980	-0.010	491366	50.8767	615.96		
$ 29 Decachlorobiphenyl							CAS *8:*	
	20.110	20.127	-0.017	326694	49.9805	605.11		

Y CxI<T4)

p p- p p - K M r o w M w u w u w u * - « ' A * 4 i (J i cjioiwtniT'^cP'Cdff^^i^J^J-^^Joowcocooo •^•a

Tetrachloro-m-xylene <7.970>

Decachlorotaiphenyl <20.110>

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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 Compound Sublist: PCB.sub
Target Version: 3.40 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
Uf	0.100	Unit Correction Factor
Ts	90.500	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	7.980	-0.007	444389	45.3052	484.20		
S	29 Decachlorobiphenyl					CAS *:		
	20.110	20.127	-0.017	289439	43.5305	465.24		

%

V <xlO[rt]4>

Tetrachloro-n-xylene <7.973>

Decach 1 orob i pheny 1 < 20 . HO >

00020

Friend Inc.

Data File: /chem/hpl.i/8082rll22.b/E2980779.D
Method: /chem/hpl.i/8082rll22.b/8082_PCBsec.M
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:
Date:

#7F

ID EPA SAMPLE NO

PESTICIDE ORGANICS ANALYSIS DATA SHEET

L97127-4

Lab Name: Contract:

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: -e-//-i decanted: (Y/N) N Date Received: 11/21/2

£oA 3/31103

Extraction: (SepF/Cont/Sonc) SONC Date Extracted:11/22/2

Concentrated Extract Volume: jOOOQ (uL) 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"		
	-Aroclor- 1248"	HO Q/11	

3/31/03

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« • Thru-Put Systems, Inc

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 CPW Inst ID: hpl.i
Smp Info L97127-4
Misc Info WG33714,02-117
Comment
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

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

RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COL { ug/L)	CONCENTRATIONS FINAL tug/Kg)	TARGET RANGE	RATIO
$ 1 Tetrachloro-m-xylene				CAS #1			
7.960	7.957	0.003	574648	60.7474	665.68		
$ 29 Decachlorobiphenyl				CAS K-.			
20.100	20.110	-0.010	467013	74.2744	813.91		
25 Aroclor-1254				CAS «: 11097-69-1			
13.263'	13.260	0.003	38380	77.5375	849.67	80.00- 120.00	100.00(H)
13.650	13.650	0.000	2B973	65.2265	714.77	70.56- 110.5B	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	i3324	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

Average of Peak Concentrations • 483.59

Data File: \chem\hpl.i\8082rll22.b\E2980837.D
Report Date: 27-Nov-2002 09:03

^P^C Flag Legend

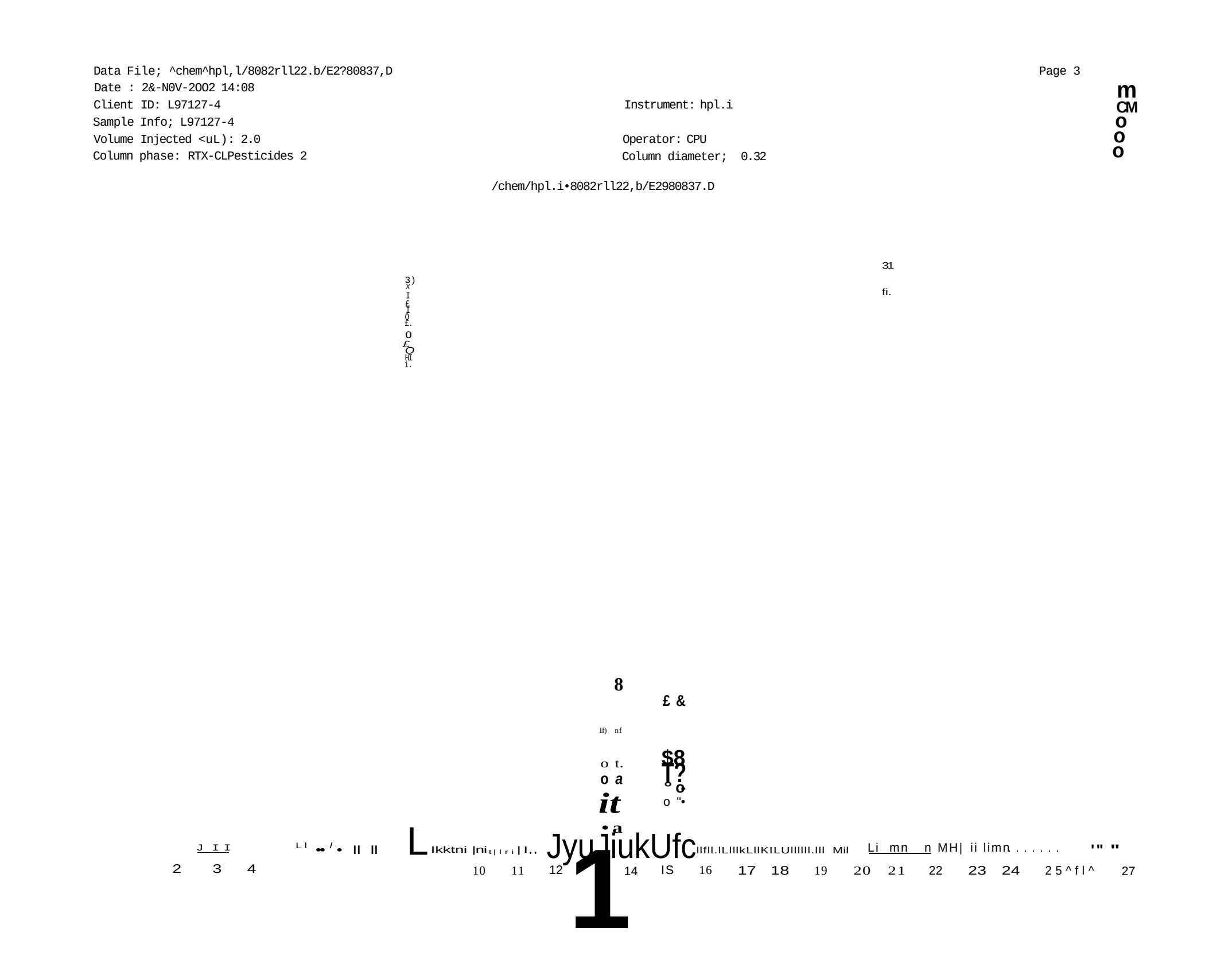
H - Operator selected an alternate compound hit.

Data File; ^chem^hpl,l/8082rll22.b/E2?80837,D
Date : 2&-N0V-2OO2 14:08
Client ID: L97127-4
Sample Info; L97127-4
Volume Injected <uL): 2.0
Column phase: RTX-CLPesticides 2

Instrument: hpl.i

Operator: CPU
Column diameter; 0.32

/chem/hpl.i•8082rll22,b/E2980837.D



Friend Inc.

Data File: /chem/hpl.i/8082r!122.b/E2980837.D
Method: /chem/hpl.i/8082rll22.b/8082_PCBsec.M
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-12.48	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 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	10.358	Weight of sample extracted *(g)*
Uf	0.100	Unit Correction Factor
Ts	88.100	Total Solid

RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COL (ug/L)	FINAL lug/Kg)	TARGET RANGE	RATIO
$ 1 Tetrachloro-m-xylene					CAS «:		
8.577	B.597	-0.020	1529743	45.3757	497.24		
25 Aroclor-1254					CAS tt: 11097-69-1		
14.493	14.490	0.003	18051	19.4757	213.42	ao.oo- 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	5B.39- 9B.39	1B2.94
15.2B0	15.273	0.007	179B6	16.9191	185.40	98.45- 138.45	99.64
15.647	15.640	0.007	40031	34.5198	378.2B	106.65- 146.65	221.77
Average of Peak Concentrations -					359.33		
$ 29 Decachlorobiphenyl					CAS tt:		
20.100	20.097	0.003	995659	63.4277	695.OS		

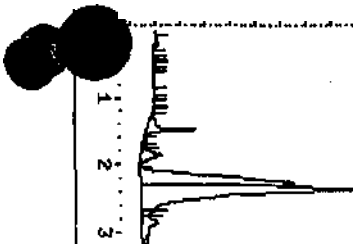
Data File: \chem\hp3.i\1254FCONFIRMVa.b\E3956869.D
Report Date: 02-Dec-2002 08:39

^^QC Flag Legend

M - Compound response manually integrated.

Y Cxl0^5>

OOOOOOOOP>(*V'h'h'cP>P'^^P>fOWWNrOWWrii)WiywwwWW(iJWWUW*Ji*.*.4i*A.Jk



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Tetrachloro-m-xylene (8.577)

-ftrocloi—1254 <14.493>

-Aroclor-1254 C14.737>

-Aroclor-1254 <15.647>

r

Decachlorobiphenyl <20.10Q>

Friend Inc.

Data File; /chem/hp3.i/l254FCONFIRMVa.b/E3956869.D
Method: /chem/hp3.i/1254FCONFIRMVa.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

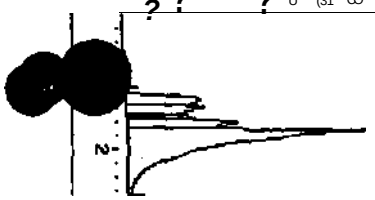
Analytes (ug/Kg)

Aroclor-1254	359.33
Tetrachloro-m-xylene	90.75%
Decachlorobiphenyl	126.86%

Analyst: CPW
Report Date: 12/02/2002 08:39

Supervisor:
Date:

0QG30



Tetrachloro-B-xylene (7.957)

Deoachlorobiphenyl C20.107>

MO33

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

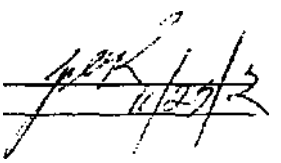
Dilution Factor	10.0000
Sample Weight	10.1284
Final Volume	10.0000
Total Solid	88.7000

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:



ID

EPA SAMPLE NO.

PESTICIDE ORGANICS ANALYSIS DATA SHEET

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: -QrZ3-5 decanted: (Y/N) N

0&.K 3131103

Date Received: 11/21/2

Extraction: (SepF/Cont/Sonc) SONC

Date Extracted:11/22/2

Concentrated Extract Volume: JObOO (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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
12674-11-2	-Aroclor- 1016	/30 ~~0.17~~	U
1104-28-2	-Aroclor- 1221"	ZtoO o.76	U
11141-16-5	-Aroclor- 1232"	'-3° 0/13	U
53469-21-9	-Aroclor- 1242"	/30 o4±3"	U
11097-69-1---	-Aroclor- 1254"	/30 ~~119.81~~	4
11096-82-5	-Aroclor- 1260"	/30 ~~0.13~~	U
	-Aroclor- 1248"	/30 ~~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 \chem\hpl.i\8082rll22.b\8082_PCBsec.M
Method 25-Nov-2002 08:50 Administra Quant Type: ESTD
Meth Date 22-NOV-2002 18:04 Cal File: E2980760.D
Cal Date 1
Als bottle 10.00000
Dil Factor Falcon Compound Sublist: PCB.sub
Integrator 3.40 Sample Matrix: SOIL
Target Version:

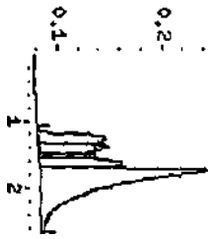
Concentration Formula: Amt * DF * ((Vf / Ws) * Uf) / Ts * 1000

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

RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COL (ug/L)	FINAL (ug/Kg)	TARGET RANGE	RATIO	
S 1 Tetrachloro-m-xylene					CAS #:			
7.957	7.980	-0.023	499139	51.7958	664.40			
$ 29 Decachlorobiphenyl					CAS #:			
20.103	20.127	-0.024	383378	59.7944	767.00			
25 Axoclor-1254					CAS #:	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	< PQL
15.330	15.347	-0.017	3718			63.85- 103.85	68.12	
16.013	16.043	-0.030	6299	9.34027	119.81	73.96- 113.96	115.41	
Average of Peak Concentrations =					119.81			

lag Legend

M - Compound response manually integrated.



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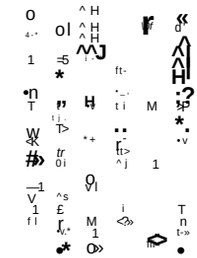

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Tetrachloro-M-xylene <7.957)

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£ -ftroclor-1254 (13.260>

• -ftroolor-1254 <13.647>

-ftroolor-1254 <14.917>

-ftroolor-1254 (15.330)

| -ftroolor-1254 (16.0135

T

Decaohlorobiphenyl (20.103)

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Thru-Put Systems, Inc

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.- Amt * DF * ((Vf / Ws) * Uf) / Ts * 1000

Name	Value	Description
DF	10.000	Dilution Factor
Vf	10.000	Final volume
Ws	10.099	Weight of sample extracted (g)
Uf	0.100	Unit Correction Factor
Ts	85.500	Total Solid

	RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COL (ug/L)	FINAL (ug/KgJ	TARGET RANGE	RATIO
S	l Tecrachloro-m-xylene						CAS #:	
	7.957	7.980	-0.023	527S09	55.1946	639.21		
S	29 Decachlorobiphenyl						CAS *tt:*	
	20.103	20.127	-0.024	385565	60.1730	696.87		

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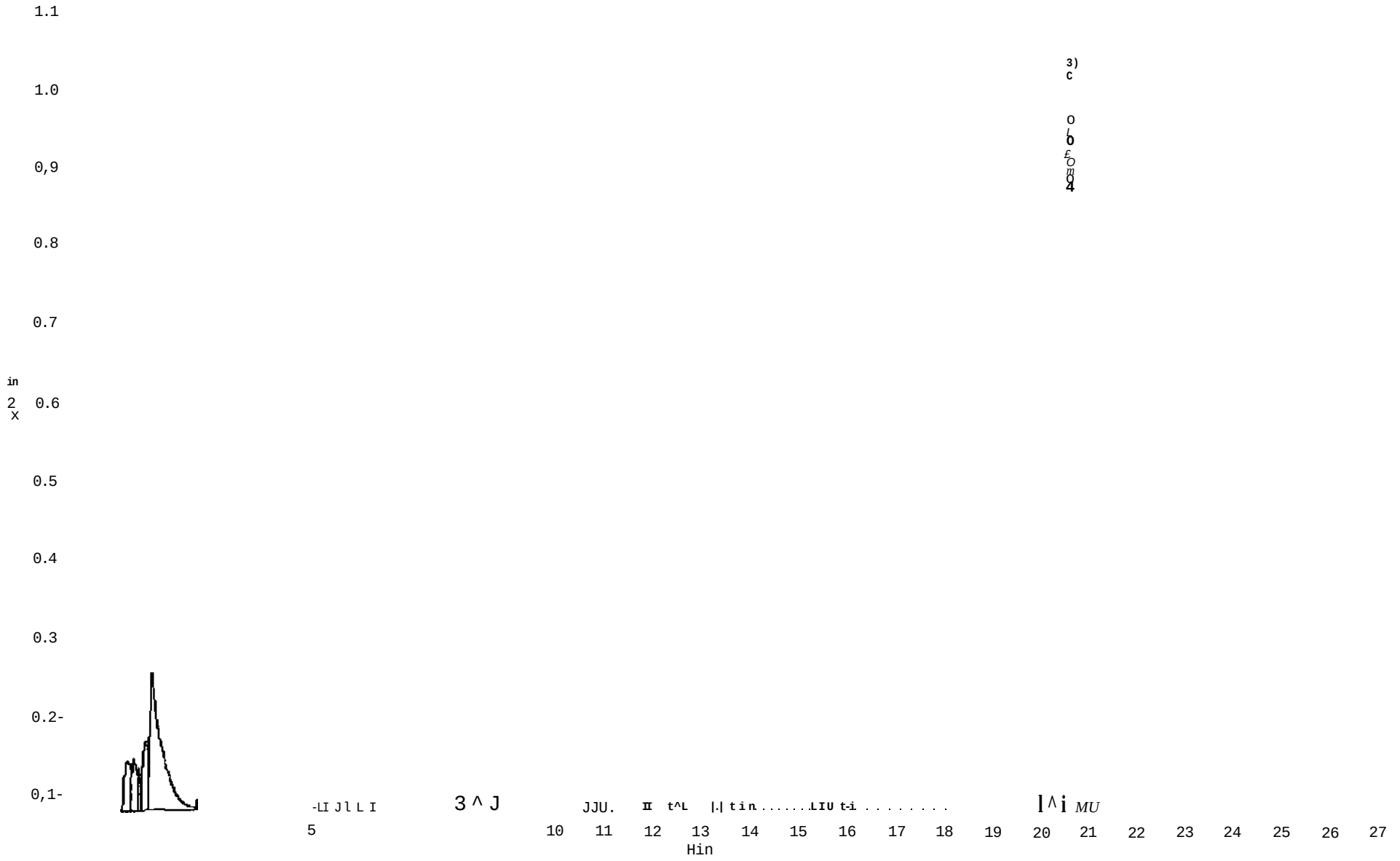
Dat^i1e: /chem/hpl.i/8082rll22.b/E29S0785,D
Iia^^^p-HOV-2002 07; 06
Cl^^^P): L97127-7
Sample Info: t-97127-7
Volume Injected (uL): 2,0
Column phase; RTX-CLPesticides 2

Instrument; hpl.i

Operator: CPU
Column diameter; 0.32

Page 00042

/chem/hpl.i/8082r!122,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 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	10.052	Weight of sample extracted (g)
Uf	0.100	Unit Correction Factor
Ts	82.100	Total Solid

		RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COL (ug/L)	FINAL {ug/Kg)	TARGET RANGE	RATIO
S	1 Tetrachloro-ro-xylene						CAS #:		
		7.947	7.957	-0.010	619665	66.0841	800.77		
S	29 Decachlorobiphenyl						CAS 8:		
		20.097	20.110	-0.013	512086	82.0780	994.58		(RM)

QC Flag Legend

R - Spike/Surrogate failed recovery limits.
M - Compound response manually integrated.

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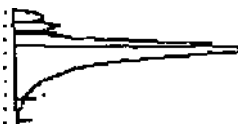

Tetrachloro-m-xylene C7.947)

Decachlorob i pheny1 < 20,097 >

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

Name	Value	Description
DF	10.000	Dilution Factor
Vf	10.000	Final volume
Ws	10.315	Weight of sample extracted (g)
Uf	0.100	Unit Correction Factor
Ts	76.600	Total Solid

	RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COL• (Ug/L)	FINAL (ug/Kg)	TARGET RANGE	RATIO
$ l	Tetrachloro-ni-xylene					CAS tti		
	7.947	7.957	-0.010	600621	63.8265	B07.77		
S 29	Decachlorobiphenyl					CAS «:		
	20.097	20.110	-0.013	51359B	82.3397	1042.07		<RM>

QC Flag Legend

R - Spike/Surrogate failed recovery limits.
M - Compound response manually integrated.

File: /chen/hpl.i/8082ril22.b/E2930816.D
I26-N0V-2002 01:55
CTVME ID; L97224-2
Sample Info: L97224-2
Volume Injected <uL); 2.0
Column phase: RTX-CLPesticides 2

Instrument: hpl.i

Operator: CPU
Column diameter: 0.32

/chem/hpl.i/8082rll22.b/E2980816,D

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10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27
Min

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: Amt * DF * ((Vf / Ws) * Uf) / 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

	RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COL (ug/LJ	FINAL tug/Kg)	TARGET RANGE	RATIO	
S	l Tetrachloro-m-xylene						CAS #:		
	7.947	7.957	-0.010	599045	S3.6396	920.79			
S	29 Deeachlorobiphenyl						CAS #:		
	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.

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D^flKi 1 e: /chem/hpl. i/3032rll22« b/E2930317.D
^ ^ B 26-NOV-2002 02:27
S B F ID: L97224-3
Sample Info; L97224-3
Volume Injected CuL): 2.0
Column phase: RTX-CLPesticides 2

Instrument: hpl.i

Operator; CPN
Column diameter: 0,32

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CM

/chem/hpl.i/8082rll22.b/E2980817.D

1.6-
1,4-
1,3-
1.2-
1.1-
1.0-
0.9-
0.7-
0,6-
0.5-
0.4-
0.3-
0,2-

1 2 3 4 5 6 7 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27

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

Name	Value	Description
DF	10.000	Dilution Factor
Vf	10.000	Final volume
Ws	10.274	Weight of sample extracted (g)
Uf	0.100	Unit Correction Factor
Ts	71.800	Total Solid

	RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COL (ug/L)	CONCENTRATIONS FINAL (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 tt;	
	20.097	20.110	-0.013	503140	80.5291	1091.67		(RM)

QC Flag Legend

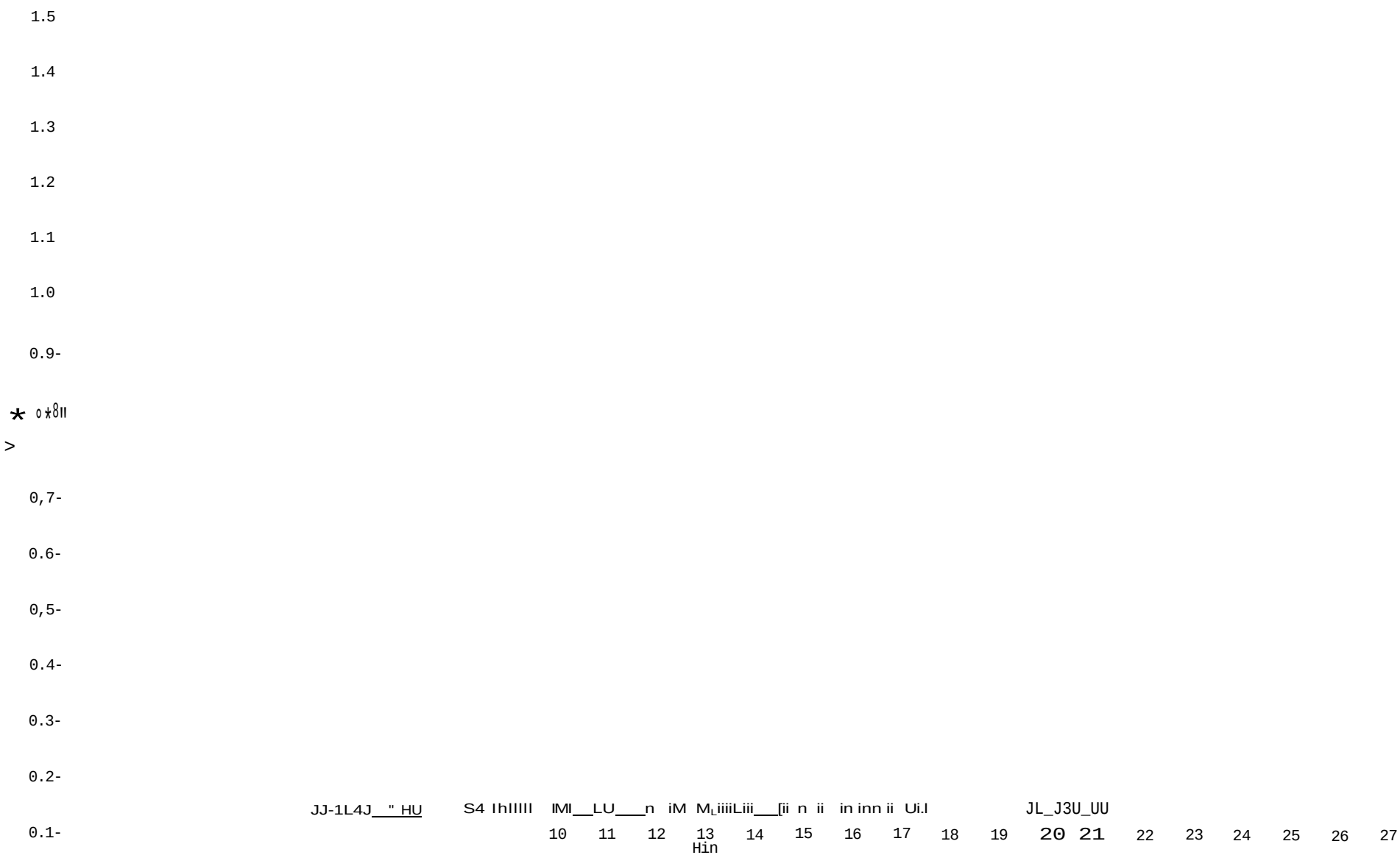
R - Spike/Surrogate failed recovery limits.
M - Compound response manually integrated.

i1e;/chem/hpl.i/8082rll22.b/E2980818.D
26-N0V-2002 02:58
ID: L97224-4
Sample Info: L97224-4
Volume Injected <UL>; 2.0
Column phase: RTX-CLPesticides 2

Instrument: hpl.i

Operator: CPU
Column diameter: 0,32

/chem/hpl.i/8082rli22.b/E2980818,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: Amt * DF * ({Vf / Ws) * Uf) / Ts * 1000

Name	Value	Description
DF	10.000	Dilution Factor
Vf	10.000	Final volume
Ws	10.240	Weight of sample extracted (g)
Uf	0.100	Unit Correction Factor
Ts	77.500	Total Solid

	RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COL (ug/L)	FINAL (ug/Kg)	TARGET RANGE	RATIO
$ l Tetrachloro-m-xylene						CAS #:		
	7.947	7.957	-0.010	620463	66.17B7	833.91		
$ 29 Decachlorobiphenyl						CAS tt;		
	20.093	20.110	-0.017	512575	82.1626	1035.32		tRM)

QC Flag Legend

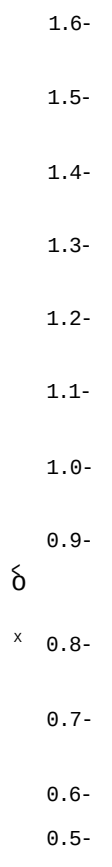
R - Spike/Surrogate failed recovery limits.
M - Compound response manually integrated.

Dat^^^k: /chem/hpl,t/8032ril22,tVE29&0Sl-?,D
Dat^^W-NOV-2002 03:29
Client ID: L97224-5
Sample Info: L97224-5
Volume Injected CuL>: 2.0
Column phase: RTX-CLPesticides 2

Instrument; hpl.i

Operator: CPU
Column diameter: 0.32

/chem/hpl.i/8082r!122.b/E2980819.D



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

Name	Value	Description
DF	10.000	Dilution Factor
Vf	10.000	Final volume
Ws	10.473	Weight of sample extracted
Uf	0.100	Unit Correction Factor
Ts	77.300	Total Solid

		RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COL (ug/L)	FINAL tug/Kg)	TARGET RANGE	RATIO
S	1 Tetrachloro-m-xylene	7.947	7.957	-0.010	577220	61.0523	754 .13	CAS tti	
S	29 Decachlorobiphenyl	20.097	20.110	-0.013	472154	75.1644	928.45	CAS 8:	(RH)

QC Flag Legend

R - Spike/Surrogate failed recovery limits
M - Compound response manually integrated.

i1e: /chem/hpl.i/3082rll22.b/E2930820.D
26-N0V-2002 04:00
ID: L97224-6
Sample Info: L97224-6
Volume Injected <uL>: 2.0
Column phase: RTX-CLPesticides 2

Instrument: hpl.i

Operator: CPW
Column diameter; 0,32

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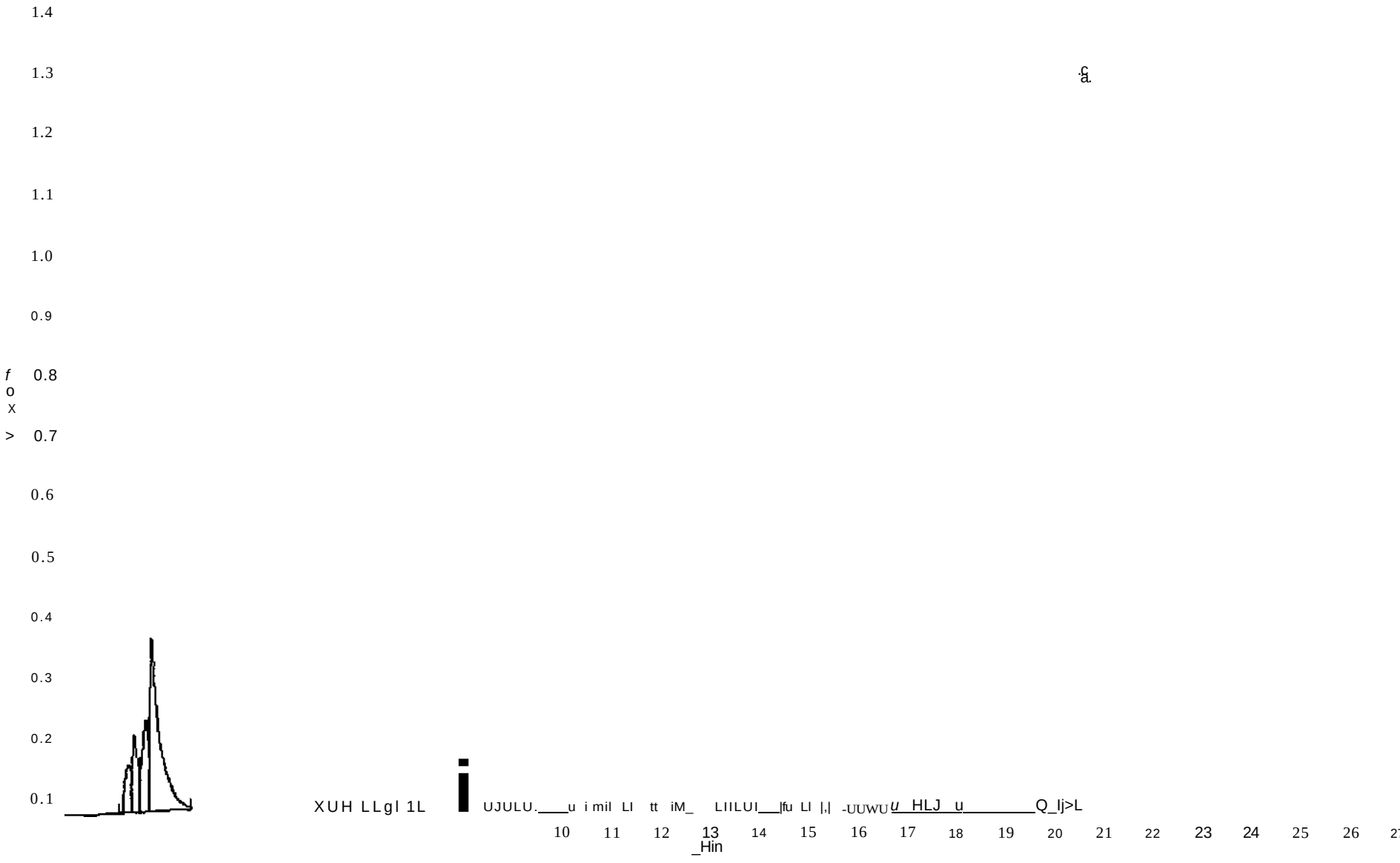

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Thru-Put Systems, Inc

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: Amt * DF * ((Vf / Ws) * Uf) / 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

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	RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COL (ug/L)	FINAL tug/Kg)	TARGET RANGE	RATIO
$ 1 Tetrachloro-m-xylene							CAS #;	
	7.9S7	7.957	0.000	491138	50.8473	638.91		
$ 29 Decachlorobiphenyl							CAS tt:	
	20.100	20.110	-0.010	369488	57.3896	721.12		

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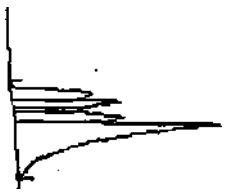

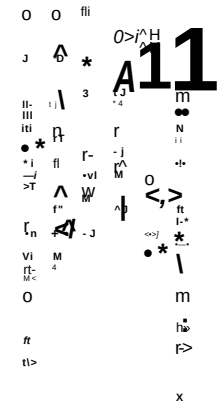

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Tetrachloro-n-xylene <7,957>

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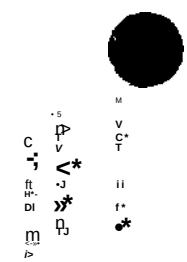

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Decachlorobiphenyl <20,100>

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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 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
V£	10.000	Final volume
Ws	10.151	Weight of sample extracted (g!
Uf	0.100	Unit Correction Factor
Ts	76.600	Total Solid

	RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COL (ug/L)	CONCENTRATIONS FINAL lug/Kg)	TARGET RANGE	RATIO
S 1 Tetrachloro-m-xylene							CAS ft:	
	7.957	7.957	0.000	521475	54.4437	700.IB		
S 29 Decachlorobiphenyl							CAS »:	
	20.100	20.110	-0.010	374953	58.3357	750.23		

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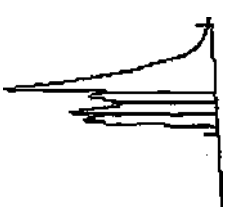

Thru-Put Systems, Inc.

Data file : \chem\hpl.i\8082rll22.b\E2980825.D
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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: Amt * DF * ((Vf / Ws) * Uf) / Ts * 1000

Name	Value	Description
DF	10.000	Dilution Factor
Vf	10.000	Final- volume
Ws	10.751	Weight of sample extracted <g)
Uf	0.100	Unit Correction Factor
Ts	87.800	Total Solid

				CONCENTRATIONS ON-COL	PINAL '		
	RT	EXP RT	DLT RT	RESPONSE	t ug/L)	(ug/Kg)	TARGET RANGE	RATIO
S	1 Tecrachloro-m-xylene						CAS ft:	
	7.957	7.957	0.000	545B46	57.3329	607.40		
5	29 Decachlorobiphenyl						CAS ft:	
	20.100	20.110	-0.010	417175	65.6458	695.47		

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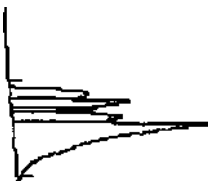

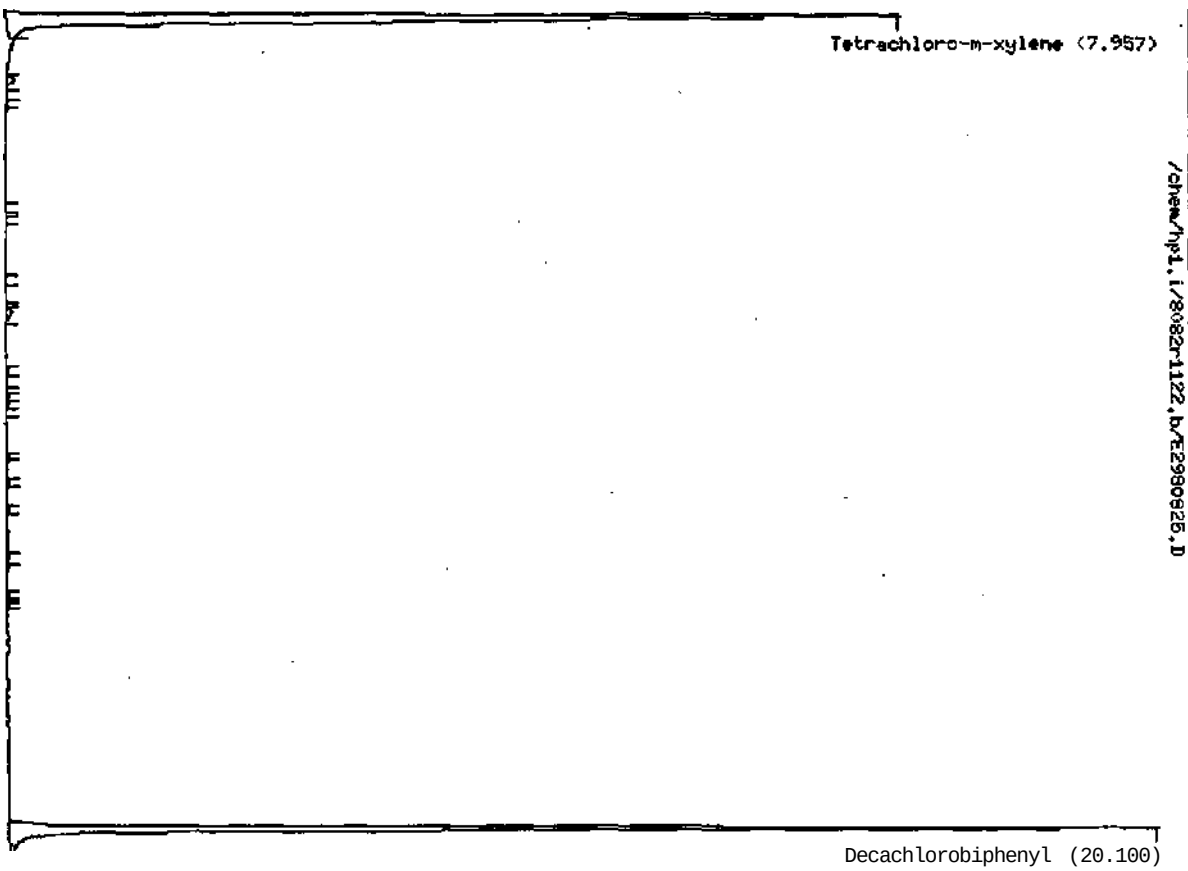

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Thru-Put Systems, Inc

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 \chem\hpl.i\8082rll22.b\8082_PCBsec.M
Method 26-Nov-2002 14:11 Administra Quant Type: ESTD
Meth Date 22-NOV-2002 18:04 Cal File: E2980760.D
Cal Date 1
Als bottle 10.00000
Dil Factor Falcon Compound Sublist: PCB.sub
Integrator 3.40 Sample Matrix: SOIL
Target Version:
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	10.432	Weight of sample extracted (g)
Uf	0.100	Unit Correction Factor
Ts	87.800	Total Solid

RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COL (ug/L)	FINAL (ug/Kg)	TARGET RANGE	RATIO
$ 1 Tetrachloro-m-xylene						CAS #:	
7.953	7.957	-0.004	509053	52.9711	S7B.34		
$ 29 Decachlorobiphenyl						CAS 8:	
20.097	20.110	-0.013	36772B	S7.0849	523.25		

Data m*©: /chem/hpl. i /S062rll22. b/E2980326. D
Date^^^NOV-2002 07:07
Clid^HP L97224-10
Sample Info: L97224-10
Volume Injected <uL): 2.0
Column phase; RTX-CLPesticicles 2

Sstrument: hpl.i
Operator; CPU
Column diameter: 0.32

CD

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/chem/'hpl.i/8082rll22.b/E29ao826.D

Friend Inc.

Data File: /chem/hpl.i/8082rll22.b/E2980826.D
Method: /chem/hpl.i/8082rl122.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/Kgi

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 10 ppb | 50 ppb [100ppb[250j)pb 500ppJ>ll000j)pb						MEAN RT	RT WINDOW FROM | TO	
PCB1016	1*	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	1*				10.18			10.18	10.08	10.28
	T				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	wk
	5				12.42			12.42	12.32	rh
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	20.121	20.02	20.22

* Denotes required peaks

Retention time windows are + 0.1 minutes for all compounds.

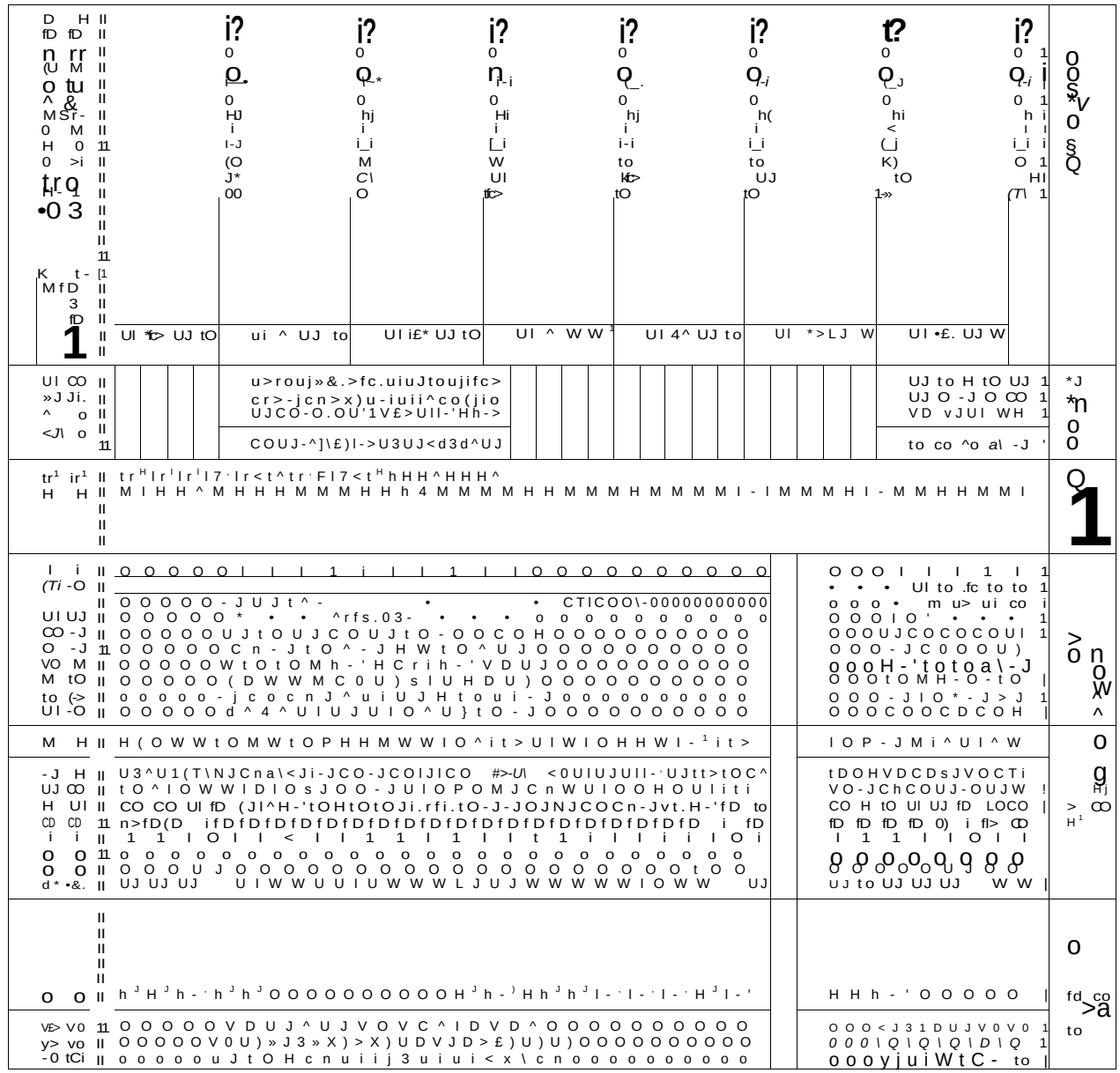
12s2/ peak 2

$\frac{13.66 + 13.65 + 13.65 + 13.65 + 13.65 + 13.65}{4} = 13.65$

FORM 6
PCB INITIAL CALIBRATION DATA

Lab Name: Contract:
:ab 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-xy1ene		10763	9638	9680	9265	8179
Decachlorobiphenyl		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
Instalment ID: HP3
GC Column: RTX-CLPest1 ID: 0.32 (mm) Date(s) Analyzed: 11/26/02 **2#** : * *
File Numbers: 6868

COMPOUND	AMOUNT (ng)	PEAK	RT	RT WINDOW FROM	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.

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.I
GC Column: RTX-CLPesticides 2 ID: 0.32 (mm)
Analysis Date: 11/23/02
Analysis Time: 0225

COMPOUND	PEAK	RT	RT WINDOW FROM	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 *4*
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
Decachlorobi phenyl	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 eqjiaUe-t5%T

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$\left|\frac{321-250}{250}\right| \times 100 = 28.4$ [so* '

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FORM VII-PCB-2

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 FROM	RT WINDOW TO	CALC AMOUNT	TRUE AMOUNT	%D
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%.

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FORM VII-PCB-2

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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 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	RT WINDOW 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 *A*
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
Decachlorobiphenyl	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%.

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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: 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	RT WINDOW FROM	RT WINDOW TO	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%.

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	RTWINDOW FROM	RTWINDOW 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 1
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%.

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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 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 FROM	TO	CALC AMOUNT	TRUE AMOUNT	%D
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%.

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FORM VH-PCB-2

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
Instalment ID: HP1.I
GC Column: RTX-CLPesticides 2 ID: 0.32 (mm)
Analysis Date: 11/26/02
Analysis Time: 1205

COMPOUND	PEAK	RT	RTWI sJDOW FROM	TO	CALC AMOUNT	TRUE AMOUNT	%D
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 j
Aroclor-1260	4	16.30	16.20	16.40	252.52	250.00	1.01 1
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
Decachiorobiphenyl	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%.

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FORM VII-PCB-2

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.I
GC Column: RTX-CLPesticides 2 ID: 0.32 (mm)
Analysis Date: 11/26/02
Analysis Time: 1336

COMPOUND	PEAK	RT	RT WINDOW FROM	RT WINDOW 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%.

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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: 250PPB1660

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 FROM	RT WINDOW TO	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
Decachlorobiphenyl	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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/ 232 - 252 / 252 / x100 = 7.2

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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: J-1P3.I
GC Column: RTX-CLPesticides 1 ID: 0.32 (mm)
Analysis Date: 11/26/02
Analysis Time: 1258

COMPOUND	PEAK	RT	RT WINDOW FROM	RT WINDOW TO	CALC AMOUNT	TRUE AMOUNT	%D
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%.

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FORM VII-PCB-2

ame
ode: Case No
ument ID: HP1
umn: RTX-CLPESTICIDES

8D

PCB ANALYTICAL SEQUENCE

Lab Name: Contract:
Code: Case No. : SAS No. : SDG No. : AAA1121
trument 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 ^	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 J,	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	JjiyO!JB4^ir3	L96984-13	11/26/2	1442	7.96	20.10
15	L96^e<-4	L96984-4	11/26/2	1514	7.96	20.10
16		L96984-5	11/26/2	1545	7.96	20.10
17	1660CC12 J	1660CC12		1647	7.96	20.10
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.

FORM VIII PCB

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 OP 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	1254CC01 J	1254CC01	11/26/2	1258	8.58	20.10
05						
06						
07						
08						
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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.

FORM VIII PCB

OCI08

10B

EPA SAMPLh MJ.

PESTICIDE IDENTIFICATION SUMMARY FOR MULTI COMPONENT AN7ALYTES

L97127-4

Name: Contract:

Code: Case No.: SAS No.: SDG No.: AAA1121

Lab Sample ID: L97127-4 Date(s) Analyzed: 11/26/2 *lilZblo*.*

Instrument ID (1): HP1 Instrument ID (2) : *Hf3*

GC Column(1) : RTX-CLPESTICIDES 2 ID: 0.32 (mm) GC Column(2) : *gH'CiP£srl* ID: *O.3Z*

ANALYTE	PEAK	RT	RT WINDOW FROM	RT WINDOW TO	CONCENTRATION	MEAN CONCENTRATION	%D
Aroclor-1254 COLUMN 1	1	13.26	13.16	13.36	849.67		
	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	483.59	
COLUMN 2	1						
	2	H.74	*m(o3*	*M-X3*	*503*W*		
	3	AT. *IO*	/</.<?<?	/ T. /<?	*51k. i3*		
	4	*kf.as*	*5\/7	*JS..3?*	*JSS.^O*		
	5	*K'y.foS*	*/&»5i*	*/S,-M*	*31$.2-t*	*351.33*	*3H. (p*
-	1						
	2						
	3						
1 COLUMN 1	4						
	5						
COLUMN 2	1						
	2						
	3						
	4						
	5						
	1						
	2						
COLUMN 1	3						
	4						
	5						
' COLUMN 2	1						
	2						
	3						
	4						
	5						

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

FORM X PEST-2

10B

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PESTICIDE IDENTIFICATION SUMMARY FOR MULTICOMPONENT ANALYTES

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 FROM	RT WINDOW TO	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		
COLUMN 2	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		
COLUMN 2	1						
	2						
	3						
	4						
	5						
	1						
	2						
COLUMN 1	3						
	4						
	5						
COLUMN 2	1						
	2						
	3						
	4						
	5						

At least" 3 peaks are required for identification of multicorrponent analytes

FORM X PEST-2

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Organic Extractions

[redacted] _.r

Page:. ft

•xtracted Ryr *Wfj^/o^U*

Date Extracted:J_=^lzS—

Sur Ref.: [redacted]

Sur Conc.: [redacted]

Analysis: T^SG&i^r&t ^ u

Matrix: y^^j£M^^V'7

Spike Ref.: [redacted]

Spike Cone.:

1. D.	Customer-	Int. size	Fin. vol.	Sr. amt.	Spk amt.	Wit., by	Clean-ups
M1WS		*/C19/2*	*fOwJ*	**JK***		-*	***u.t***
*GJLH^*	*	/i,-3o*7		—	***U*** •		i
L&IXN.-J	ADS /V	*/n*(£i%*					
•~?	**1**	*/o.?.i<>3*					
-^		*ro.Sb/9*					
-H	**1**	*/MW*					
~s>		*tb^oo*					
~u		*/b.ul^f*					
• - *i*		/o.ivp>"					
-%		*!D<l$lo*					
-«?		/D.'75**7		flteu*			
^k^kr-/rN	*./	/(> .W?		'			
B^"i"		L/0 .1*930					
		/•0J535"	^	**" J**/Ls'			*t l*
					•		
				-			
						•	. -
					-		
					- -		
				**			

3. Si&oA- -tfo.

Extracts Reliquished to:

Comments:

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Organic Extractions

ACs. *Z%16^*

NJ^>ok: 7TS£

Page: **Slto«**

Extracted By: -. '&£-

Date Extracted: l/ffc&/02

Su.r Ref.:,

Sur Cone:

Analysis: 8082

Matrixigac^S^gfeMdy

Spike Ref.:a

Spike Cone.:

Ql&nupmstfhocl;

2.3fc.zoAf^Sl,

3. 3&OA-

I. D.	Customer	Int. size	Fin. vol.	Sr. amt.	Spk amt.	Wit.. by	Clean-ups
MB42		10.8904	10ml	1ml			1,2,3
QC42		10.3378			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		10.5622					
-9MS		10.5381			1ml		
-10MSD		10.9023			1		
-11		10.9190					

Extracts Reliquished to: _____

Comments:

C.O.C.

R86755

11/22/

00:43

WET CHEMISTRY TOTAL SOLIDS %

Notebook : 02-123
Start Date : 21-NOV-02 13:37
End Date : 21-NOV-02 13:37

Sniple l.D.	AnaLysis Date Time	Aral Inl?	Method	Dish*	Vol/W (IMl)	Initial Weight	Weight				Final *«ult
C57T2TT——— tamicrtte t	start:2i-NOV-62 H: Stop :21-fcOV-02 13:		CLP 3.6		Am	<25v	* : m a C ^ T ^ I			«	70—
IM12M1 Cofcments	Start:21-NOV-02 13: Stop :21-HOV-02 13:		CLP 3.0	11	5.5726	iMM	'i.mW				89.9
LMzM' Contents	Start:21-KOV-02 13: Stop :21-NOV-02 13:37		CLP 3.0		5-62zftl	1.2A6S	S.62S				78.3
Cwiwnts	Start:21'NOV-02 13: Stop :21-HOV-02 13:		"•CLP'S.DT	5——!	. «	1.M»	S.WZK				90.5
Cownenta	Start:21-NOV-0Z 13: Stop :21-NOV-02 13:		CLP 3.0	6	5.4977	1.257	iAX""f				58.1
i Conmcnta t	start:2I-NOV-02 13: Stop :21-MOV-02 13:		CLP 3.0	7	5.2951	i.2A2o	S.volff	5.9644 — 5.2953			58.7
IW1S7-A. . . . Comtenta a	start:21-nov-62 B: Stop i21-MOV-02 13:		CLP 3.D	8	5.1257	i;2AW	5.1*15				76.5
t97!2TT ' Comments »	Start:21-NOV-02 13: Stop I21-NOV-02 13:		'CLP 3.6		5 . 1 »	1.5B07	5.AA				85.5
t m 2 T 3——— Comment. t	6tart:3I-H0V-62 tt: Stop :21-KOV-02 13:		*cLTTo-	to	5:g$« 1	I.Mo—T5S£					94.6
[illegible] i	i 5taPt:21-HOV-02 13: Stop :21-K0V-Q2 13:37		CLP 3.0	i—Km't^M*		*			Blank		TJ79T

Calculations: Inal Results ° (fnl • Initial) x 1000000
wgt wgt
mis of sample

Analyst Signature • Date Manager Signature "# O Date

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Notebook : 02-123
Start Date : 21-NOV-02 13:37
End Date : 21-NOV-02 13:37

Analysis Date Time	Anal inft	Method	Dish*	Volume: (mt M	Initial Height	Weight	1st*2nd Height	3rdKth Ue	Stmm	7thKth Weight	?98A1fitft fWeight	Final Result	Rpd	Units
Start:21-«ov-oa 13s37 Stop :21-NOV-02 13:37	CLP 3.0	*2——5 . S H '	1.2ott	A.36#										

Calculations: Final Results = (fnl - Initial) x 1000000
wgt ugt
mis of sanple

^Analyst Signature / Date

Manager Signature / Date

WET CHEMISTRY TOTAL SOLIDS MC

Notebook : 02-123
Start Date : 27-NOV-02 13:32
End Date : 27-NOV-02 13:32

Sample I.D.	Analysis Date Time	Anal Init	Method	Dish#	Volume (mls)	Initial Weight	1st&2nd Weight	3rd&4th Weight	5th&6th Weight	7th&8th Weight	9th&10th Weight	Final Result	Rpd	Units
L97224-1	Start:27-NOV-02 13:32 Stop :27-NOV-02 13:32		CLP 3.0	3	5.0547	1.2537	5.4052					82.1	1.349	%
Comments :														
L97224-10	Start:27-NOV-02 13:32 Stop :27-NOV-02 13:32		CLP 3.0	12	5.4985	1.2593	6.0736					87.8		%
Comments :														
L97224-2	Start:27-NOV-02 13:32 Stop :27-NOV-02 13:32		CLP 3.0	4	5.5682	1.2661	5.5286					76.6		%
Comments :														
L97224-3	Start:27-NOV-02 13:32 Stop :27-NOV-02 13:32		CLP 3.0	5	5.6240	1.2578	6.0096					66.7		%
Comments :														
L97224-4	Start:27-NOV-02 13:32 Stop :27-NOV-02 13:32		CLP 3.0	6	5.6699	1.2612	5.4684					71.8		%
Comments :														
L97224-5	Start:27-NOV-02 13:32 Stop :27-NOV-02 13:32		CLP 3.0	7	5.1228	1.2679	5.256					77.5		%
Comments :														
L97224-6	Start:27-NOV-02 13:32 Stop :27-NOV-02 13:32		CLP 3.0	8	5.1998	1.2612	5.2826					77.5		%
Comments :														
L97224-7	Start:27-NOV-02 13:32 Stop :27-NOV-02 13:32		CLP 3.0	9	5.087	1.2721	5.227					77.7		%
Comments :														
L97224-8	Start:27-NOV-02 13:32 Stop :27-NOV-02 13:32		CLP 3.0	10	5.3433	1.2583	5.3528					76.6		%
Comments :														
L97224-9	Start:27-NOV-02 13:32 Stop :27-NOV-02 13:32		CLP 3.0	11	5.2674	1.2673	5.8899					87.8		%

Calculations: Final Results = $\frac{(\text{fnl wgt} - \text{initial wgt}) \times 1000000}{\text{mls of sample}}$

Analyst Signature JBB 3/27 Date

Manager Signature 3/27/03 Date

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UET CHEMISTRY TOTAL SOLIDS NOTE=Hc

Notebook : 02-123
Start Date : 27-NOV-02 13:32
End Date : 27-NOV-02 13:32

j I- " Analysis	Ahd-t		'VoUitnfe Initial ~t-3tA2ntf" 3rd&4th , Stti&Stft TtKSSth #tti&Wth Final :' ' VK								
^aipte t&> Oate Time	Mt	Method	Dfsh# ,<fijl#>	weight	\tteight	Weight . tfef ght'	Height	Weight	Result	'fepd"	UrUta
;tetrtteht* $											
WB-3376Z*1 """ Stafti27-NGV~02 13:32 %	£U> 3.0	1	iiZ6«.....1*263	uzSsT"1''			4 .00792				
^ ', Stop :2?*NOV-02 13:32 ;											
^i37ia-Z'"' StartB^SCH/itta" 13:32 '?....£LP 3.0		"2.....S^W.....\ML " *Mtt*""					"""'"^"al.....at1"				
- Stop :27-HGV*02 13(32 *											

-'*/' , V '

Calculations: Final Results = (fnl - initial) x 1000000
wgt Mgt

mis of sample

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v2TyVX^ ff-rt&a&y j/^Afl
ManagerSignature[p] Date

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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-001(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

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.

Sample	Compound	% Difference	Qualifier
B-B-SS-W-OOl(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-OOl(A), lOx
B-C-S-B-001, B-B-S-W-001

AJL^£

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*y£r/*j*

Date

Glossary of Data Qualifiers

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

^sl/^ ECT.CON INC.

Environmental and Computer
Technology Consultants

Annotated Form Ts

(Spreadsheet)

BLI
40g N iMt

32 ITHACA STREET WAVERLY, NY 14892-1532
TELEPHONE (607) 565-3500 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/HORSEHEABSi;19?pS;.,\.
Origin; B-B-ss-g-001 .<ffi"..".
Description COMPOSITE
Sampled On 24-SEP-02 16:15;^;;CUgHTl
Date Received Z5-SEP-02 15:25:-;'^;^';-;^:f:v;':
P.O. No

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 80B2						
PCB 1016	U	ug/kg	140	26-SEP-02 12:17	EPA 8082	02-004-9953
PCB 1221	U	ug/kg	2B0	26-SEP-02 12:17	EPA 8082	02-004-9953
PCB 1232	U	ug/kg	140	26-SEP-02 12:17	EPA 8082	02-004-9953
PCB 1242	U	ug/kg	140	26-SEP-02 12:17	EPA 8082	02-004-9953
PCB 1248	U	ug/kg	140	26-SEP-02 12:17	EPA 6082	02-004-9953
PCB 1254	260 r	ug/kg	140	26-SEP-02 12:17	EPA 6082	02-004-9953
PCB 1260	U	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:						
Tetrachtoro-m-xylene	75					02-004-9953
Dec^^Aorobiphenyl	83					02-004-9953

™$>

Results calculated on a dry weight basis.

Approved by: Lab Director

NY 10252 NJ 73166 PA 68180 EPA NY 00033 QCiZ<£

KEY: HO or U = None Detected < = less than ug/L = micrograms per liter (equivalent to parts per billion)
mg/L = milligram per titer (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

ELI
ENVIRONMENTAL LABORATORY
32 ITHACA STREET WAVERLY, NY 14892-1632
TELEPHONE (607) 565-3500 FAX (607) 565-4083

Date:30-SEP-2002

Lab Sample ID: L94538-2

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

Sample: Source: VIACOM/HORSEHEADS 1920B
Origin: B-BTSS-?E-OOI
Description: COMPOSITE
Sampled On: 24-SEP-02 16:10 by CLIENT
Date Received: 25-SEP-02 15:25
'K'O'i: No.:

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 8082	02-004-9948
PCB 1254	490 f	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:				25-SEP-02 00:00	EPA 3550	02-044-87
Surrogate Recovery:						
TetrachIoro-m-xyIene	B5					02-004-9948
Decachlorobiphenyl	114					02-004-9948

TMB 4/09/03

Results calculated on a dry weight basis.

Approved by: Lab Director

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

KEY: ND or U = 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 = result estimated below the quantitation limit

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

4fT LENN ORATORY N • C
32 ITHACA STREET WAVERLY, NY 14892-1532
TELEPHONE (607) 565-3500 FAX (607) 565-4083

Date:30-SEP-2002

Lab Sample ID: L94538-5

AAA Environmental
Peter Porter
6679 Moore Road
Syracuse, NY 13211

Samp 1 e Source : viACOH/HORSEHEADS- ?l?208
Origin : B-B-S-E-OGI •;"'"«IC;;/
Description: COMPOS-ITE;;\:^'&;;^;V'-.
Sampled On: 24-SEP-p2.16:p6||pi:i;ENT
Date Received: 25-sEP-02':'i5;2$;I^il'X
P.O. No: N/A -."*W^W^$y:.j*

Analysis Performed	Result	Units	Detection Limit	Date Analyzed	Method	Notebook Reference
Toteit Solids	45.4			25-SEP-02 00:00	CLP 3.0	02-066-77
EPA 8082						
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 6082	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
Decachlorobiphenyl	114					02-004-9949

Results calculated on a dry weight basis.

Approved by: Lab Director

NY 10252 NJ 73168 PA 68180 EPA NY 00033 PX *i/jA*

KEY. HD o/U = None Detected < = Less than ug/L = micrograms per liter (equivalent to parts per billion)
mg/f. = milligram per liter (equivalent to parts per million) mg/kg = milligrams per kilogram (equivalent to parts per million)
[redacted],.^!no.l.y^..H.a.^.d,eAected.in the niethod or trip blank ____J ____!:„Ceiid5_e!5imai.ed below the quantitation limit
mation 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.

ELI
FRIEND LABORATORY I • N • C

32 ITHACA STREET WAVERLY, NY 14892-1532
TELEPHONE (607) 565-3600 FAX (607) 565-4083

Date:30-SEP-2002

Lab Sample ID: L94538-6

AAA Environmental
Peter Porter
6679 Moore Road
Syracuse, NY 13211

Sample : Source : VIACOM/HORSEHEADS 1920S
Oir'iain: B-B-SS-U-OOI <A>
- tieiseripiiipn: COMPOSITE
.^v/S^f^le^'Qn: 24-SEP-02 15:50 by CLIENT
Catei,: Receiived: 25-SEP-02 15:25
'•':-• .'"•'-'P;>'0-.'':':NO.: NM

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:				25-SEP-02 00:00	EPA 3550	02-044-87
Surrogate Recovery:						
TetrachIoro-m-xylene	90	7.				02-004-9950
Decachlorobiphenyl	110	X				02-004^1^0

Results calculated on a dry weight basis.

Approved by: Lab Director

NY 10252 NJ 73168 PA 68180 EPA NY 00033

QC; ?A"

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

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

FLI
FRIEND LABORATORY I · N · C

32 ITHACA STREET WAVEKLY, NY X4892-1532
TELEPHONE (607) 565-3500 FAX (607) 565-4083

Date:30-SEP-2002

Lab Sample ID: L94538-7

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

Sample Source: VIACOMHORSEHEADS 19203
Origin: B-C-S-B-001 .:
Description COMPOSITE
Sampled On 24-SEP-02-15:40 ;by CLIENT
Date Received 25-SEP-Q2 .15J2ST'.,.
P.O. No N/A 0:'':'--.:'

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 80B2						
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 B082	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:						
TetrachIoro-m-xylene	96					02-004-9951
Decj^Lorobiphenyl	141					02-004-9951

Results calculated on a dry weight basis.

Approved by: Lab Director

NY 10252 NJ 73168 PA 68180 EPA NY 00033 QC -*A'A -

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

FLT
FRIEND LABORATORY
32 ITHACA STREET WAVERLY, NY 14892-1532
TELEPHONE (607) 565-3500 FAX (607) 565-4083

Date:30-SEP-2002

Lab Sample ID: L94538-8

AAA Environmental
Peter Porter
6679 Moore Road
Syracuse, NY 13211

Sample Source: VIACCJH/ HORSE HEADS 192OB
Origin: B^-S-U-OOI
Description; -OT^OSITE
Sampled Oli;^ 24-SEP-:Q2 15:40 by CLIENT
Date Received:: 25^SEPT02 15:25
P.O. NO^N/AH '-7.'

Analysis Performed	Result	units	Detection Limit	Date Analyzed	Hethod	Notebook Reference
Total Solids	66.2			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 80B2	02-004-9952
PCB 1232	U	ug/kg	110	26-SEP-02 11:46	EPA S082	02-004-9952
PCB 1242	U	ug/kg	110	26-SEP-02 11:46	EPA 8082	02-004-9952
PCB 1246		ug/kg	110	26-SEP-02 11:46	EPA 8082	02-004-9952
PCB 1254	270'J	ug/kg	110	26-SEP-02 11:46	EPA B082	02-004-9952
PCB 1260	U J	ug/kg	110	26-SEP-02 11:46	EPA 8062	02-004-9952
Extraction Information:				25-SEP-02 00:00	EPA 3550	02-044-87
Surrogate Recovery:						
TetrachIoro-m-xylene	103	%				02-004-9952
Decachlorobiphenyl	137	X				02-004-9952

ife

Results calculated on a dry weight basis.

Approved by: Lab Director

NY 10252 NJ 73168 PA 68180 EPA NY 00033

QC 6*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

^sl/^r ECT.CONINC

Environmental and Computer
Technology Consultants

Support Documentation

COC

CUSTOM

CHAIN OF <W9>DY RECORD

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F I W I ONE RESEARCH CIRCLE

i I j I WAVERLY NY 14892-1532
R I fe tj "D Telephone (607) 565 3500
ABQRjlTORY Fax (607, 565-4083

Sample Site: Yj^C&W/^6^»=HfiAc>S

CLIENT: /IAA £>\rW**ff*"*<-- INVOICE TO:
ADDRESS: /-{0£Sg-//£*Q5 ADDRESS:

PHONE: FAX:

PROJECT NO. / NAME COPY TO:
ADDRESS:

P.O. #

s^SS2i^-Sfe;:i^ifE&i

, > MNUMB|RIpF^i»,1/(sw^j

94638

SAMPLE NUMBER

LAB USE ONLY

-1

ifafa&fo? **^i^S'-as-*-⁰** *(*)* *

*'pcS's ** ^*

Description: GrabgjComDositfl> Other
Matrix: DW WW MW(S3&Air Other

9/#*M(*Llt>\o *^B-B-SS* -f-oo/

*fC8ᶠs %*J* A r c

-3,-3,-4

Description: GratCCompositgy Other
Matrix: DW WW MW<5§jl Air Other

S/<f/ox.<®.(too 4r-&-8~S'EOO* /

*J^CS'S T^* 5*03= C

-5

Description: Grab^^nTposjie Other
Matrix: DW WW MW®fAir Other

q/zv/dz.QiS'S'e **^B-e-s^^t^)** /

*Y^£'s T** Tare

-<P

Description: Grab ComeosgS?Other
Matrix DW WW MW^ScStAir Other
J__I__J__I__I__L

RELINQUISHED BY DATf/TJME^ ACOEPTIDBY* DAIE/TIME' .N0TfS40;i>fi6RATQ|E)(-S.

SAMPLER ^F

Arf^M&ci&tJ&i&r

9/25 3:15

3:515

0 to

SUSPECTED CONTAMINATION LEVEL

NONE SLIGHT MODERATE HIGH (please circle)

CUSTO
* #

CHAIN OF 9iv DY RECORD

PAGE
« •

|? | I ONE RESEARCH CIRCLE
Jf[1] J ^ X WAVERLY NY 14892-1532
Ife 1 fe Mf b Telephone (607) 565 3500
ABQRATORY Fax {607) 565-4083

CUENT: A A A &A>vi.»i»wrHc>Jt*^| INVOICE TO:
ADDRESS: ^0\1£EHi£Ar=>5 ADDRESS:

PHONE: FAX:

Sample Site:

t?

PROJECT NO. / NAME

COPY TO:
ADDRESS:

P.O. #

•2 Irr I « I <=> •o I <d I u o
= 14 |V |<

Vc ACo^y^a (is tf'^^'bS

-- DATE a TIME OF SAMPLE COLLECTION

[1] SAMPLE DESCRIPTION '

NUMBER OF CONTAINERS

ANALYSES /.TESTS REQUESTED

94538

LAB USE ONLY

^Jl^fZ- @\5Hb •#= fc-C-S-S*0C>| X 7C15S -rA 5oxc -7

Description: Grab cdrnposrn& Other
Matrix: DW WW MWgoTT>ir Other

q/n/oi <£ (5^6 *f j5-B-S-^~[oGl] / VC-S's -J* 5oxt__ -8

Description: Grab <gomposjt| Other
Matrix: DW WW MW^DAir 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	DATE/TIME
SAMPLER: TAS	9/4/02		
A. Schreckengost	0800		9/25/02 229
	9/25/02 3:25	Tom Jones	

NOTES TO LABORATORY

SUSPECTED CONTAMINATION LEVEL

NONE SUGHT MODERATE HIGH (please circle)

*0*W *Labor a tory Case Narra tive*

ELI

F R I E N D
LVBC5RATORY
I • N * C

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 540/R-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: &^TJ^JSL ^AJ^ztcZ^

Date: October 25, 2002

Elizabeth A. Keator
Quality Assurance

Worksheets

£>-& -J^-Co-otMCM 9**&*f- / YES NO N/A

5-$'^-UJ- ot> ' **PACKAGE COMPLETENESS AND DELIVERABLES**

CASE NUMBER: —_____;_____SDG#

LAB: *f7ifof/*hr*Ar*i.3iaL-* STIF:= *l/, * cr*^ //hr&s&&c/*

1.0 Data Completeness and Deliverables

1.1 Has all the data been submitted in CLP deliverable format? y \w _____

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

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? rv"/

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?

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? / r/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".

2.0 Holding Times

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

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

• #

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) A)A£r Lk+ *(ft* ' M»i* V^

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

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

a. Water 1_L_____

b. Waste J_J-_____-

c. Soil/Solid J_i_____-IN-

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? *s* I_1 _____

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?_____ /_L_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 gualify 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? f]

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 I VlT

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 *smele H$ jjf o, jU*-t ifjw sAtoi^*

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)? *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.

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)? **s**

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%) _[_ **y**

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

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)? J_L /

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? J_L *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 wX

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) r n /

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)

YES NO N/A

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

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? 1

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? u

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

7.0 Contamination ^j ft £, U/JL -| /Ji^M ' f& U\ bJ • — /»* / ^ ^ ^ /.

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? \ 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 cone > EDL but < 5 x blank	Sample cone < EDL & is < 5 x blank value	Sample cone > EDL & > 5 x blank value
Flag sample result with a	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? 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 *p fr fir fjdJt -t / fr&* ~ JL?0>) L*S*

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***

.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

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

calibration verification standards

— 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? ✓

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? i/_

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). *70*1-*

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. -JiA*// , *^*jiM^r* L M ^ ' / T

9.10 Has the percent difference (%D) exceeded ± 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 ± 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%

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

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

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? 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?

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 A)/^ for Pobe + / Pobe Ylvttw

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:

   L L

   1. Soxhlet (Method 3540)

YES NO N/A

2. Automated Soxhlet (Method 3541) _L_L

3. Pressurized fluid (Method 3545)

4. Microwave extraction (Method 3546)

5. Ultrasonic extraction (Method 3550) XJ.

6. Supercritical fluid (Method 3562) J_J.

7. Other

11.1 Extract Cleanup - Efficiency Verification (Form IX) ^^*frlM*/^^

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_L

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? r 1

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

11.3 Was GPC Cleanup (method 3640A) performed? J_L y

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) _L_L

70-130% for GPC calibration? i_i

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? N]

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? [✓]

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? i_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%? J_L

4tk

&4

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	Qualifier
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 <CROL 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.

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 Chromatoqram 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

15.1 Were any field duplicates submitted for PCB analysis? L1

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-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	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				
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18				
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COMMENTS;

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4C
PESTICIDE METHOD BLANK SUMMARY

NYSDEC SAMPLE NO.

MB 84

Lab Name: FRIEND LABORATORY, INC. Contract:
Lab Code: 10252 Case No.:_____ SAS No.: SDG No.: AAA
Lab Sample ID: MB 84 Lab File ID: E2989924
Matrix: (soil/water) SOIL Extraction:(SepF/Cont/Sonc) SONC
Sulfur Cleanup: (Y/N) N Date Extracted: 09/24/02
late Analyzed (1): 09/25/02 Date Analyzed (2):
TirheAnalyzed(1):1314 Time Analyzed *(2):*
Instrument ID (1): HP1 Instrument ID (2): HP3
GC Column (1): RTX-CLPESTICIDES2 ID 0.32 (mm)
GC Colum\(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	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 N	J-94363-8	09/25/02	09/25/02
05	L94363-10	C94363-10	09/25/02	09/25/02
06	L94363-12	L94>63-12	09/25/02	09/25/02
07	L94363-2	L9436S-2	09/25/02	09/25/02
08				
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COMMENTS

00008

FORM IV-PEST

ID

EPA SAMPLE NO.

PESTICIDE ORGANICS ANALYSIS DATA SHEET

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: *jOOQO* (uL) 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	/o.5a TT.01	'U
1104-28-2	-Aroclor- 1221"	20 ~~0.02~~	U
11141-16-5	-Aroclor- 1232"	10 ~~0.01~~	U
53469-21-9	-Aroclor- 1242"	10 ~~0.01~~	U
11097-69-1	-Aroclor- 1254"	10 ~~0.01~~	U
11096-82-5	-Aroclor- 1260"	10 ~~0.01~~	U
	-Aroclor- 1248*	10 ~~0.01~~	U

2aR

/ofis/crx-

FORM I PEST

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:

9/25/2

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 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	1.000	Dilution Factor
Vf	10.000	Final volume
Ws	10.037	Weight of sample extracted
Uf	0.100	Unit Correction Factor
Ts	100.000	Total Solid .

	RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COL (ug/L)	FINAL (ug/Kg)	TARGET RANGE	RATIO	
S 1 Tetrachloro-m-xylene							CAS ft:		
	7.973	7.997	-0.024	3885733	479.418	477.65			(R)
$ 29 Decachlorobiphenyl							CAS #:		
	20.123	20.130	-0.007	3131701	595.B78	593.68			(R)

QC Flag Legend

R - Spike/Surrogate failed recovery limits.

Data /chem/hpl.i/8082r0917.b/E2939945.D
Da -SEP-2002 08:03
CI[1] MB87
Sam?? nfo: HB87
Volume Injected <uL): 2,0
Column phase: RTX-CLPesticides 2

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

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/chem/hpl,i/8082r0917.b/E2989945.D

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4.0-
3.9-
3.8-
3.7-
3.6^

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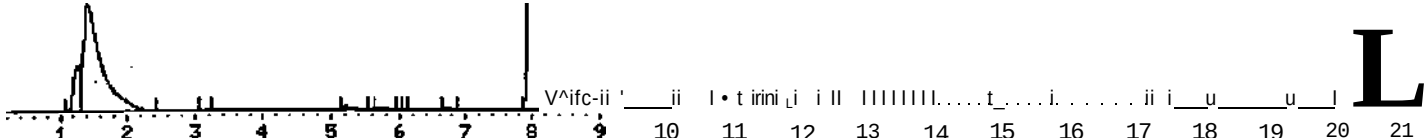

Friend Inc.

Data File: /chem/hpl.i/8082r0917.b/E2989945 .D
Method: /chem/hpl.i/8082r0 917,b/8082J?CBsec.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%

Analyst: CPW
Report Date: 09/26/2002 12:43

Supervisor:_____
Date:

9/30/2

ID EPA SAMPLE NO.

PESTICIDE ORGANICS ANALYSIS DATA SHEET

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: /QnOO (up 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: (ug/L or ug/Kg) UG/KG	
12674-11-2	Aroclor-1016	494.02	
11096-82-5	Aroclor-1260	572.76	E

Lab Name: FRIEND LABORATORY, INC. Contract:
b Code: 10252 Case No.:_____ SAS No.:_____ SDG No.: AAA
rument ID: HP1
C Column: RTX-CLPest2 ID: 0.32 (mm) Date(s) Analyzed: 09/17/02 09/17/02
File Numbers: 9827-9843

COMPOUND	Peak #	10 ppb	RT OF STANDARDS 50 ppb	100 ppb	250 ppb	500 ppb	1000 ppb	MEAN RT	RTWI FROM	MDOW TO
PCB 1016	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
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 y	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
Decachlorobi 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.

FORM 6
PCB INITIAL CALIBRATION DATA

Lab Name: Contract:
Lab Code: Case No.: SAS No.: SDG No. AAA916
Instrument ID: HP1 Calibration Date(a): 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

-?^k^s

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
Decachlorobipheny1	3029	3502	5170	5257	6283

CF 10
1352 / 10 = 135.2

CF 52
6019 / 52 = 120.4

CF 100
14403 / 100 = 144.0

CF 252
35200 / 252 = 140.8

= 117.2

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Lab Name:
Lab Code:
Case No
Instrument ID: HP1
GC Column: RTX-CLPESTICIDES
RF1000: E2989839

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 (nq)	PEAK	RT	RT WINDOW FROM	RT WINDOW TO	CALIBRATION 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

/ N

Single injections of the low standard are made to establish af proximate retention times and instrument sensitivity. Five point calibrations are performed f a multipeak component is detected in a sample.
Alternate column confirmation is run if a pesticide or PCB is detected in a site sample.

Avg /,r> d\

(^sM°)X,a)'-OZ
250

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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: 09/26/02 /C\dV>
File Numbers: 6215

COMPOUND	AMOUNT (ng)	PEAK	RT	RT WINDOW FROM	RT WINDOW TO	CALIBRATION 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 ^

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.

IP

CF peak 3

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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: 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 FROM	RT WINDOW TO	CALC AMOUNT	TRUE AMOUNT	%D
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

* QC LIMITS: %D of amounts in the Continuing Calibration must be less than or equal to 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: E2989925.D

Instrument ID: HP1.I

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

Analysis Date: 09/25/02

Analysis Time: 1345

COMPOUND	J>EAK	RT	RT WINDOW FROM	RT WINDOW TO	CALC AMOUNT	TRUE AMOUNT	%D
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

QC LIMITS: %D of amounts in the Continuing Calibration must be less than or equal to 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: 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	RT WINDOW FROM	RT WINDOW TO	CALC AMOUNT	TRUE 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
Decachlorobi phenyl	1	20.13	20.03	20.23	330.41	300.00	10.14

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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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FORM VII-PCB-2

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: 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 FROM	RT WINDOW TO	CALC AMOUNT	TRUE 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
Decachlorobiphenyl	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%.

Avg.

$\left|\frac{208-250}{250}\right| \times 100 = 16.8\%$

00121

FORM VII-PCB-2

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: 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	RT WINDOW FROM	RT WINDOW TO	CALC AMOUNT	TRUE 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

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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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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: E3956222.D

Instalment 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 FROM	TO	CALC AMOUNT	TRUE 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
Tetrachioro-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

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

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 09/17/2
GC Column: RTX-CLPESTICIDES 2 ID: 0.32 (mm)

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

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	*1.39*	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		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	L940BCI-3RE	L94080-3RE	09/18/2	1641	7.99	20.13
23	L9408I-4	L94080-4	09/18/2	1712	7.98	20.13
24	CC16d002	CC166002	09/18/2	1815	8.01	20.13
25	L94011-1RE	L94081-1RE	09/18/2	1846	7.98	20.13
26	L940B1-4RE	L94081-4RE	09/18/2	1917	7.99	20.13
27	L94I81-5RE	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	L9/081-7R	I494081-7R	09/18/2	2051	7.98	20.13
30	L9I081-1MSR	L94081-1MSR	09/18/2	2122	7.98	20.13
31	L310B1-1MSDR	L94081-1MSDR	09/18/2	2153	7.97	- 20.11
32	C(|l66003	CC166003	09/18/2	2255	8.01	20.13
33	CJ125401	CC125401	09/18/2	2327	7.99	20.13
34	Cfl25402	CC125402	09/19/2	1009	7.99	20.13
35	I»4080-l	L94080-1	09/19/2	1038	7.99	20.13
36	IB4080-3R	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 QC limits.

U&fL

FORM VIII PCB

8D

PCB ANALYTICAL SEQUENCE

Lab Name: Contract:

jab Code: Case No. : SAS No. : SDG No. : AAA923

nstrument 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

	v EPA \AMPLE NO.	LAB SAMPLE ID	DATE ANALYZED	TIME ANALYZED	TCX RT #	DCB RT #
01	CC125402	CC125402	09/25/2	0903	7.98	20.12
02	QC84 \	QC84	09/25/2	0934	7.98	20.12
03	L94363-4\	L94363-4	09/25/2	1007	7.97	20.11
04	L94363-6 X.	L94363-6	09/25/2	1038	7.97	20.11
05	L94363-8	^,94363-8	09/25/2	1109	7.97	20.11
06	L94363-10	LH363-10	09/25/2	1141	7.97	20.11
07	L94363-12	L94>63-12	09/25/2	1212	7.97	20.11
08	L94363-2	L94363\2	09/25/2	1243	7.97	20.12
09	MB84	MB84 \	09/25/2	1314	7.98	20.12
10	CC125402	CC125402 \	09/25/2	1345	8.00	20.12
11						
12						
13						
14						
15						
16						
17						
18						
19						
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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. : AAA925
Instrument ID: HP1 Init. Calib. Date(s) : 09/17/2 09/1
GC Column: RTX-CTJPESTICIDES 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	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	L94538-7J/	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						
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21						
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23						
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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:
ab Code: Case No. : SAS No. : SDG No. : AAA923CONFIRM
nstrument ID: HP3 Init. Calib. Date(s): 09/19/2 09/25/2
C 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: 9.72 DCB: 21.33

	EPA SAMPLE NO.	LAB SAMPLE ID	DATE ANALYZED	TIME ANALYZED	TCX RT #	DCB RT #
01	CC12M01	CC125401	09/25/2	0908	9.72	21.33
02	L94363^2\	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	1?94363-12	09/25/2	1045	9.73	21.32
05	L94363-6	L94J65L-6	09/25/2	1116	9.72	21.33
06	L94363-8	L94363^B\	09/25/2	1147	9.72	21.32
07	L94363-10	L94363-10\s	09/25/2	1218	9.71	21.32
08	CC125402	CC125402	N19/25/2	1250	9.71	21.32
09						
10			X			
11			\			
12			S			
13				\		
14				\		
15				\		
16				V		
17				\		
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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. : AAA925CQ
Instrument ID: HPi—-^_ Init. Calib. Date(s) : 09/19/2 09
GC Column: RTX-*£LPESTICIDES 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: 9.72 DCB: 21.33					
	EPA SAMPLE NO.	LAB SAMPLE ID	DATE ANALYZED	TIME ANALYZED	TCX RT #	DCB 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 ^	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	L94538-1-J	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						
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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

EPA SAMPLE NO.

PESTICIDE IDENTIFICATION SUMMARY
FOR MULTICOMPONENT ANALYTES

L94538-1

Name: Contract:

Lab Code: Case No.: SAS No.: SDG No.: AAA925

Lab Sample ID: L94538-1 Date (s) Analyzed: 09/26/2 pq *fai* I 0%-*

Instrument ID (1) : HP1 Instrument ID (2) : MP3

GC Column(1) : RTX-CLPESTICIDES 2 ID: 0.32 (mm) GC Column(2) : m-CiPfcST *X* ID: 0.33. *(mm)*

ANALYTE	PEAK	RT	RT WINDOW FROM	RT WINDOW TO	CONCENTRATION	MEAN CONCENTRATION	%D
Aroclor-1254 COLUMN 1	1	13.65	13.57	13.77	64.86		
	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	260.01	
COLUMN 2	1	IM.Sl	m.so				
	2	J.-S.1D	IS-CQ-	to. 33	(UT-MT-		
	3	1*^1	15.93	16-03	1-5/% MI		
	4	*ib-rn*	il..tt	16-;^	^1*3.23		
	5	lfc.St	Ib-^M	Ifc^iM	.0 1 *1* ."3^	1^1-IS'	
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*. 2,**

10B

EPA SAMPLE NO.

PESTICIDE IDENTIFICATION SUMMARY
FOR MULTICOMPONENT ANALYTES

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 *Q^q^lo* 2-

Instrument ID (1): HP1 InstrumentID(2): *ti£3*

GC Columnd) : RTX-CLPESTICIDES 2 ID: 0.32 (mm) GC Column(2) : *!iU-CLP£5T X* ID: *Q.33-*

ANALYTE	PEAK	RT	RT WINDOW FROM	TO	CONCENTRATION	MEAN CONCENTRATION	%D
Aroclor-1254		13.65	13.57	13.77	428.87		
		14.55	14.46	14.66	564.11		
		14.99	14.90	15.10	479.80		
COLUMN 1		15.33	15.25	15.45	533.47		
		16.01	15.93	16.13	462.70	493.79	
					?,?/• JO		
		*j£_dO_*	*' T- Q**	*/•5r-r?a*	*/r/cX.IX*		
		)5^i	*/5,S3*	*l(t.0*	*/r&>3.fcX*		
COLUMN 2		*Ib-Al-*	*lb- 11*	*it*-3>1*	*6-XD.1X*		
		Jlr-Sl	*lit-1*1*	*TM.*	*/stt.teG*	^fc.Ol	*3(c .<?*

COLUMN 1

COLUMN 2

	1	
	2	
	3	
COLUMN 1	4	
	5	
	1	
	2	
	3	
COLUMN 2	4	
	5	

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

10B

EPA SAMPLE NO.

PESTICIDE IDENTIFICATION SUMMARY FOR MULTICOMPONENT ANALYTES

L94538-5

Name: Contract*.

W^ab Code: Case No.: SAS NO.: SDG No.: AAA925

Lab Sample ID: L94538-5

Date(s) Analyzed: 09/26/2 ffllafrloa

Instrument ID (1): HP1

Instrument ID (2): y.\p3

GC Columnd): RTX-CLPESTICIDES 2 ID: 0.32 (mm) GC Column(2): fi.rX-CiPC5r 1 ID: £.,33. (MM)

ANALYTE	PEAK	RT	RT WINDOW FROM	RT WINDOW TO	CONCENTRATION	MEAN CONCENTRATION	%D
Aroclor-1254	1	13.65	13.57	13.77	1023.52		
	2	14.55	'14.46	14.66	1223.05		
	3	14.99	14.90	15.10	1148.80		
COLUMN 1 '	4	15.33	15.25	15.45	1197.75		
	5	16.01	15.93	16.13	1084.08	1135.44	
	1	IM.5T-					
	2	iS.O^	*i^.CQ-*	/5".3a	*i-3*iL--*>D*		
	3	*15.40*	/S\83	*It*. 03*	*/3tt. <?/*		
COLUMN 2	4	*lb* .air	*Ik-11*	*Un.tf*	/ao.r. »7		
	5	/fr.ffl	//».•? 4	*IhM*	/^/.^ <?*-		A5". 2-
	1						
	2						
	3						
COLUMN 1	4						
	5						
	1						
	2						
	3						
COLUMN 2	4						
	5						
	1						
	2						
	3						
COLUMN 1	4						
	5						
	1						
	2						
	3						
COLUMN 2	4						
	5						

At least 3 peaks are required for identification of multicomponent analytes

FORM X PEST-2

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: 09/26/2 *0ᶜij.2ulc3-*

Instrument ID (1): HP1 Instrument ID (2): A/A3

GC Column(1) : RTX-CLPESTICIDES 2 ID: 0.32 (mm) GC Column(2) : *tlrX-CiPesrl* ID: <V5

ANALYTE	PEAK	RT	RT WINDOW FROM	RT WINDOW TO	CONCENTRATION	MEAN CONCENTRATION	%D
	1	13.65	13.57	13.77	57.62		
Aroclor-1254	2	14.54	14.46	14.66	258.14		
	3	14.99	14.90	15.10	297.04		
COLUMN 1	4	15.33	15.25	15.45	209.28		
	5	16.01	15.93	16.13	276.69	219.76	
	1	*N. Si-*	*fH.SO*	*m.io*			
	2	*ts. in*	*/<7,0.^*	*ts.aa*	*/V3 • %£*		
	3	*1**10*	*IS. £3*	*1/6,03*	*to*. 36?*		
COLUMN 2	4	*If: • 7de*	*lb* ft*	*ih., V/*	*3<C. 35"*		
	5	*/&. S7*	*111.1*4*	***K,.ᶜm***	*£33. f^*		/W. 3-
	1						
	2						
	3						
COLUMN 1	4						
	5						
	1						
	2						
	3						
COLUMN 2	4						
	5						
		======	======	======	= —= = E£r;srs: = ^ = ;; =		
	1						
	2						
	3						
COLUMN 1	4						
	5						
	1						
	2						
	3						
COLUMN 2	4						
	5						*

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

FORM X PEST-2

OO140

10B

EPA SAMPLE NO.

PESTICIDE IDENTIFICATION SUMMARY FOR MULTICOMPONENT ANALYTES

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 ^ihjdjSh

Instrument ID (1): HP1 Instrument ID (2): (4P3

GC Column(1): RTX-CLPESTICIDES 2 ID: 0.32 (mm) GC Column(2): fijy-CLP£sri- ID: S.3* (mm)

ANALYTE	PEAK	RT	RT wn FROM	NDOW TO	CONCENTRATION	MEAN CONCENTRATION	%D
Aroclor-1254 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	15*10	L*. C^~	;.T. 33	<?.*)/*.&$		
	3	IS.clt)	/S\S3	//,.03	qzv. vi		
	4	Heat	/&./1	Ih.W	icqa.m		
	5	ih.Xi	fr-H	Htfi±	ctm,o\		*?.?
	1						
	2						
COLUMN 1	3						
	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 multicornponent analytes.

10B

EPA SAMPLE NO.

PESTICIDE IDENTIFICATION SUMMARY
FOR MULTI COMPONENT ANALYTES

L94538-8

Lab Name: Contract:

Lab Code: Case No.: SAS No.: SDG No.: AAA925

Lab Sample ID: L94538-8 Date(s) Analyzed: 09/26/2

Instrument ID (1): HP1 Instrument ID (2):

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

ANALYTE	PEAK	RT	RT WINDOW FROM	RT WINDOW TO	CONCENTRATION	MEAN CONCENTRATION	%D
	X	13.65	13.57	13.77	107.35		
Aroclor-1254	2	14.54	14.46	14.66	255.97		
	3	14.98	14.90	15.10	340.79		
COLUMN 1	4	15.33	15.25	15.45	342.27		
	5	16.01	15.93	16.13	319.99	273.27	
	1	*M.58*		/4.70	*HS.SH*		
	2	A5~. / *b*	*J^.09.*	*I't.aa*	*iQO.*4l-*		
	3	/.<>.<?/	,^. tf.S	*Ifr.O^*	*/4/.S</*		
COLUMN 2	4	*It*. 9?*	*it»>*l*	*Ui.* V?	***£<rs,'/7-***		
	5	***/b-S-t***	*Ib,l4*	***/&.<i4***	^?35-.<7<7		
	1						
	2						
	3						
COLUMN 1	4						
	5						
	1						
	2						
	3						
COLUMN 2	4						
	5						
	1						
	2						
	3						
COLUMN 1	4						
	5						
	1						
	2						
	3						
COLUMN 2	4						
	5						

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

FORM X PEST-2

00142

Friend Inc.

2ft

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%

Analyst: CPW
Report Date: 09/25/2002 16:12

Supervisor:
Date:

•ft

ID

EPA SAMPLE NO.

PESTICIDE ORGANICS ANALYSIS DATA SHEET

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^ decanted: (Y/N) N Date Received: 09/25/2

Extraction: (SepF/Cont/Sonc) SONC Date Extracted:09/25/2

Concentrated Extract Volume: *JoQOO* (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		U
1104-28-2	Aroclor-1221	'•L-'Zo -Q.ae	U
11141-16-5	Aroclor-1232	mo -0-ri4	U
53469-21-9	Aroclor-1242	'MO .£U44	U
11097-69-1	Aroclor-1254	260.01	
11096-82-5	Aroclor-1260	IMP n TA	U
	Aroclor-1248	'WO -e-rr4	**u**

toix&lc?}-

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 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	10.366	Weight of sample extracted (gi
Uf	0.100	Unit Correction Factor
Ts	69.200	Total Solid

RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COL (ug/L)	FINAL (ug/Kg)	TARGET RANGE	RATIO *
S l Tetrachloro-m-xylene					CAS #:		
7.983	7.997	-0.014	259778	37.2717	519.57		
S 29 Decachlorobiphenyl					CAS #:		
20.120	20.130	-0.010	193975	41.2678	575.28		
25 Aroclor-1254					CAS it:	11097-69-1	
13.647	13.670	-0.023	3371	4.65275	64.86	BO.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	358.85	77.94- 117..94	49 .72
15.327	15.350	-0.023	2995	20.0888	2B0.04	46.79- B6..79	B6 .85
16.007	16.033	-0.026	3311	20.7672	289.50	86.38- 126 -3B	98 .22

Average of Peak Concentrations = 260.01

Final = 22.0068 x 10 x (10 / 10.366 x .1) / 69.2 x 100

3.0^89 X10-4

-.3^ ^

[Uf3-^0 ,&\

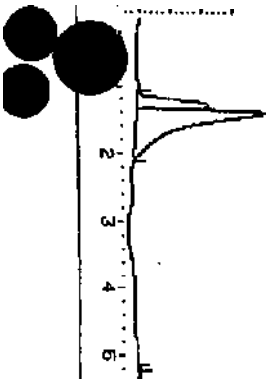
Data File: \chem\hpl.i\8082r0917.b\E2989953.D
Report Date: 26-Sep-2002 14:51

QC Flag Legend

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

Y <xl0*4>

o o o i ^ ^ ^ p . v i p . p . p . v A ^ M r o w w r o r x) N w w r o u w c j c j u u o j w w w 4 > . * - A - p -



Tetrachloro-m-xylene <7,983>

-Aroc1or-1254 <13.647 >,

-Aroclor-1254 <14.637>

^-Aroclor-1254 <14.987> *

-Aroclor-1254 (15.327>

-Aroclor-1254 Clfe.OO?)

Decachlorobiphenyl <20*120>

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

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:

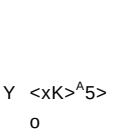
Thru-Put Systems, Inc

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\l254FCONFIRMa.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: 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

	RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS OK-COL (ug/D	FINAL (ug/Kg)	TARGET RANGE	RATIO
S	1 Tetrachloro-m-xylene						CAS #:	
	9.690	9.717	-0.027	378910	65.3069	910.38		
	25 Aroclor-1254						CAS #: 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.Gl
	16.270	16.290	-0.020	4243	IB.8156	262.29	60.29- 100.29	115.96
	16.B13	16.837	-0.024	6247	15.6055	217.54	120.35- 160.35	170.73
			Average of Peak Concentrations -			191.75		
S	29 Decachlorobiphenyl						CAS #:	
	21.313	21.327	-0.014	294002	65.8652	918.17		



Tetrachloro-m-xylene (9.690)

» -Aroclor-1254 (14.573) '

-Aroclor-1254 (15.100)•

-Aroclor-1254 (15.907)
-Aroclor-1254 (16.270)

-Aroclor-1254 <16.813)

Dccaohlorobiph&nyl (21.313)

ID EPA SAMPLE NO.

PESTICIDE ORGANICS ANALYSIS DATA SHEET

L94538-2

tab 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: -8-ia.s~ decanted: (Y/N) N Date Received: 09/25/2

Extraction: (SepF/Cont/Sonc) SONC Date Extracted:09/25/2

Concentrated Extract Volume: \QQ0Q (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		U
1104-28-2	Aroclor-1221		U
11141-16-5	Aroclor-1232 •	*too* o_L0	U
53469-21-9	Aroclor-1242		U
11097-69-1	Aroclor-1254	493.79	
11096-82-5	Aroclor-1260	*tw* 0r±©-	U
			U

u

to tes/ox.

U

Friend Inc.

Data File: /chem/hp3.i/1254FCONFIRMa b/E3956221.D
Method: /chem/hp3.i/1254FC0NFIRMa 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: Amt * DF * ((Vf / Ws) * Uf) / 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 #:		
	7.973	7.997	-0.024	300886	42.2846	442.17		
S	29 Decachlorobiphenyl					CAS #:		
	20.120	20.130	-0.010	278127	57.1548	597.67		
	25 Aroclor-1254					CAS «: 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	B921	51.0155	533.47	46.79- • B6.79	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 CUPI

Data File: \chem\hpl.i\8082r0917.b\E2989948.D
Report Date: 26-Sep-2002 14:51

QC Flag Legend

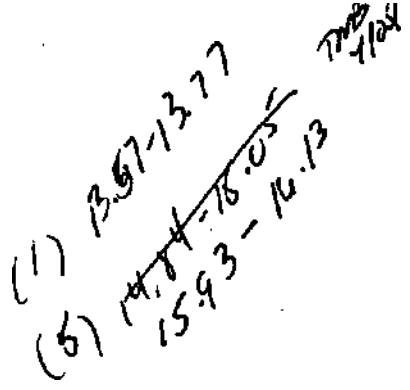
H - Operator selected an alternate compound hit.

Data File: /chem/hpl.i/8082r0917.b/E2989948.D
Bate : 26-SEP-2002 09:41
Client ID: L94538-2
Sample Info: L94638-2
Volume Injected (uL); 2.0
Column phase: RTX-CLPesticides 2

Instrument: hpl.i

Operator: CPW
Column diameter: 0,32

•chem/hpl,i/8082r0917.b/E29S9948.D » ^



5.8
5.6
5.4
5.2
5.0
4.8
4.6
4.4
4.2
4.0
3,8
3,6
3.4
3.0
2.8
2,6
2.4
2.2
2.0
1.8
1.6
1.4
1.2
1.0
0.8-

10 11 14 15 16 17 18 19 20

Friend Inc.

Data File: /chem/hpl.i/8082r0917.b/E298948.D
Method: /chem/hpl.i/8082r0917.b/8082_PCBsec.M
Sample Info: L94538-2
Misc Info: WG32900,02-004
Analysis Date 26-SEP-2002 09:41
Sample Matrix SOIL
File Number 9948

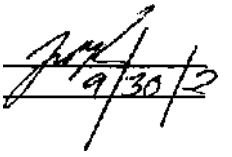
Dilution Factor 10.0000
Sample Weight 10.9291
Final Volume 10.0000
Total Solid 87.5000

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.

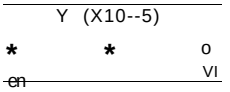
Data file \chem\hp3.i\1254FCONFIRMa.b\E3956216.D
Lab Smp Id L94538-2 Client Smp ID: L94538-2
Inj Date 26-SEP-2002 11:21
Operator CPW Inst ID: hp3.i
Smp Info L94538-2
Misc Info CONFIRMATION
Comment
Method \chem\hp3.i\l254FCONFIRMa.b\8082_PCBsec.M
Meth Date 26-Sep-2002 14:54 Administra Quant Type: ESTD
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: Amt * DF * {(Vf / Ws) * Uf) / Ts * 1000

Name	Value	Description
DF	10.000	Dilution Factor
Vf	10.000	Final volume
Ws	10.929	Weight of sample extracted (g!
Uf	0.100	Unit Correction Factor
Ts	87.500	Total Solid

>

RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COL (ug/L)	FINAL (ug/Kg)	TARGET RANGE	RATIO
..	—==-- "		.....	.....	.....	.....	
$ 1 Tetrachloro-m-xylene					CAS #:		
9.700	9.717	-0.017	368178	63.4S72	663.57		
25 Aroclor-1254					CAS »: 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	663.68	129.84- 169.84	127.08
16.267	16.290	-0.023	14661	65.1031	680.78	60.29- 100.29	72.46
16.813	16.B37	-0.024	24334	60.7882	635.66	120.35- 160.35	120.10
Average of Peak Concencrations					676.02		
$ 29 Decachlorobiphenyl					CAS #;		
21.303	21.327	-0.024	300647	67.3539	704.32		



Tetrachloro-n-xylene (9,700)

=:^.

-Aroclor-1254 <14.577)

- -Aroclor-1254 (15,100)

•____Aroclor-1254 (15.907)

-Aroclor-1254 (16.267)

-Aroclor-1254 (16.813) ^

Decachlorobiphenyl (21.303)

Friend Inc.

Data File: /chem/hp3.i/1254FCONFIRMa.b/E3956216.D
Method: /chem/hp3.i/1254FCONFIRMa.b/8 082_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%
Decachlorbbiphenyl	134.71%

Analyst: CPW
Report Date: 09/26/2002 15:01

Supervisor:
Date:

* .

ID

EPA SAMPLE NO.

PESTICIDE ORGANICS ANALYSIS DATA SHEET

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: -^rSH-b decanted: (Y/N) N Date Received: 09/25/2

Extraction: (SepF/Cont/Sonc) SONC Date Extracted:09/25/2

Concentrated Extract Volume: IDQOQ (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		U
1104-28-2	Aroclor-1221		U
11141-16-5	Aroclor-1232		U
53469-21-9	Aroclor-1242	ace J^IQ 1135.44	U
11097-69-1	Aroclor-1254		
.11096-82-5	Aroclor-1260		U
	Aroclor-1248		U

>

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: Amt * DF * ({Vf / Ws) * Uf) / 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

RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COL (ug/L)	FINAL (ug/Kg)	TARGET RANGE	RATIO
$ 1 Tetrachloro-ni- xylene					CAS ft:		
•7.973	7.997	-0.024	311670	43.5994	875.04		
$ 29 Decachlorobiphenyl					CAS ftt		
20.120	20.130	-0.010	278337	57.1944	1147.89		
25 AroclOr-1254					CAS #: 11097-69-1		
13.653	13.670	-0.017	17458	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	114B.80	77.94- 117,.94	76 .38
15.333	15.350	-0.017	105B1	59.6787	1197.75	46.79- B6 .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		

Data File: \chem\hpl.i\8082r0917.b\E2989949.D
Report Date: 26-Sep-2002 14:51

QC Flag Legend

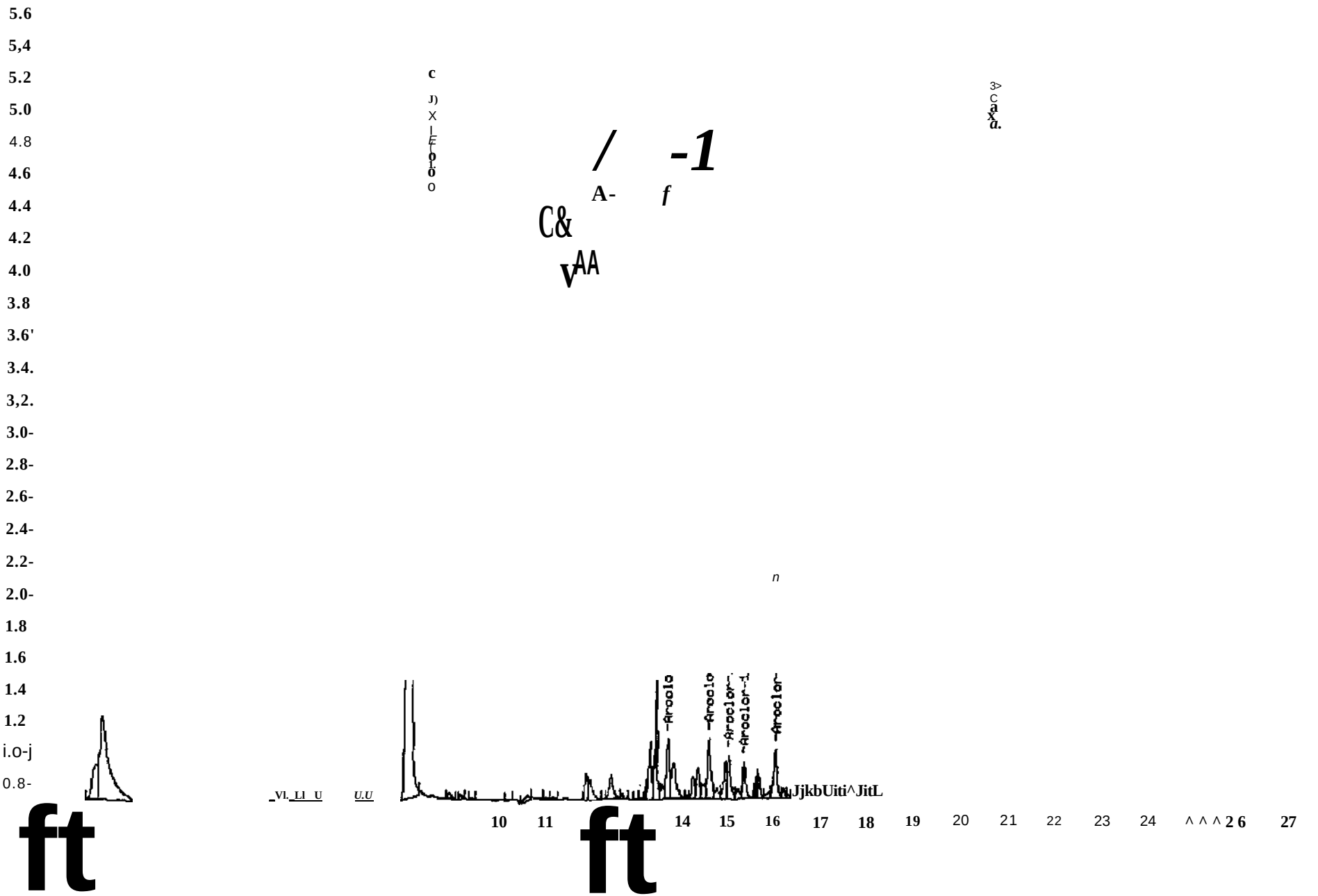
H - Operator selected an alternate compound hit.

Data File: /chem/hpl.i/8082r0917,b/E2989949,D
Date : 26-SEP-2002 10;12
Client ID: L94538-5
Sample Info: L94538-5
Volume Injected (ul_): 2,0
Column phase: RTX-CLPesticides 2

Instrument: hpl.i

Operator: CPU
Column diameter: 0.32

/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

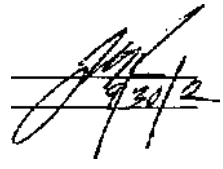
Dilution Factor	10.0000
Sample Weight	10.9748
Final Volume	10.0000
Total Solid	45.4000

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.i\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: Amt * DF * ((Vf / Ws) * Uf) / 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

	RT	EXP RT	DLT P.T	RESPONSE	CONCENTRATIONS ON-COL (ug/L)	FINAL (ug/Kg)	TARGET RANGE	RATIO
5	1 Tetrachloro-m-xylene						CAS «:	
	9.S90	9.717	-0.027	375501	64.7193	129B.92		
	25 Aroclor-1254						CAS It: 11097-69-1	
	14.570	14.597	-0.027	196S3	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	IS.927	-0.027	27409	67.5591	1355.91	129.84- 169.84	139.25
	16.263	16.290	-0.027	13549	60.0832	1205.87	60.29- 100.29	68.84
	16.807	16.S37	-0.030	26248	65.5695	1315.98	120.35- 160.35	133.35
	Average *of* Peak Concentrations -					1307.47		
S	29 Decachlorobiphenyl						CAS #:	
	21.300	21.327	-0.027	297785	66.7127	1338.93		

V <xl0*5>
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Tefcrachloro-m-xylene (9.690) £.

-Aroclor-1254 C14.570>
- -Aroclor-1254 <15.093> *-
-Aroclor-1254 (15.900>
-Aroclor-1254 <16.263> ^.
-Aroolor-1254 <16.807>

- 1

Decachlorobiphenyl (21.300)

00087

Friend Inc.

Data File: /chem/hp3.i/1254FCONFIRMa.b/E3956217-D
Method: /chem/hp3.i/l254FCONFIRMa.b/8 082_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

Supervisor:
Date:

ID EPA SAMPLE NO.

PESTICIDE ORGANICS ANALYSIS DATA SHEET

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: -&-t%,\ decanted: (Y/N) N Date Received: 09/25/2

Extraction: (SepF/Cont/Sonc) SONC Date Extracted:09/25/2

Concentrated Extract Volume: /OQOQ (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	iiD Oril"	•u
1104-28-2	Aroclor-1221	1,0	U
11141-16-5---	Aroclor-1232	tt±	U
53469-21-9---	Aroclor-1242	110 -frrtt.	U
11097-69-1---	Aroclor-1254	219.76	
11096-82-5---	Aroclor-1260	l in nil	U
	Aroclor-1248	ltd ^-ii	U
		MR	
		/c,	

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
Operator CPW Inst ID: hpl.i
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: 3.4 0 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

	RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COL (ug/L)	FINAL (ug/Kg)	TARGET RANGE	RATIO
S	l Tetrachloro-m-xylene					CAS ft;		
	7.977	7.997	-0.020	322734	44.9485	513.79		
$	29 Decachlorobiphenyl					CAS ft:		
	20.120	20.130	-0.010	266769	55.0105	628.80		
	25 Aroclor-1254					CAS ft: 11097-69-1		
	13.650	13.670	-0.020	34B9	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	75.81
	14.987	15.003	-0.016	1769	25.9865	2S7.04	77.94- 117.94	50..70
	15.330	15.350	-0.020	2654	18.3092	209.28	46.79- B6.79	76.07
	16.010	16.033	-0.023	4561	24.2061	276.69	B6.3B- 126.38	130.73
				Average of Peak Concentrations -		219.76		

Tetrachloro-m-xylene <7.977>

i-Aroclor-1248 <11.883>

f -Aroolor-1254 <13.650)

E -Aroolor-1254 <14.543>

a- -Aroolor-1254 <15.330)+

r-Aroclor-1260 <16,737>*-

r-Aroclor-1260 <17.220>

Decaohlorobiphenyl <20.120)

Friend Inc.

S»

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

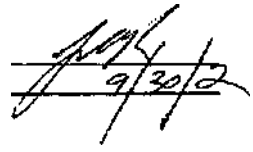
Analytes (ug/Kg)

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 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..682	Weight of sample extracted (g)
Uf	0.100	Unit Correction Factor
Ts	81.900	Total Solid

RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COL (ug/L)	CONCENTRATIONS FINAL (ug/Kg)	TARGET RANGE	RATIO
$ 1 Tetrachloro-ra-xylene					CAS #.		
9.690	9.717	-0.027	388020	66.8771	764.44		
25 Aroclor-1254					CAS ft 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- 169.64	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		
$ 29 Decachlorobiphenyl					CAS «:		
21.303	21.327	-0.024	316778	70.9677	811.20		

Data File: /chem/hp3,i/1254FC0NFIRMa,b/E3956218,D
Date : 26-SEP-2002 12:24
Client ID: L94538-6
Sample Info: L94538-6
Volume Injected (ul_>: 2.0
Column phase: RTX-CLPesticides 1

Instrument: hp3,i

Operator: CPU
Column diameter: 0,32

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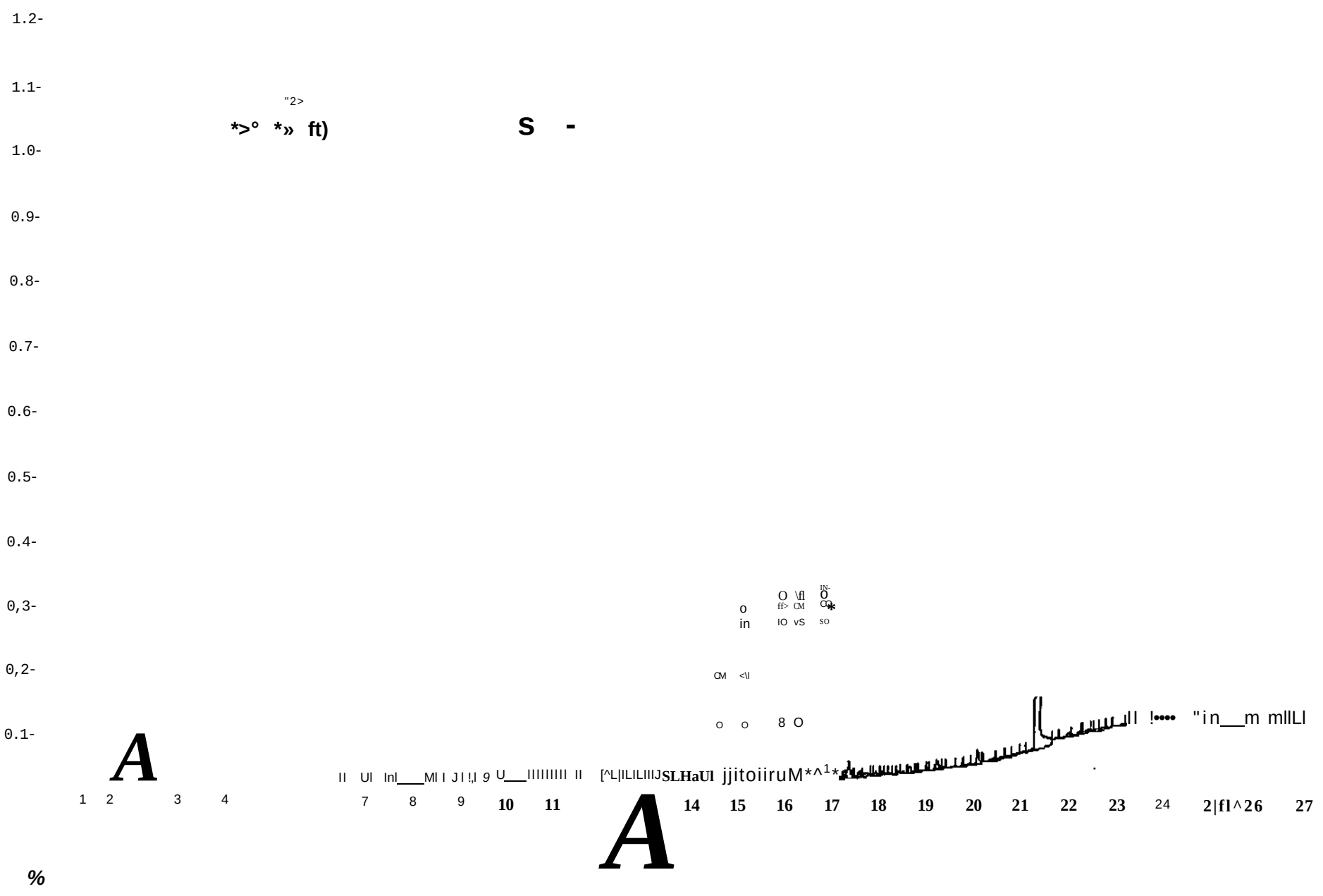
/chem/hp3,i•1254FC0NFIRMa.b/E3956218,D



Friend Inc.

Data File: /chem/hp3.i/1254FCONFIRMa.b/E3956218.D
Method: /chem/hp3.i/l254FCONFIRMa.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:

ID EPA SAMPLE NO

PESTICIDE ORGANICS ANALYSIS DATA SHEET

L94538-7

ab 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: -e' *i^c i-3* decanted: (Y/N) N Date Received: 09/25/2

Extraction: (SepF/Cont/Sonc) SONC Date Extracted:09/25/2

Concentrated Extract Volume: *ICOQQ* (uL) Date Analyzed: 09/26/2

Inj ection 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	
12674-11-2	Aroclor-1016	liu 0.12	U
1104-28-2	-Aroclor-1221	34C -0.24"	U
11141-16-5	Arocior-1232	,3t 0.12	u
53469-21-9	Aroclor-1242	,3o -&^£	u
11097-69-1	Aroclor-1254	1014.51	
11096-82-5	Aroclor-1260		u
	Aroclor-1248	*IJ-G* f) 12- *oaJL*	u

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FORM I PEST

00096

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 : \chem\hpl.i\8082r0917,b\8082_PCBsec.M
Method : 26-Sep-2002 14:49 Administra Quant Type: ESTD
Meth Date : 17-SEP-2002 16:43 Cal File: E2989834.D
Cal Date : 1
Als bottle: 10.00000
Dil Factor: Falcon Compound Sublist: PCB.sub
Integrator: 3.40 Sample Matrix: SOIL
Target Version: TARGET3
Processing Host:

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

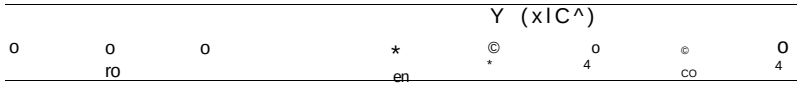
Name	Value	Description
DF	10.000	Dilution Factor
Vf	10.000	Final volume
Ws	10.231	Weight of sample extracted
Uf	0.100	Unit Correction Factor
Ts	80.700	Total Solid

	RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COL (ug/L)	PINAL (ug/Kg)	TARGET RANGE	RATIO
S	1 Tetrachloro-m-xylene					CAS tt:		
	7.970	7.997	-0.027	346383	47.8323	579.3G		
$	29 Decachlorobiphenyl					CAS #:		
	20.120	20.130	-0.010	347B02	70.3066	851.60		
	25 Aroclor-1254					CAS #: 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	B4.0380	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	18226	61.8059	748.61	86.38- 126.38	58.84
	Average of Peak Concentrations -					1014.51		

fct'f^

! • Flag Legend

H - Operator selected an alternate compound hit.



-Tetrachloro-m-xylene <7.970>

-Aroclor-1254 <13.653)

-Arocl.or-1254 <14.547)
-Aroclor-1254 (14.987)
-Aroolor-1254 <15.333)

-Aroolor-1254 (16.010)

-Decachloroblphenyl <20.120)

Friend Inc.

Data File: /chem/hpl.i/8082r0917.b/E2989951.D
Method /chem/hpl.i/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%

2»

Analyst: CPW
Report Date: 09/26/2002 14:51

Supervisor:
Date:

9/30/02

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 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	10.231	Weight of sample extracted
uf	0.100	Unit Correction Factor
Ts	80.700	Total Solid

				CONCENTRATIONS ON-COL	CONCENTRATIONS FINAL		
RT	EXP RT	DLT RT	RESPONSE	(ug/L)	(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	80.00- 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	9B7.39	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.B37	-0.027	32852	B2.0668	994.01	120.35- 160.35	141.12
Average of Peak Concentrations •					986.68		
$ 29 Decachlorobiphenyl					CAS tt		
21.300	21.327	-0.027	305212	68.3766	828.20		

-Tetrachloro-m-xylene (9,697)

E-Aroclor-12S4 (14.573)

c-Aroclor-1254 (15.097)

E-firoclor-1254 (15.903)

=-Aroclor-1254 (16,267)

|-Arocloi—1254 (16.S10)

-Decachlorobiphenyl (21.300)

(10102

Friend Inc.

Data File: /chem/hp3.i/1254FCONFIRMa.b/E3956219,D
Method: /chem/hp3.i/1254FCONFIRMa.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 fug/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

EPA SAMPLE NO.

PESTICIDE ORGANICS ANALYSIS DATA SHEET

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: -&-I3-8 decanted: (Y/N) N Date Received: 09/25/2

Extraction: (SepF/Cont/Sonc) SONC Date Extracted:09/25/2

Concentrated Extract Volume: *jOOQO* (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	
12674-11-2	Aroclor-1016	*//0* 0"ril'	**u**
1104-28-2	Aroclor-1221		U
11141-16-5	Aroclor-1232	*no* 0.13:	U
53469-21-9	Aroclor-1242	*no* _^±i	**u**
11097-69-1	Aroclor-1254	273.27	
11096-82-5	Aroclor-1260	*no* o.iar	**u**
	Aroclor-1248	*liU* U'.ii'	**u**

*Tojsslo^*

FORM I PEST

00104

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

BT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COL (ug/L)	FINAL (ug/Kg)	TARGET RANGE	RATIO
$ 1 Tetrachloro-m-xylene					CAS <>		
7.973	7.997	-0.024	377088	51.5764	547.76		
$ 29 Decachlorobiphenyl					CAS ft:		
20.123	20.130	-0.007	338210	68.497B	727.48		
25 Aroclor-1254					CAS tt: 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
14.983	15.003	-0.020	409S	32.0881	340.79	77.94- 117.94	61.43
15.330	15.350	-0.020	5321	32.2278	342.27	46.79- 96.79	105.81
16.010	16.033	-0.023	6714	30.1293	319.99	86.38- 126.38	133.51
Average of Peak Concentrations -					273.27		

Cid"*"*'**
MfS t(J)
(clZoF

QC Flag Legend

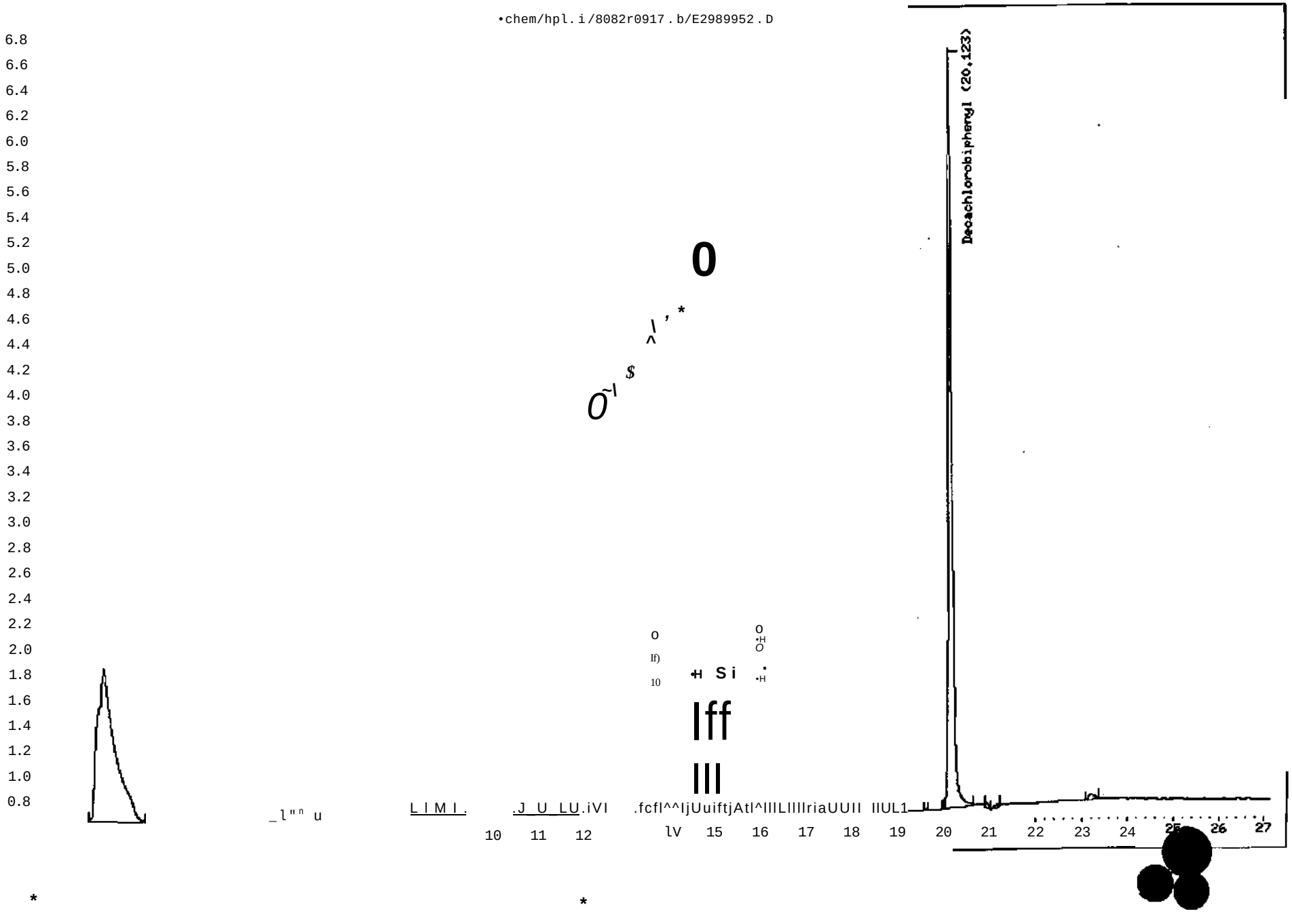
M - Compound response manually integrated.
H - Operator selected an alternate compound hit

Data File: /chem/hpl.i/8082r0917,b/E2939952.D
Date : 26-SEP-2002 11:46
Client ID: L94538-8
Sample Info; L94538-8
Volume Injected <uL>;~2.0
Column phase: RTX-CLPesticides 2

Instrument; hpl.i

Operator: CPW
Column diameter: 0.32

•chem/hpl.i/8082r0917.b/E2989952.D



Friend Inc.

Data File: /chem/hpl.i/8082r0917.b/E2989952.D
Method: /chem/hpl.i/80 82r0917.b/80 82_PCBsec.M
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: 9/30/2

Thru-Put Systems, Inc.

Data file \chem\hp3.i\1254FCONFIRMa.b\E395622 0.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: 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

	RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS '- ON-COL (ug/L)	FINAL (ug/Kg)	TARGET RANGE	RATIO
S	l Tetrachloro-m-xylene					CAS #:		
	9.693	9.717	-0.024	418B31	72.1875	766.66		
	25 Aroclor-1254					CAS It: 11097-69-1		
	14.577	14.597	-0 02 0	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.B37	-0 027	6895	22.2204	235.99	120.35- 160.35	224.00
			Average of Peak Concentrations -			183.90		
S	29 Decachlorobiphenyl					CAS $-.		
	21.303	21.327	-0.024	338S50	75.8453	805.51		(R)

Data File: \chem\hp3.i\l254FCONFIRMa.b\E3956220.D
Report Date: 26-Sep-2002 15:02

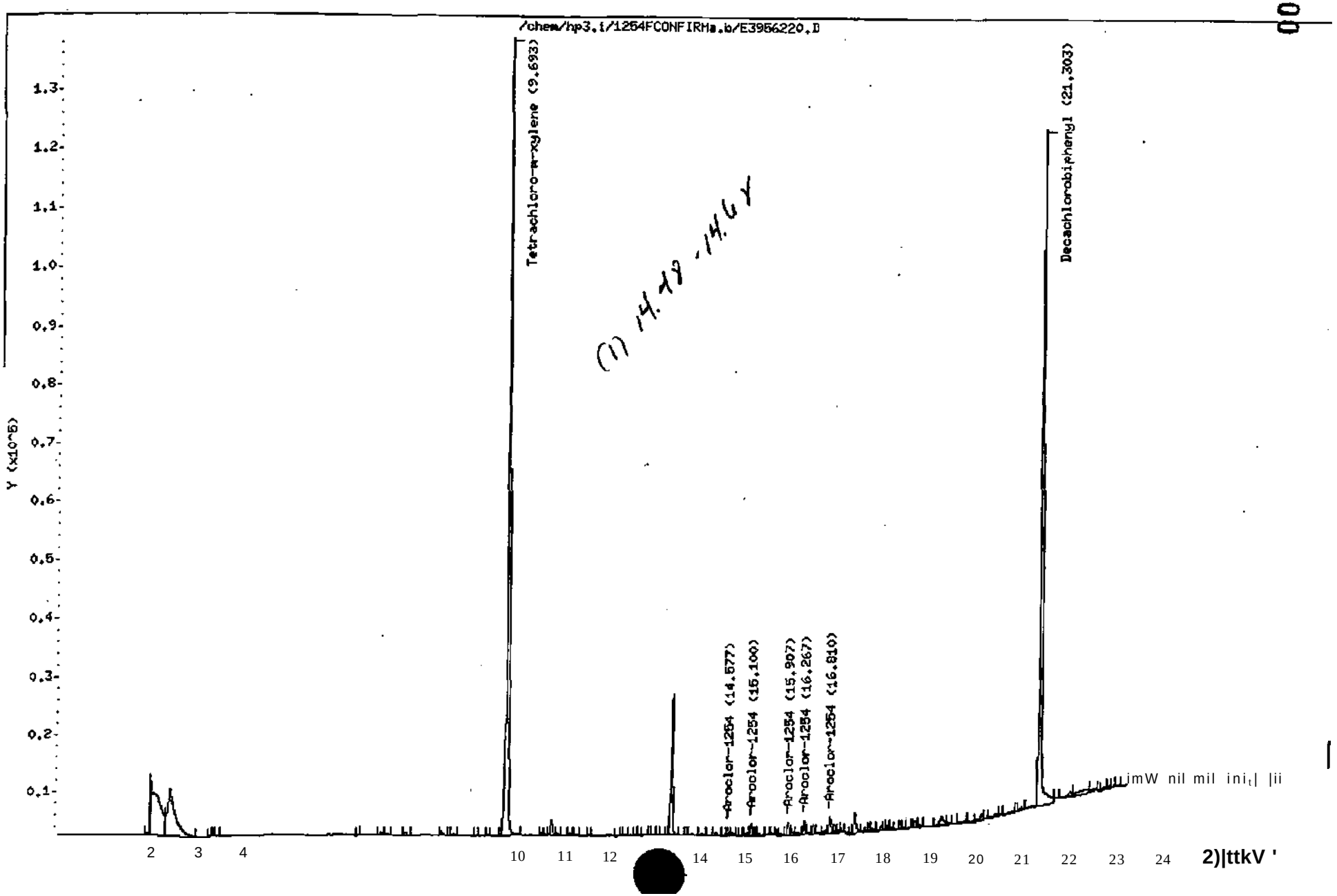
QC Flag Legend

R - Spike/Surrogate failed recovery limits.

Data File: /chem/hp3.i^l254FC0NFIRHa.b/E3956220»L
Date : 26-SEP-2002 13j26
Client ID: L94538-8
Sample Info: L94538-8
Volume Injected <uL): 2.0
Column phase: RTX-CLPesticides 1

Instrument: hp3.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		PG ON COLUMN			*IDL	UG/LIN WATER	CRDL (UG/L)
Instrument#3	Run#l	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	I 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/L IN WATER	CRDL (UG/L)
Instrument#3	Run#l	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 EPA SAMPLE NO.

PESTICIDE ORGANICS ANALYSIS DATA SHEET

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: -&/1-0 decanted: (Y/N) N Date Received: 09/23/2

Extraction: (SepF/Cont/Sonc) SONC Date Extracted:09/24/2

Concentrated Extract Volume: jQQoo (up 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: (ug/L or ug/Kg) UG/KG	Q
12674-11-2	-Aroclor- 1016	/tO 0.11	
1104-28-2	-Aroclor- 1221"		
11141-16-5	-Aroclor- 1232"	no o.i jr	
53469-21-9	-Aroclor- 1242"	no -O-r^i	
11097-69-1	-Aroclor- 1254"	1549.70	
11096-82-5	-Aroclor- 1260"		u
	-Aroclor- 1248"	no -Q^&	u

/C/?<$•/CD-

FORM I PEST

oOOn

Organic Extractions

: • *

NotebooK: P a d e : » I S \NG»^20iS^>

Extracted By: . ^ T O
Date Extracted: p | ^ ^ S ^ ; ^]

Sur. Ref: f ^ B ^ g g ^ g l " -

Analysis: ^ l l ^ a J ¡ J J S l i P
Matrix: ^ ^ ^ ^ ^ ^ ^ *m*

Spike Ref: *prch* Hfii *„t^('1(,.* *£m*

I.D.	Customer	Int. Size	Fin. Vol	Sr. Amt	Spk Amt	Bottle #	pH 5-9	Emulsion	Clean-ups
MB84		10.4202	10ml	1ml					
QC84 pcb		10.1863			1ml pcb				
QC84 pcb		10.0086			1ml pcb				1,2,3
[redacted]	[redacted]	10.0476							
-2		10.7183			1ml PCB				
-3		10.2470							
L94365-1		10.4557							
L94193-1	[redacted]	10.7180							1,23
[redacted]	[redacted]	10.2155							
-2		10.2091							
-3		10.0602							
L94365-2	[redacted]	10.2402							
-4		10.6583							
[redacted]		10.0907							
L94363-2	AAA Env	10.9420							
-4		10.0534							
-6		10.2548							
-8		10.7849							
-10		10.0941							
-12		10.0475							

Extracts Relinquished to:.

00256

A C OCbmments: Clean-up Methods:1.3665 H_2S0_4 2. 3620A florisil. 3. 3660A Hg

R83677
9/25

Qot

• ^ > N ^ ^ O

Organic Extractions

Notebook: 02-044

Extracted By: KJB

Date Extracted: 9/25/02

Analysis: 8082 PCB (5550)

Page: pP£feW WG# <Q%~)(j

sur. ^:mmmmmmmmm

Spike nmmmmmm

I.D.	Customer	Int. Size	Fin. Vol	Sr. Amt	Spk Amt	Bottle #	pH 5-9	Emulsion	Clean-ups
MB87		10.0371	10ml	1ml					4,2,3
QC87		10.0963			1ml				
L94588-1	AAA Env	10.3664							
-2		10.9291							
-3		10.7086							
-4		10.4935							
-5		10.9748							
-6		10.6819							
-7		10.2306							
-8		10.9732							

Extracts Relinquished to:

Comments: . Clean-up Methods:*!. 3665 H_2S0_4. 2. 3620A florisil. 3. 3660A Hg

0025

If

UET CHEMISTRY TOTAL SOLIDS NUO^HT

Notebook : 02-066
Start Date : 24-SEP-02 16:41
End Date : 24-SEP-02 16:41

^Sample i.8*	Analysis Date Time	Anal Xnlt	Method	'Valume 0i*h#	Initial «JSJ . Weight	*st«fleT iSlghT	3rd&4th Weight	StfcWth' irtjjta	7th68th Weight;	'?tNL10t|t .Wrtyt :	Final. . . . . Result	-'""- «ptt	Unit*
Cwnrtie^ts :													
[redacted]	start:24-SEP'02 16:41 Stop :24-SEP-02 16:41		"CLP 3.0	13—SCSSz?—T554T—$.9i26~ '							'SO'		
[redacted]	Start:24-Sfep*b2 16:41 ' Stop :24-SEP-02 16:41		,CLP JM								-^tTBir	ij	V—'
Cwmwnts ;													
mWi'P'"'	Start:a4-$EP-0^ Stop :24-SEP'02 16:41 ,	foil	AP i-0	•1 • t ; w u w i;*								'%	
« ^ ^ ^ " " V* \	Start:24-SEP-6a Stop -.24-SEP-02 16:41	foM	' "CLP 3.6	g;ifl&	lfi.24S6	*UiH"Ui*					^2T		

rr

£-

t

V. *, &,-. **

Calculations: Final Results = <fnl - initial) x 1000000

wgt wgt
mls of sample

Analyst Signature 9/25/2 Date

Hanaaer Sianature V I Date

2558
Bank 10/27/02

/uft/*)

WET CHEMISTRY TOTAL SOLIDS MOTEBOOX

Notebook : 02-066
Start Date : 25-SEP-02 20:01
End Date : 25-SEP-02 20:01

Sample U 0 *	Analysis Date Time	AftSt Iftft	Method	Volume-Dish*	initial C*U> Weight	Ifttt&a iftft**	3rd&4th Weight	fthMtft Weight	TOittth Weight	'ttWIfltft Weigh*	Mnal Result	" ftp*	Units
«aS"1.....	Start:2S-SEP-62 2b:0t Stop :25-SEP-02 20:01		"CLP i.0										
Comrtrertt* £													
ttf&tt'S ' '	Start:25-SEP-02 20:61 Stop :25-SEP-02 20:01		CLP 3.0										
Coatnents t													
iWfotf*	Start:25-SEP-02 20:61 Stop :25-SEP-02 20:01		CLP J.O										
Covmervts													
mmsmi'" "	Start:2^SEP-62 26:61 ' Stop :25-SEP»02 20:01		dP S.U										
fcwtmente													
n^^y.....	^tar't;2S:SEp·02 20;o1 * Stop :25-SEP*02 20:01	'	"CLP 3.U										
CttltnefctS I													
g&Kft-'fr——	' Start:2*-SEP-02 20:61 * Stop :25-SEp-Q2 20:01	. . . .	.CLP i.U										
- OoBltfBhtS S													
WGS&klH ""	Start":25*SEP-02 20i0l' Stop :2S-SEP-02 20:01	."	^CLP 3.0										
*"•*** f	*BLAA/fi*												
*mm*T':*	start^s-sEP-or gorbi , / ,Gun:ii" ' '" Stop :25-SEP*02 20:01 ,"												

-3—aw •' \:n\"'r$w'nm ▪ w ,.....a.*"' $:c:_v

———_—j———————ar.g

T——r5555T~0434 *.$3w'.

"6——S:6iti?" "1.246ft *JM"" ""SO"

s:w 'v.'itfd" oasy_fc .....B6J7———".....St'

-5—ir^ '1,253d *u&rr* .....'66.2

T——*.z42V '1.242* U2«7, '* '.0161. . . . 7%

^r5— „ .....r^1

Calculations: Final Results = (fnl - initial) x 1000000
wgt wgt
mis of sample

Analyst Signature = /Daty Manager Signature "^ Date

f

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.

Sample	Compound	% Difference	Qualifier
A-B-SS-E-001	Aroclor 1254	27.1%	**J**
A-B-SS-W-001	Aroclor 1254	29.4%	**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 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, A-B-SS-W-001, A-B-S-E-001	lOx
A-B-SS-E-001	50x

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.

^\l/^r ECT.CON INC.

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

Annotated Form l's

(Spreadsheet)

HI
F Rl EJ I?
LABORATORY
L • N • C

32 ITHACA STREET WAVERLY, NY 14892-1532
TELEPHONE (607) 566-3500 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; VIACOM/HORSEHEADS #19208
Origin: A-B-SS-B-001
Description COMPOSITE
Sampled On 16-SEP-02 16:45 by CLIENT
Date Received 17-SEP-02 09:18
PvO- NO: N/A

Analysis lPerformed	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
PCB 1221	U	ug/kg	130	19-SEP-02 13:53	EPA 8082	02-004-9884
PCS 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	02-004-9884
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 8062	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
Dea^ilorobiphenyI	94	%				02-004-9884

Results calculated on a dry weight basis.

Approved by: Lab Director

NY 10252 NJ 73168 PA 68180 EPA NY 00033

QC

KEY: ND c/ 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

HI
FRIENH
LABORATORY
I • N • C

32 ITHACA STREET WAVERLY, NY 14892-1532
TELEPHONE (607) 565-3500 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: V1AC0M/H0RSEHEADS #19208
Origin: A-B-S-U-001
Description: COMPOSITE
Sampled On: 16-SEP-02 16:20 by CLIENT
Datie Received: 17-SEP-02 09:18
P.O. No: N/A

Analysis Performed	Result	Units	Detection Limit	Date Analyzed	Method	Notebook Reference
Total Solids	**68.6**			17-SEP 02 00:00	CLP 3.0	02-066-73
EPA 80S2						
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 8062	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:				17-SEP-02 00:00	EPA 3550	02-044-82
Surrogate Recovery:						
Tetrachloro-m-xylene	81	%				02-004-9885
Decachlorobiphenyl	90	X				02-00£^Bfi5

Results calculated on a dry weight basis.

Approved by: Lab Director

NY 10252 NJ 73168 PA 68180 EPA NY 00033

KEY: ND or mg/L U = 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

FU
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N • C

32 ITHACA STREET WAVERLY, NY 14892-1532
TELEPHONE (607) 565-3500 PAX (607) 565-4083

Date:19-SEP-2002

Lab Sample ID: L94081-5

AAA Environmental
Peter Porter
6679 Moore Road
Syracuse, NY 13211

Sample Source: VIACOM/HORSEHEADS #19208
Origin: A-B.-SS^0p1
Description: CQMPPSHS
Sampled On: 16-SEP-Q2 J6:35 by CLIENT
Date Received: 17rSERrp2.:09:18
P.O. No: .H/A':>y •'•,:'••'•'

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	02-004-9686
PCB 1221	U	ug/kg	100	19-SEP-02 14:55	EPA 8082	02-004-9686
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 f	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:						
TetrachIoro-m-xylene	72					02-004-9886
Oec^^orobi phenyl	88					02-004-9886

TMB 4/24/03

Results calculated on a dry weight basis.

Approved by: Lab Director

NY 10252 NJ 73168 PA 68180 EPA NY 00033

GC^g

KEY: ND or U = Hone Detected < = less than ug/L = micrograms per liter (equivalent to parts per billion)
mg/L = milligrara 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

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

IP
S2 ITHACA STREET WAVERLY, NY 14892-1532
TELEPHONE (607) 565-3500 FAX (607) 565r4083

C

Date:19-SEP-2002

Lab Sample ID: L94081-6

AAA Environmental
Peter Porter
6679 Moore Road
Syracuse, NY 13211

Sample Source: VIACOM/HORSEHEADS #19206
Origin: A-B-S-E-001
Description: COMPOSITE
Sampled On: 16-SEP-02 17:10 by CLIENT
Date Received: 17-SEP-Q2 09:18
P.O. No: N/A

Analysis Performed	Result	Units	Detection Limit	Date Analyzed	Method	Notebook Reference
Total Solids	68.7			17-SEP-02 00:00	CLP 3.0	02-066-73
EPA 8082						
PCB 1016	U	ug/kg	68	19-SEP-02 48	EPA 8082	02-004 -9880
PCB 1221	U	ug/kg	140	19-SEP-02 48	EPA 8082	02-004 9880
PCB 1232	U	ug/kg	68	19-SEP-02 48	EPA 8082	02-004 9880
PCB 1242	U	ug/kg	68	19-SEP-02 48	EPA 6082	02-004 '9880
PCB 1248	U	ug/kg	68	19-SEP-02 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 8082	02-004 •9880
Extraction Information:				17-SEP-02 00:00	EPA 3550	02-044-82
Surrogate Recovery:						
Tetrachloro-m-xylene	68					02-004-9830
Decachlorobiphenyl	85					02-004-9880

Results calculated on a dry weight basis.

Approved by? Lab Director

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)
= analyte was detected in the method or trip blank J = result estimated below the quantitation limit

A rmation in this report is accurate to the best of our knowledge and ability. In no event shall our liability exec e^^^kost fo^Hese services. Your samples will be discarded after 14 days unless we are advised otherwise.

FLT
EN n

32 ITHACA STREET WAVERLY, NY 14892-1532
TELEPHONE (607) 565-3500 PAX (607) 565-4083

Date:20-SEP-2002

^ ^ a b Lab Sample ID: L94081-7

AAA Environmental
Peter Porter
6679 Moore Road
Syracuse, NY 13211

Sample Source: VIACOM/HORSEHEADS #19208
Origin: A-B-SS-E-001
Description: COMPOSITE
Sampled On: 16-SEP-02 17:05 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	72.4			17-SEP-02 00:00	CLP 3.0	02-066-73
EPA 6082						
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-Q2 17:31	EPA 8082	02-004-9891
PCB 1254		ug/kg	330	19-SEP-02 17:31	EPA S082	02-004-9891
PCB 1260	13000 3 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
DecachIorobiphenyl	110					02-004-9891

»

TMB 4/24/03

Results calculated on a dry weight basis.

Approved by? is%£<iC
Lab Director

NY 10252 NJ 73168 PA 68180 EPA NY 00033

KEY: ND o/ U = None Detected < = less than ug/L s 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 partsper million)
= analyte was detected in the method or trip blank J = 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.

*

^xl/^r ECT.CON INC.

^^y I \ ^ ^ ^ Environmental and Computer
I Technology Consultants

t#

Support Documentation

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FEI
)? R I fe K 0
LABORATORY

ONE RESEARCH CIRCLE
WAVERLY NY 14892-1532
Telephone (607) 565 3500
Fax {607) 565_4083

CLIENT: ^ A A EMv^fioMi*s*JTr*i_
ADDRESS: 0M -Sxr&~T>Tt.sv£iiY
6?* T^esocrS
PHONE: FAX:

INVOICE TO:
ADDRESS:

Sample Site:. ^^cuw^/fto&eH&OS

tfcoi€c(

PROJECT NO. / NAME

COPY TO:
ADDRESS:

P.O. #

u l o

PATE & TIME OF SAMPLE COLLECTION	SAMPLE DESCRIPTION	NUMBER OF CONTAINERS	ANALYSES / TESTS REQUESTED D 1 I *^ ^^IUMBER
9//*/O-L.		*	pCB'S TN Sot*- USE ONLY
/(•MS'		Description: Grab gompositt D Other Matrix: DW WW MW Soil Air Other	-v-a. =3
	Co^f«>sr*^ Sort- "SA*^*-*-		pCS'S X^ SC^L
		Description: GrabCComposite^ Other Matrix: DW WW MW Soil Air Other	H
		*	PC^>'5 T-W %**<-
		Description: Grab f£ompositeX)ther Matrix: DW WW MW Soil Air Other	5
			X>C-&'$ IT* Sore
		Description: Grab Combosite^Other Matrix: DW WW MW Soil Air Other	G

RELINQUISHED BY

SAMPLER!" "

/\ • 7a c l4fc€cjdg^4cj3^r-

DATE /TIME

gli7/oT-

,,' ACCEPTED BY

4lLa

DATE/TIME?

W p/e^

NOTES TO LABORATORY

SUSPECTED CONTAMINATION LEVEL

NONE SUGHT MODERATE HIGH (please circle)

CUSTOMER^^Eft

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FLI
y R I B M fl
LABORATOTT?
ONE RESEARCH CIRCLE
WAVERLY NY 14892-1532
Telephone (607) 565 3500
Fax (607) 565-4083

CLIENT: **AAA** *ItW** INVOICE TO:
ADDRESS: *0t i t&rr^^SwlM* ADDRESS:

PHONE: FAX:

Sample Site:.

PROJECT NO. / NAME

COPY TO:
ADDRESS:

P.O.*

ft

94081

SAMPLE NUMBER

DATE & TIME OF SAMPLE COUfCTION	SAMPLE DESCRIPTION	% NUMBER OF '.CONTAINERS	ANALYSES / TESTS REQUESTED
5"©Spr	Description: Grab<£ompo her Matrix: DW WW M ther		pC^'S I* SotC-
	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		

B USE ONLY

3

.* *i* ,

RELINQUISHED BY SAMPLER

A. *1>SJf&.*

I DATE /TIME

1 |IT/OT_

ACCEPTED BY

DATE/TIME

% *m*<*
wM

NOTES TO LABORATORY

SUSPECTED CONTAMINATION LEVEL

NONE SUGHT MODERATE HIGH (please circle)

Laboratory Case Narrative

ELI

F £ i F- N n

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

Date; October 9, 2002

Elizabeth A. Keator
Quality Assurance

f7-5-_IL5-£-=>) ^6*1 -I, 2_t 5. YES NO N/A

PACKAGE COMPLETENESS AND DELIVERABLES

CASE NUMBER:

LAB: ~~*TTi'P^A 1-^kcV^Tg^ JlQg*~~ ?7^1 SDG# ~~\)t^6. foft^ ^jf^4^ ^ec^S.~~ ≤?V*£t SITE:

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 / V

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? / fvl

3.0 Data Validation Checklist

3.1 Does this data package contain:

Water data? _____

Waste data? _____

Soil/solid data?

YES NO N/A

POLYCHLORINATED BIBHENYLS

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?

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

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) *fjfft J ^ LXQJL* -f- A ^ 4 A . - *JULOk4^'*

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 _L_L _jy

b. Waste J_L ks

c. Soil/Solid J—L · A/-

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_I_____-^_

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? i/

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? /

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? /*

_____I_I _X

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 ^£ I#\. XcuUx+ /**4tJW** - *JJiO* > ^

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)?

_____***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.

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)? y

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

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) [illegible]

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)? J_L_____ /

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? _L_L _____ /

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

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) S

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)

YES NO N/A

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

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? *ML*

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. _ *J -*

7.2 Do any field/rinse blanks have positive PCB results? *fok* |n.-bubjLtuiiJ-

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 cone > EDL but < 5 x 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	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? *f^o^* cUclxicUcJ *rf*~^3*+& VTf^^' 1_L 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 *jj*A

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.

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 ***ut***

c. Matrix spike samples ^A^^kt-^/f^^'^01^ J_l_____*/

d. 5 pt. initial calibration standards ivf _ _

e. calibration verification standards *lA*_____

f. Laboratory Control samples <LCS) *P^$%{**** ** J_J-_____-^~

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? ^*i *Cy «<M*fl£r &**/&' >** y/tLA^c^b—•* \vH _____

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? ___ ***JA***

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.

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 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).

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 ± 15% for any PCB analyte in any calibration verification/ Continuing calibration standard?

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 ± 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%

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

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

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?

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

11.0 Extraction Techniques for Sample Preparation fj(V JU/U

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

Aqueous samples:

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

*S

Solid samples:

1. Soxhlet (Method 3540)

	YES	NO	N/A
2. Automated Soxhlet (Method 3541)	_1		
3. Pressurized fluid (Method 3545)	J_]		
4. Microwave extraction (Method 3546)	J_1		
5. Ultrasonic extraction (Method 3550)	i_1		
6. Supercritical fluid (Method 3562)			
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? f1

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_]_

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)

70-130% for GPC calibration? _L_L

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)? *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?

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? *1A* ^

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.

•4

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

1.4

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

When the reported PCBs value is <CROL 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.

$10 \times \frac{10}{21.409} \times .1 \left(\frac{}{68.7 \times 10^{6}}\right)$ - USXio^{-6}

* % .

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

15.1 Were any field duplicates submitted for PCB analysis?

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

EPA SAMPLE NO.

PCB METHOD BLANK SUMMARY

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) : *t\P3*

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

GC Column (2) : RlX-CLPt5Tl ID: *O. 32-(™™)*

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

	EPA SAMPLE NO.	LAB SAMPLE ID	DATE ANALYZED 1	DATE ANALYZED 2
01		QC82	09/18/2	
02		L94080-1RE	09/18/2	
03	L9408Qf2	L94080-2	09/18/2	
04	L9408/-3RE	L94080-3RE	09/18/2	
05	L940/0-4	L94080-4	09/18/2	
06	L94TO1-1RE	L94081-IRE	09/18/2	
07	L94/81-4RE	L94081-4RE	09/18/2	
08	L9/081-5RE	L94081-5RE	09/18/2	
09		L94081-6RE	09/18/2	
10	L94081-7S	L94081-7R	09/18/2	
11		L94081-1MSR	09/18/2	
12	LQIPOl 1H0DR	L94081-1MSDR	09/18/2	
13		*U*		5EZBE1l
14	UHioSi-I	LqiADSl-		
15	1^408*-	L^408>-M		
16	L^SOSl-	i^qosi-s	^M|07,	
17	CSMOSt-^^L	Lquo^\-l^L	5HE£	
18	L^MCSt-l MS	L^Mf^-lMS	*n*<\/\<\ *SXL_*	
19	LQUPSlMMSfr	Lqqo8\- \M$i>	***Q***^***M*** £ik	
20				
21				
22				
23				
24				
25				
26				

COMMENTS:

3F
SOIL PCB BLANK SPIKE RECOVERY
SW846/8082

Lab name^FRIEND LABORATORY, INC. Reference: 02-004-9860

Lab code: 102! Date analyzed: 09/18/02

Matrix Spike - Lab Sa>nple No.: QC 82 Date Extracted: 09/17/02

COMPOUND	SNKE ADDED (ug/kg\	SAMPLE CONCENTRATION (ug/kg)	MS CONCENTRATION (ug/kg)	MS % REC	#	QC UMITS REC
t>CB 1016	249	^ 0.00	150	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

ID

EPA SAMPLE NO.

PESTICIDE ORGANICS ANALYSIS DATA SHEET

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: lOOOO (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: (ug/L or ug/Kg) UG/KG	Q
12674-11-2	Aroclor-1016		U
1104-28-2	Aroclor-1221		U
11141-16-5	Aroclor-1232		U
53469-21-9	Aroclor-1242		U
11097-69-1	Aroclor-1254		U
11096-82-5	Aroclor-1260		U
	Aroclor-1248		U

/O QfQT ^-Q-r0t)

.5" sx<^r'

oa/L

tofo{W-

FORM I PEST

0017S

Thru-Put Systems, Inc.

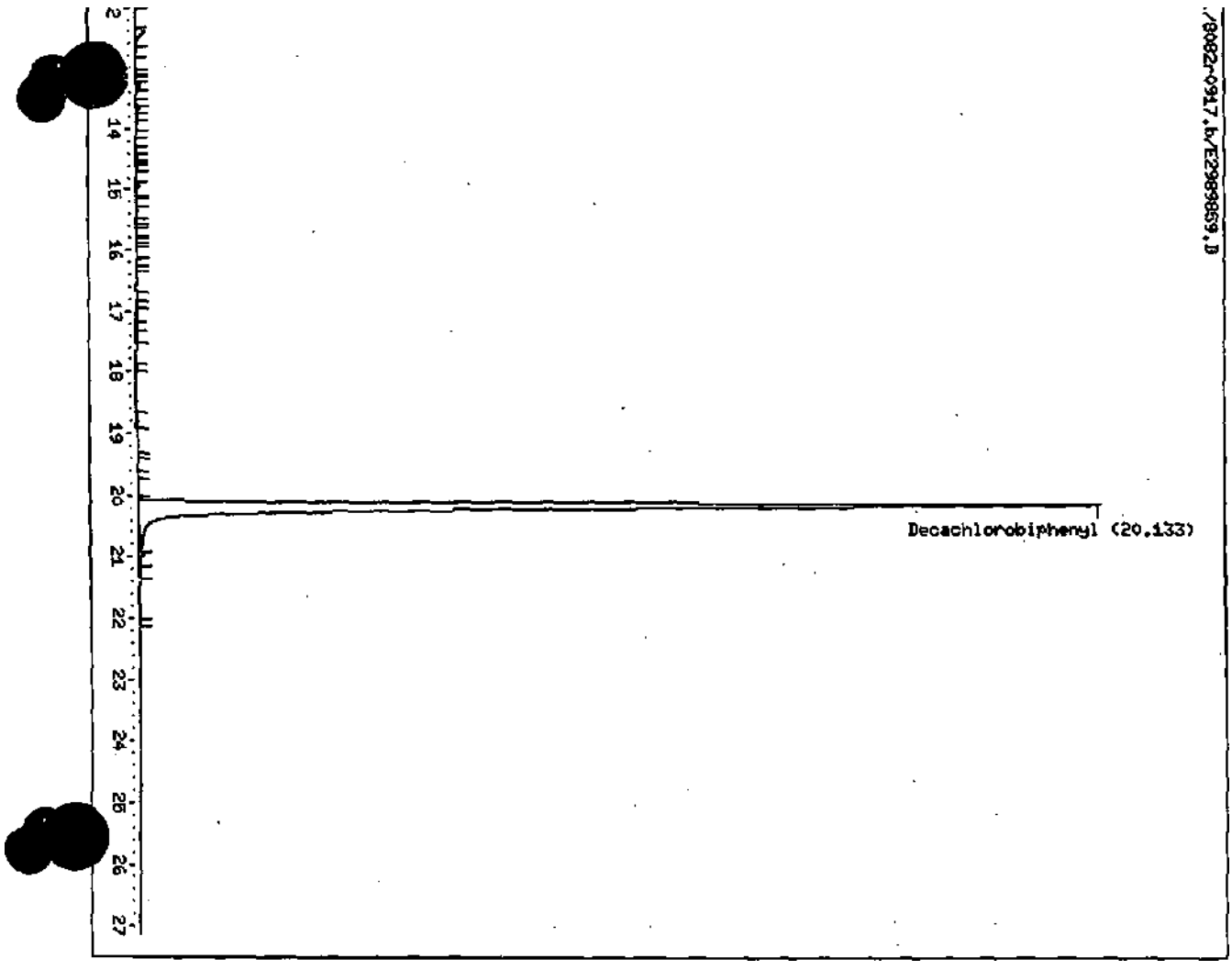
Data file : \chem\hpl.i\8082r0917.b\E2989859.D
Lab Smp Id: MB82 Client Smp ID: MB82
Inj Date : 18-SEP-2002 14:33
Operator : CPW Inst ID: hpl.i
Smp Info : MB82
Misc Info :
Comment :
Method : \chem\hpl.i\8082r0917.b\8082_PCBsec.M
Meth Date : 19-Sep-2002 07:17 Administra Quant Type: ESTD
Cal Date : 17-SEP-2002 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: Amt * DF * {{Vf / Ws) * Uf) / 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

	RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COL (ug/L)	FINAL (ug/Kg)	TARGET RANGE	RATIO
S	1 Tetrachloro-m-xylene						CAS th	
	8.017	7.997	0.020	3543802	382.198	190.48		
S	29 Decachlorobiphenyl						CAS 8:	
	20.133	20.130	0.003	2274174	397.705	198.21		

Tefcrachloro-m-xylene <8,017)



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

am ab Name: Contract:
Code: Case No.: SAS No. : SDGNo.: AAA916
strument 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	
^]^^B		(3)				225.6	
^H^^F		(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

peak1
CF 10
401 3 = yo/.?
10
CF 50
10253 - 305.1
50

/" C^

Peak1
69514
250
}7?

FORM VI PCB

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	COEFF3 A0	CENTS 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-xyle	ne	7679	LINR	5.59456943	1.219e~004	0.991
Decachlorobipheny	l	5238	LINR	4.64742762	1.888e-004	0.999

r?o.7?

« • 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\8082J?CBsec.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
Vo	1000.000	SampleVolume

RT	EXP RT	DLT RT	RESPONSE	AMOUNTS CAL-AMT (ug/L)	ON-COL (ug/L)	TARGET RANGE	RATIO
26 Aroclor-1260					CAS tt: 11096-82-5		
14.927	14.943	-0.016	3344	10.0000	4.90	80.00- 120.00	100.00(M)
15.340	15.353	-0.013	3585	10.0000	6.47	87.23- 127.23	107.21
16.190	16.207	-0.017	2279	10.0000	7.29	44.03- B4.03	68.15
16.747	16.767	-0.020	2348	10.0000	8.88	45.69- B5.69	70.22
17.233	17.247	-0.014	3641	10.0000	18.92	112.78- 152.78	108.86
Average of Peak AmountB -					9.29		
20 Aroclor-1016					CAS «: 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		14.4S- 54.45	34.01
11.890	11.900	-0.010	1352	10.0000		8.36- 4B.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
Pwerage 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	t ug/L)	{ ug/L)	TARGET RANGE	RATIO
S l Tetrachloro-m-xylene					CAS #:		
7.973	7.997	-0.024	15611	4.00000	S-51		
S 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:
b Code: 10252 Case No.:_____ SAS No.:_____ SDG No.: AAA
rumentID: HP1
C 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 10 ppb | 50 ppb	100 ppb	250 ppb | 500 ppb | 1000 ppb				MEAN RT	RTWI FROM	MDOW TO
PCB 1016	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	r				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
hpB 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
Decachloroblphenyl		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&IP*
Instrument ID: HP3
GC Column: RTX-CLPestl ID: 0.32 (mm) Date(s) Analyzed: 09/19/02
File Numbers: 6149

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COMPOUND	AMOUNT (ng)	PEAK	RT	RT WINDOW FROM	RT WINDOW TO	CALIBRATION FACTOR
PCB 1254	250 PPB	1*	14.62	14.52	14.72	260.72
		2*	15.14	15.Q4	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.
Altemate column confirmation is run if a pesticide or PCB is detected in a site sample.

« • Thru-Put Systems, Inc

Data file \chem\hp3.i\l254FCONFIRMa.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\l254FCONFIRMa.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
Vt	5.000	FinalVolume
Vo	1000.000	SampleVolume

	RT	EXP RT	DLT RT	RESPONSE	AMOUNTS CAL-AMT (ug/L)	ON-COL (ug/L)	TARGET RANGE	RATIO	
S 1 Tetrachloro-m-xylene						CAS ft:			
	9.730	9.730	0.000	1608432	300.000	300.00			(M)
25 Aroclor-1254						CAS ft: 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	99255	250.000	250.00	146.75- 186.75	152 28	
	15.947.	15.947	0.000	76863	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	
	16.863	16.863	0.000	B2739	250.000	250.00	118.07- 158.07	126 94	
Average of Peak Amounts -						250			
$ 29 Decachlorobiphenyl						CAS ft:			
	21.347	21.347	0.000	11603B1	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

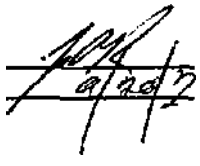
Dilution Factor 1.0000
Sample Volume 1000.0000
Final Volume 5.0000

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:



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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 1660
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 FROM	RT WINDOW TO	CALC AMOUNT	TRUE AMOUNT	%D
Aroclor-1016		10.21	10.10	10.30	290.85	250.00	
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	23.16
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	
Arocior-1260		15.35	15.25	15.45	289.30	250.00	~15.7?-3>
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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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	RT WINDOW FROM	RT WINDOW TO	CALC AMOUNT	TRUE 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
Arocior-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%.

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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 18-SEP-2 2£fl2_14:01
Operator TPfl " ~ 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

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RT	EXP RT	DLT RT	RESPONSE	CAL-AMT (ug/L)	ON-COL (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	88.16- 128.18	105.49
16.207	16.207	0.000	63689	250.000	298.85	42,93- B2.93	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 #: 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	469B4	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		

Data File: \chem\hpl.i\8082r0917.b\E2989858.D
Report Date: 19-Sep-2002 07:38

RT	EXP RT	DLT RT	RESPONSE	AMOUNTS CAL-AMT (ug/L)	AMOUNTS ON-COL (ug/L)	TARGET RANGE	RATIO
$ 1 Tetrachloro-m-xylene						CAS ft:	
8.000	7.997	0.003	2772737	300.000	301.10		
$ 29 Decachlorobiphenyl						CAS «:	
20.133	20.130	0.003	1740644	300.000	306.99		

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: E2989875.D
Instrument ID: HP1.I
GC Column: RTX-CLPesticides 2 ID: 0.32 (mm)

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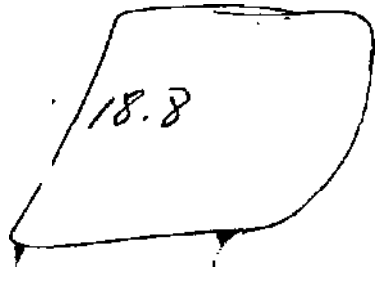
Analysis Date: 09/18/02
Analysis Time: 2255

COMPOUND	PEAK	RT	RTWI MDOW FROM	TO	CALC AMOUNT	TRUE AMOUNT	%D
Aroclor-1016	1	10.20	10.10	10.30	291.25	250.00	CT6.5Q
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	C29.01^
Aroclor-1016	4	11.97	11.88	12.08	298.68	250.00	
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	
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	15.82J
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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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 FROM	RT WINDOW TO	CALC AMOUNT	TRUE AMOUNT	%D
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%.

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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: 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	RT WINDOW FROM	RT WINDOW TO	CALC AMOUNT	TRUE 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
Decachlorobi phenyl	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%.

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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: 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 FROM	RT WINDOW TO	CALC AMOUNT	TRUE 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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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: 1558

COMPOUND	PEAK	RT	RTWI MDOW FROM	TO	CALC AMOUNT	TRUE 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	I 20^9]
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
Decachlorobi phenyl	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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FORM VII-PCB-2

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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: E2989888.D
Instrument ID: HP1.I
GC Column: RTX-CLPesticides 2 ID: 0.32 (mm)
Analysis Date: 09/19/02
Analysis Time: -+5SS- /f \ 3 Cs .

COMPOUND	PEAK	RT	RT WINDOW FROM	RT WINDOW TO	CALC AMOUNT	TRUE AMOUNT	%D
Aroclor-1254	1	13.67v	13.57	13.77	237.28	250.00	5.09
Aroclor-1254	2	14.56 i'	14.46	14.66	210.21	250.00	
Aroclor-1254	3	15.01 N /	14.91	15.11	197.63	250.00	[20.95 I
Aroclor-1254	4	15.35 ^'	15.25	15.45	247.15	250.00	1.14
Aroclor-1254	5	16.03 v /	15.93	16.13	208.42	250.00	USE)
Tetrachloro-m-xylene	1	8.01	7.89	8.09	272.21	300.00	9.26
Decachlorobiphenyl	1	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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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: E2989S88.D

Instrument ID: HP3.I - ^ ^ . ^ o e . • ^ ^ / ^ ~ ^7^A Jp

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

Analysis Date: 09/19/02

Analysis Time: 1910

COMPOUND	PEAK	RT	RT WINDOW FROM	RT WINDOW TO	CALC AMOUNT	TRUE 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	
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	-TTS7T<r)
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%.

$\left|\frac{289-250}{250}\right| \times 100 = 15.6\%$

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 09/1
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	CC166001	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	Sp^**WWTfffl*	L94080-1RE	09/18/2	1538	7.99	20.13
21	L940a^2	L94080-2	09/18/2	1610	7.99	20.13
22	L94fl€o-3RE	L94080-3RE	09/18/2	1641	7.99	20.13
		L94080-4	09/18/2	1712	7.98	20.13
24	CC166002	CC166002	09/18/2	1815	8.01	20.13
25	i M M U { £	L94081-1RE	09/18/2	1846	7.98	20.13
26	L940Jl-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		T,940R1 -fiRF	09/18/2	901 9	7.99	on 13
29	L94081-7/'	L94081-7fif	09/18/2	2051	7.98	20.13
30	ftWJS^LTISR	L94081-1MSR	09/18/2	2122	7.98	20.13
31	**irfSSS^*M8Ba»**	L94081-1MSDR	09/18/2	2153	7.97	20.11
32	CC166003	CC166003	09/18/2	2255	8.01	20.13
33	CC125401	CC125401	09/18/2	2327	7.99	20.13
34	CC125402	CC125402	09/19/2.	1009	7.99	20.13
35	lw^flB^^*l	L94080-1	09/19/2	1038	7.99	20.13
36		L94080-3R	09/19/2	1116	7.99	20.13
37	L94081-6	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

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
TCX: 8.00 DCB: 20.13.

	EPA SAMPLE NO.	LAB SAMPLE ID	DATE ANALYZED	TIME ANALYZED	TCX RT #	DCB 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	L94081-7TJU	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. : AAA916CONFIRM
Instrument ID: HP3 Init. Calib. Date(s): 09/19/2 09/
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: 9.73 DCB: 21.35					
	EPA SAMPLE NO.	LAB SAMPLE ID	DATE ANALYZED	TIME ANALYZED	TCX RT #	DCB RT #
01	1254STD	1254STD	09/19/2	1357	9.73	21.35
02	1254LSTD	1254LSTD	09/19/2	1429	9.74	21.35
03	B!WJ^^*3	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						
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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

EPA SAMPLE NO.

PESTICIDE IDENTIFICATION SUMMARY FOR MULTICOMPONENT ANALYTES

L94081-1

Name: Contract:

Lab Code: Case No.: SAS No.: SDG No.: AAA916

Lab Sample ID: L94081-1 Date(s) Analyzed: 09/19/2 o^h^lo^

Instrument ID (1) : HP1 Instrument ID (2) : i4p3

GC Column(l) : RTX-CLPESTICIDES 2 ID: . 0.32 (mm) GC Column(2) : (LU-CLPk5r l ID

ANALYTE	PEAK	RT	RT WINDOW FROM	RT WINDOW TO	CONCENTRATION	MEAN CONCENTRATION	%D
Aroclor-1254 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				io<M4		
	2	i ^. ia	l^.O^	l^.2M	K . ^ 4		
	3	1.5 .'13	l.^.ftrT	ib.05	^ 3 . 3 ^		
	4	iu.^i	i/r-aa	UoM\	I14.03		
	5	lo>,£4	{unit	Ue.tfl?	^ • I K		l.^f
	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 multicomponent analytes

FORM X PEST-2

10B

PESTICIDE IDENTIFICATION SUMMARY FOR MULTI COMPONENT 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: 09/19/2 ____

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 FROM	RT WINDOW TO	CONCENTRATION	MEAN CONCENTRATION	%D
AroclоX-1016 COLUMN r\	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		
COLUMN 2	4						
	5						
Aroclor-1260 COLUMN 1	1	14%4	14.84	15.04	494.90	442.10	«
	2	15.35^	. 15.25	15.45	475.44		
	3	16.20	Nl6.ll	16.31	420.94		
	4	16.75	T€. 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

FORM X PEST-2

00072

10B

EPA SAMPLE NO.

PESTICIDE IDENTIFICATION SUMMARY
FOR MULTICOMPONENT ANALYTES

L94081-5

Name: Contract:

W **Lab** Code: Case No.: SAS No.: SDG No.: AAA916

Lab Sample ID: L94081-5 Date(s) Analyzed: 09/19/2 O^/R/OSL

Instrument ID (1) : HP1 Instrument ID (2) : HP-3

GC Column(l) : RTX-CLPESTICIDES 2 ID: 0.32 (mm) GC Column(2) : *(ZM~Qd?£ST±.* ID: ^33-

ANALYTE	PEAK	RT	RT WINDOW FROM	RT WINDOW TO	CONCENTRATION	MEAN CONCENTRATION	%D
Aroclor-1254 COLUMN 1	1	13.67	13.57	13.77	524.70	575,97	
	2	14.56	14.46	14.66	511.19		
	3	15.00	14.90	15.10	467.20		
	4	15.35	15.25	15.45	824.19		
	5	16.03	15.93	16.13	552.60		
COLUMN 2	1				6*04-ai		
	2	1.^.\3L	1.^.04-	15.34	633,^3-		
	3	i.»5.ᶜl^	IS.*^	it*.OS"	^l.lfllo		
	4	lif.ati	ltW\	U*-4t	RiW.M		
	5	\b -*3	li*.lto	\tfl.°[h	«S5.SC3	^45.H	^.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.

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FORM X PEST-2

10B

EPA SAMPLE NO.

PESTICIDE IDENTIFICATION SUMMARY
FOR MULTICOMPONENT ANALYTES

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 *GftlwJoVL*

Instrument ID (1): HP1 Instrument ID (2) : *HP-3*

GC Column(1) : RTX-CLPESTICIDES 2 ID: 0.32 (mm) GC Column(2) : £,TX-a.P£5ri ID: *Q,~57-*

ANALYTE	PEAK	RT	RT WINDOW FROM	RT WINDOW TO	CONCENTRATION	MEAN CONCENTRATION	%D
Aroclor-1254	1	13.66	13.57	13.77	2938.10		
	2	14.56	14.46	14.66	1659.16		
	3	15.00	14.90	15.10	1994.92		
COLUMN 1	4	15.35	15.25	15.45	2825.70		
	5	16.03	15.93	16.13	1546.67	2192.91	
	1	m-6>o	14.S3-	14-13.			
	2	i55.I3L	15". OM	L-5.3M	J 3 i 1. i U		
	3	l « 5 . ^	*IS.XS*	*\b-C5*	,0405.=20		
COLUMN 2	4	11* • *2*^	*\tt-Q.*	*iloA*	J3S3.1?		
	5	it*.S3	*\h.11**	*\b-^{c}\b*	*ab^o>o^*	*2 7*11.* n-	***A**
	1						
	2						
	3						' *M*
COLUMN 1	4						^
	5						
	1						
	2						
	3						
COLUMN 2	4						
	5						
	1						
	2						
	3						
COLUMN 1	4						
	5						
	1						
	2						
	3						
COLUMN 2	4						
	5						

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

FORM X PEST-2

000?5

10B

EPA SAMPLE NO.

PESTICIDE IDENTIFICATION SUMMARY
FOR MULTI COMPONENT ANALYTES

L94081-i

Name: Contract:

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

ANALYTE	PEAK	RT	RT WINDOW FROM	RT WINDOW TO	CONCENTRATION	MEAN CONCENTRATION	%D
	1	13.67	13.57	13.77	11414.52		
Aroclor-1254	2	14.56	14.46	14.66	13549.70		
	3	15.00	14.90	15.10	17400.42		
COLUMN 1	4	15.35	15.25	15.45	17289.71		
	5	16.02	15.93	16.13	7984.88	13527.85	
	1						
	2						
	3						
COLUMN 2	4						
	5						
	1						
	2						
	3						
COLUMN 1	4						
	5						
	1						
	2						
	3						
COLUMN 2	4						
	5						
	1						
	2						
	3						
COLUMN 1	4						
	5						
	1						
	2						
	3						
COLUMN 2	4						
	5						

*

At least 3 peaks are required for identification of multicomponent analytes

FORM X PEST-2

10B

EPA SAMPLE NO.

PESTICIDE IDENTIFICATION SUMMARY FOR MULTICOMPONENT ANALYTES

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 *d^h^hZ-*

Instrument ID (1) : HP1 Instrument ID (2): *WP3*

GC Column(1) : RTX-CLPESTICIDES 2 ID: 0.32 (mm) GC Column(2) : RTK-CLP&ST1 ID: 0.32

ANALYTE	PEAK	RT	RT WINDOW FROM	RT WINDOW TO	CONCENTRATION	MEAN CONCENTRATION	%D
	1	13.67	13.57	13.77	13707.37		
Aroclor-1254	2	14.57	14.46	14.66	13018.07		
	3	15.00	14.90	15.10	12706.46		
COLUMN 1	4	15.35	15.25	15.45	17143.69		
	5	16.03	15.93	16.13	7131.85	12741.49	
	1		IH5£				
	2	I^T.I^L	*k-5.0^*	15-34	l/*.^5 3>3a.		
	3	*is.^-z.*	/*> ft£	*lb-OS*	*iKtoh?.^*		
COLUMN 2	4	*\b.Z%*	*lh-SL*	*UtM*	*Wleirt^O*		
	5	ik.sa	*\U.~Ho*	*ItcAtf*	i^sm. MS-		
	1						
	2						
	3						
COLUMN 1	4						*m*
	5						^
	1						
	2						
	3						
COLUMN 2	4						
	5						
	1						
	2						
	3						
COLUMN 1	4						
	5						
	1						
	2						
	3						
COLUMN 2	4						
	5						

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

FORM X PEST-2

00078

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	
Tetrachloro-m-xylene	16.26%
Decachlorobiphenyl	17.28%

Analyst: CPW
Report Date: 09/20/2002 06:44

Supervisor:
Date:

Sample I.D.

L94080-

Comments

L94080-3

Comments

Comments

L94081-1

Comments

L94081-4

Comments

94081-6

Comments

W- 1/18/02

Date

9/18/2

Date

Analyst Signature

00195

Notebook : 02-066
Start Date : 17-SEP-02 21:06
End Date : 17-SEP-02 21:06

SampU 1*0.	Analysis Date Time	talt	ftosl Method	Dish*	Voltm"" initial fnU) -	1st42«T Height	3rdKth WefsM	™SthS6th: Wftisht	7th&8th ttkttfu	'fthXIfltfi Ueight	Final Might	Result ,	ftp*	Units
Cotlments t														
	Start:17*SEP-02 21:06 Stop :17~SEP-02 21:06	'	CLP 3.0		*Is*—0535™T^23~~OS6T						6-T75		— — g -	
CtiBfrepl														
mffIJS.....	StartYI^SEP-O* 21 :04 Stop :17-SEP-02 21*06		CLP'i.O'		i4" -*MM*. . . . . 1.24S4[1] 'BasaB--						..... 166".		:..... *"	
its														
TOJR3.	Start:l7-SEP-o4ii1;64 - Stop M7-SEP-02 21:06	'	'ciP U "		17 fottjj ' 1.25Z6 *htW?*						. . . . ' ..... 166'			
Its :														
i & t f M "•'	startM7-SEP-62 41:64 Stop :17-$EP-02 21:06	"	CLP 3.6		"IT—M&& 1.4411—U52T						"55X			
Iflfitettti £														
P&tt?^ -	Start:17-SEP-02 21:06 Stop :17-SEP-02 21:66		CtP 3.0		14 r.<ta25—CI55——KT91T						———-t—TST		™ ™ — *T*	
fcoaVMAW f														
	"Staft';1('-SEP-62 41:64 Stop :17*SEP*02 ^1^06	'	— *LP i.ti		IS[11] ffMB'Vf.af——T^fisT						.....*m*			
Uowmejrts[J]--s														
*T;.....	Startny"sEP-6g'&U64	'	J " U P SJO'		1 ' *tmx'"'"x^m"* ^"jasgy"						.....-.0Saa.....		:'"'ift •	'
*_____ '	"Stop :t7-SEP-02 21:06													
plans														
W&fc&Wi"	Start:t7-SEP-02 21:04 Stop :17-SEP-02 21:06		CLP 1.6		IS *%M"* [J]i.W1V U & 4						~STF		It>4W. . . . JI .	
, *Gam&m t*	L94081-3 ttJP													

',^!

Calculations: Final Results = (fnl - initial) x 1000000
wgt wgt
mis of sample

>—'Analyst Signature ' Oat^ Manager Signature

9/18/d>
Date

CO

Organic Extractions

4

Notebook:

Page;

WG# WtW

Extracted By:

Date Extracted:

Sur. Ref:

^ "fto-i.Sf-<\--C (Ma

Analysis:

Matrix:

Spike *RefvmM^M)m^bzzA*^E*

I.D.	Customer	Int. Size	Fin. Vol	Sr. Amt	Spk Ami	Bottle #	pH5-9	Emulsion	Clean-ups
MA?* ^ • s ^				U					\&3-
		JQ.H31			r^J				
	AM gytifiliftW *£&£								
	fi«B*S®J								
^ii		2MH		/Ji					
•=Lt -9		*aiMo*Y*							
		2.vm*							
		ao-M"							
		ZLMH							
		2SL2SZ-.							
		3o *3i30*		&-					

Extracts Relinquished to:.

Comments: Clean-up Methods:1. 3665 H_2S0_4. 2. 3620A florisil. 3. 3660A Hg

C:

ASP 95-3 01/12/02	RTX-CLPEST2			PGONCOLUM		IDL	UG/LIN WATER	CRDL (UG/L)
Instrument#3	Run#l	Run #2	Run #3	Average	SO	SD-6.95	nx	
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
Endosutfan 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
Decachlorobipheny)	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
aipha-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
Endosutfan 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
Endosutfan 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-CLPESTl		PG ON COLUMN			nx	UG/LIN WATER	CRDL (UG/L)
Instrument#3	Run#l	Run #2	Run #3	Average	so	SD*6.95	IDL	
atpha-BHC	3.85	3.91	3.90	3.89	0.0321	0.223	0.002	0.05k
Heptachlor	4.97	5.06	5.05	5.03	0.0493	0.343	0.003	0.05tl
gamma-BHC	4.06	4.12	4.11	4.10	0.0321	0.223	0.002	0.050[1]
Endosutfan 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
Endiin	9.38	9.59	9.48	9.48	0.105	0730	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
Decachlorobiphenyl	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
defta-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
PCB1016	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	
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

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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: £0>% decanted: (Y/N) N Date Received: 09/17/2

Extraction: (SepF/Cont/Sonc) SONC Date Extracted:09/17/2

Concentrated Extract Volume: 10QQQ (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	C3 .0-rW	u
1104-28-2	Aroclor-1221		u
11141-16-5	Aroclor-1232		u
53469-21-9	Aroclor-1242		u
11097-69-1	Aroclor-1254	98.25	
11096-82-5	Aroclor-1260		u
	Aroclor-1248		u

iohlo-x

FORM I- PEST

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
Comment WG32788,02-004
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

RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COL { ug/L)	FINAL (ug/Kg)	TARGET RANGE	RATIO
S 1 Tetrachloro-m-xylene					CAS #:		
7.993	7.997	-0.004	274134	39.0223	245.98		
S 29 Decachlorobiphenyl					CAS *:		
20.127	20.130	-0.003	225375	47.1958	297.50		
25 Aroclor-1254					CAS »: 11097-69-1		
13.660	13.670	-0.010	3120	3.62699	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	23.9B24	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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lag Legend

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

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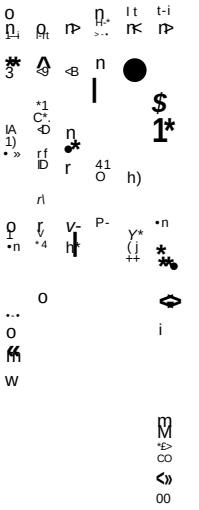
Y <X10^A4)



T
Tetrachloro-m-xylene C7.993)

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-Aroclor-1254 <13,660>

-Aroolor-1254 "114,550)
j-Aroclor-1254 (15.000)
s -Aroclor-i2S4 <15.337>

-Aroclor-1254 <16.017>

Decachlorobiphenyl <20.127>

Data File: /chem/hp3.i^l254FC0NFIRHa.b/E3956153,D
Date J 19-SEP-2002 16:02
Client ID: L94081-1
Sample Info: L94081-1
Volume Injeoted (uL): 2.0
Column phase: RTX-CLPesticides 1

Instrutnent; hp3, i

Operator: CPW
Column diameter: 0.32

•chem/hp3.i•1254FCONFIRHa.b/E3956153.D

1.2-
1.1
1.0
0.9
0.6
0.7
in
o
•H 0.6
0.5
0.4
0.3
0.2
0.1-

Friend Inc.

Data File: /chem/hp3.i/l254FCONFIRMa.b/E3956153 .D
Method: /chem/hp3,i/1254FCONFIRMa.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 EPA SAMPLE NO

PESTICIDE ORGANICS ANALYSIS DATA SHEET

L94081-4

Name: Contract:

ab 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: ~-e-3\.H decanted: (Y/N) N Date Received: 09/17/2

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Extraction: (SepF/Cont/Sonc) SONC Date Extracted:09/17/2

Concentrated Extract Volume: iOOOO (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		U
1104-28-2	Aroclor-1221		U
11141-16-5	Aroclor-1232		u
53469-21-9	Aroclor-1242	*?' 0-r0T	u
11097-69-1	Aroclor-1254	477.68	
11096-82-5	Aroclor-1260	=71 -frnr7	u
	Aroclor-1248	7/ &rOT	u
		Aa/L	

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FORM I PEST

Q0017

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 : \chem\hpl.i\8082r0917.b\8082_PCBsec.M
Method : 19-Sep-2002 16:32 Administra Quant Type: ESTD
Meth Date : 17-SEP-2002 16:43 Cal File: E2989834.D
Cal Date : 1
Als bottle: 10.00000
Dil Factor: Falcon Compound Sublist: PCB.sub
Integrator: 3.40 Sample Matrix: SOIL
Target Version: TARGET3
Processing Host:

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

RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COL (ug/L)	FINAL (ug/Kg)	TARGET RANGE	RATIO
$ 1 Tetrachloro-m-xylene					CAS #:		
7.990	7.997	-0.007	2B6877	40.5761	2BB.12		
S 29 Decachlorobiphenyl					CAS *H:*		
20.127	20.130	-0.003	212827	44.8266	31B.31		
25 Aroclor-12S4					CAS ft: 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.olo	20302	62.5224	443.96	94.B5- 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		

f ?lag Legend

H - Operator selected an alternate compound hit

J*

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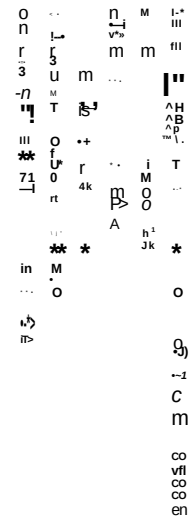
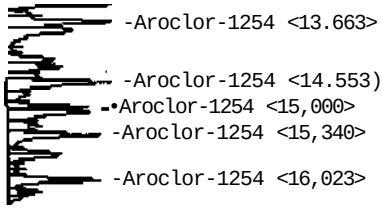
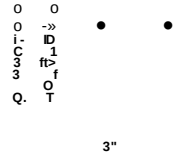
Y <xl<T4)



Tetrachloro-m-xylene <7.990>





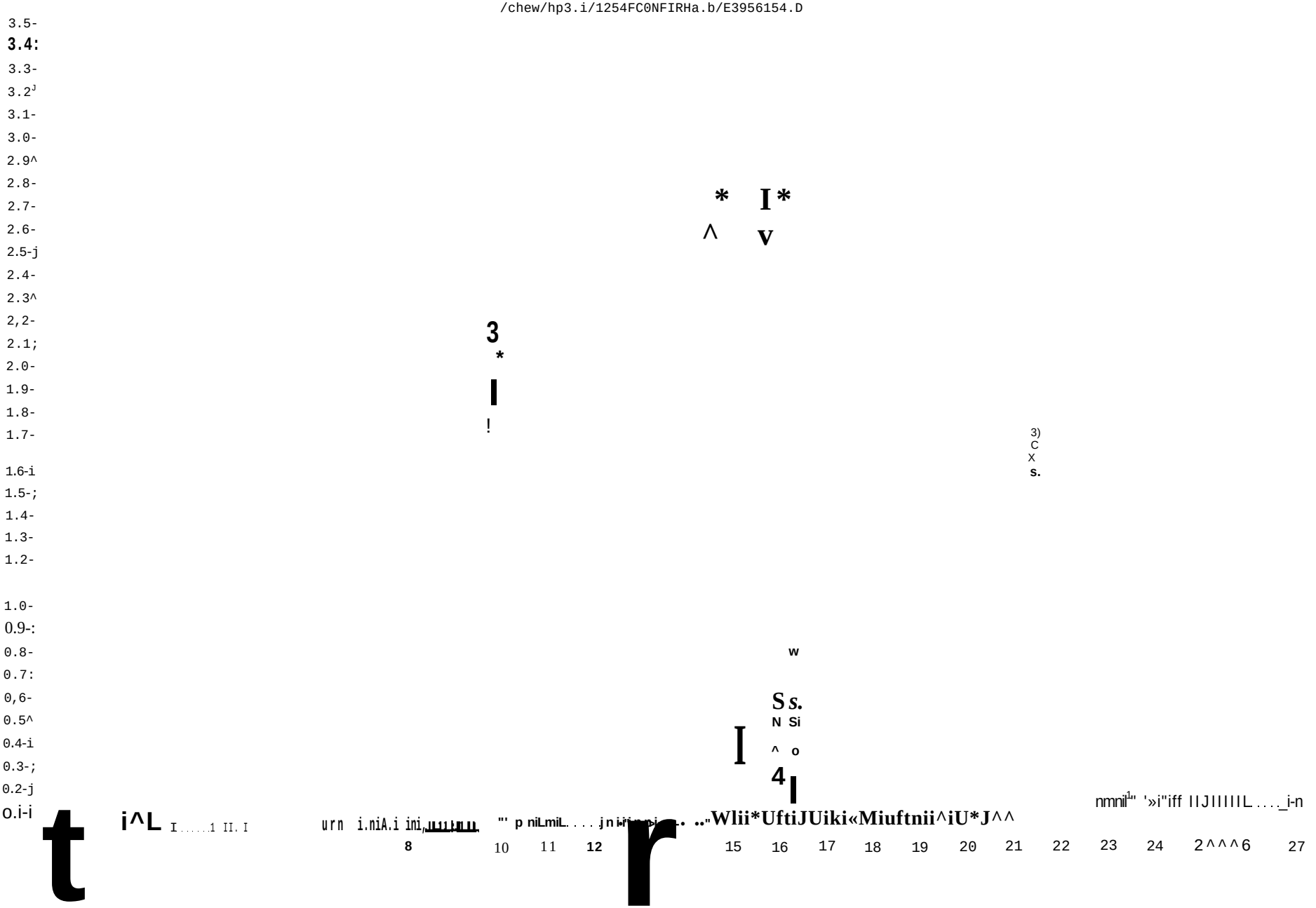
Decachlorobiphenyl <20,127>

Data File; /chem/'hp3.i/1264FC0HFIRHa,b/E3956154.D
Date : 19-SEP-2002 16:34
Client ID: L94081-4
Sample Info: L94081-4
Volume Injected CuL>: 2.0
Column phase: RTX-CLPesticides 1

Instrument: hp3.i

Operator; CPU
Column diameter; 0.32

/chew/hp3.i/1254FC0NFIRHa.b/E3956154.D



Friend Inc.

Data File: /chem/hp3.i/l254FCONFIRMa.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 tug/Kg]

Aroclor-1254	540.65
Tetrachloro-m-xylene	136.08%
Decachlorobiphenyl	144.23%

Analyst: CPW
Report Date: 09/20/2002 07:21

Supervisor:
Date:

9/20/2

ID EPA SAMPLE NO

PESTICIDE ORGANICS ANALYSIS DATA SHEET

L94081-5

Name: Contract:

^P 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: -e-U - \ decanted: (Y/N) N Date Received: 09/17/2

Extraction: JLfi-t. loKlo'Z- (SepF/Cont/Sonc) SONC Date Extracted:09/17/2

Concentrated Extract Volume: 1Q0 00 (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: (ug/L or ug/Kg) UG/KG	Q
12674-11-2---	Aroclor-1016	S'f J^-&5-	U
1104-28-2	Aroclor-1221	/OO -frrXTf	U
11141-16-5---	Aroclor-1232	SI a-rtf^	U
53469-21-9--	Aroclor-1242	Sf Q-W	U
11097-69-1---	Aroclor-1254	575.97	p
11096-82-5 —	Aroclor-1260		U
	Aroclor-1248		U

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/CH/C7-

FORM I PEST

Thru-Put Systems, Inc.

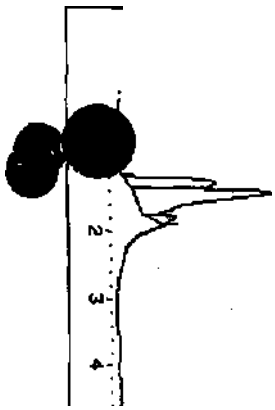
Data file : \chem\hpl.i\8082r0917.b\E2989886.D
Lab Smp Id: L94081-5 Client Smp ID: L94081-5
Inj Date : 19-SEP-2002 14:55
Operator : CPW Inst ID: hpl.i
Smp Info : L94081-5
Misc Info : WG32788,02-004
Comment :
Method : \chem\hpl.i\8082r0917.b\8082_PCBsec.M
Meth Date : 19-Sep-2002 16:32 Administra Quant 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: Amt * DF * ((Vf / Ws) * Uf) / Ts * 1000

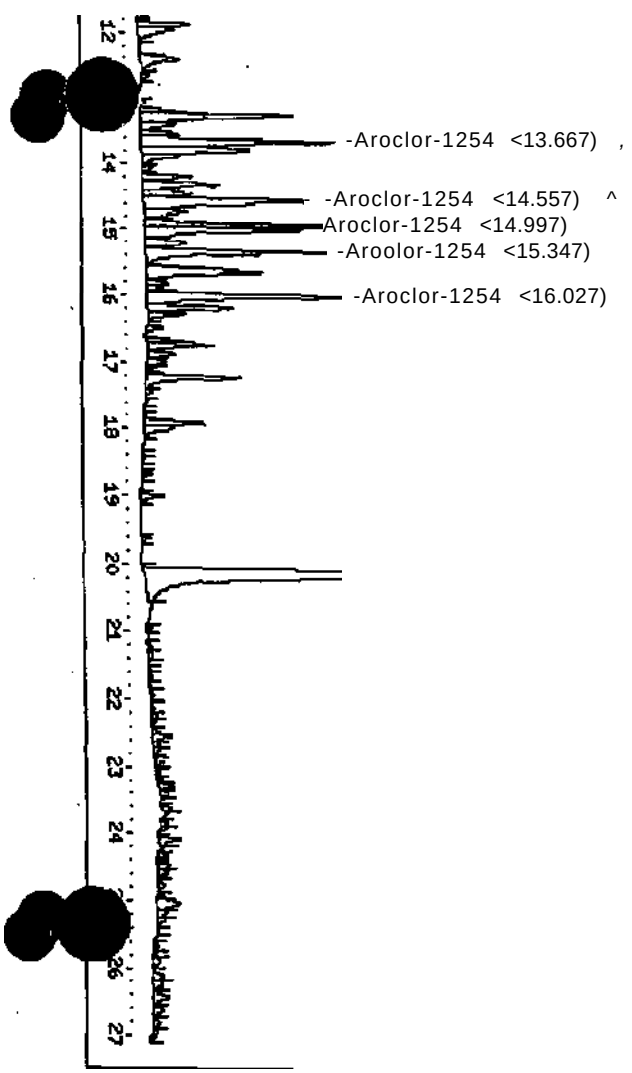
Name	Value	Description
DF	10.000	Dilution Factor
Vf	10.000	Final volume
Ws	21.925	Weight of sample extracted (g)
Uf	0.100	Unit Correction Factor
Ts	88.900	Total Solid

RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COL (ug/L)	FINAL (ug/Kg)	TARGET RANGE	RATIO
$ 1 Tetrachloro-m-xylene					CAS #:		
7.997	7.997	0.000	250486	36.13B7	185.41		
S 29 Decaehlorobiphenyl					CAS tt:		
20.127	20.130	-0.003	206199	43.9531	225.50		
25 Aroclor-1254					CAS #: 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 62	80 43
15.347	15.350	-0.003	29928	160.647	824.19	43.66- B3 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		

Y <xl0"4>



Tetrachloro-ra-xylene (7.997>



Decachlorobiphenyl <20,127)

^fcQC Flag Legend

H - Operator selected an alternate compound hit

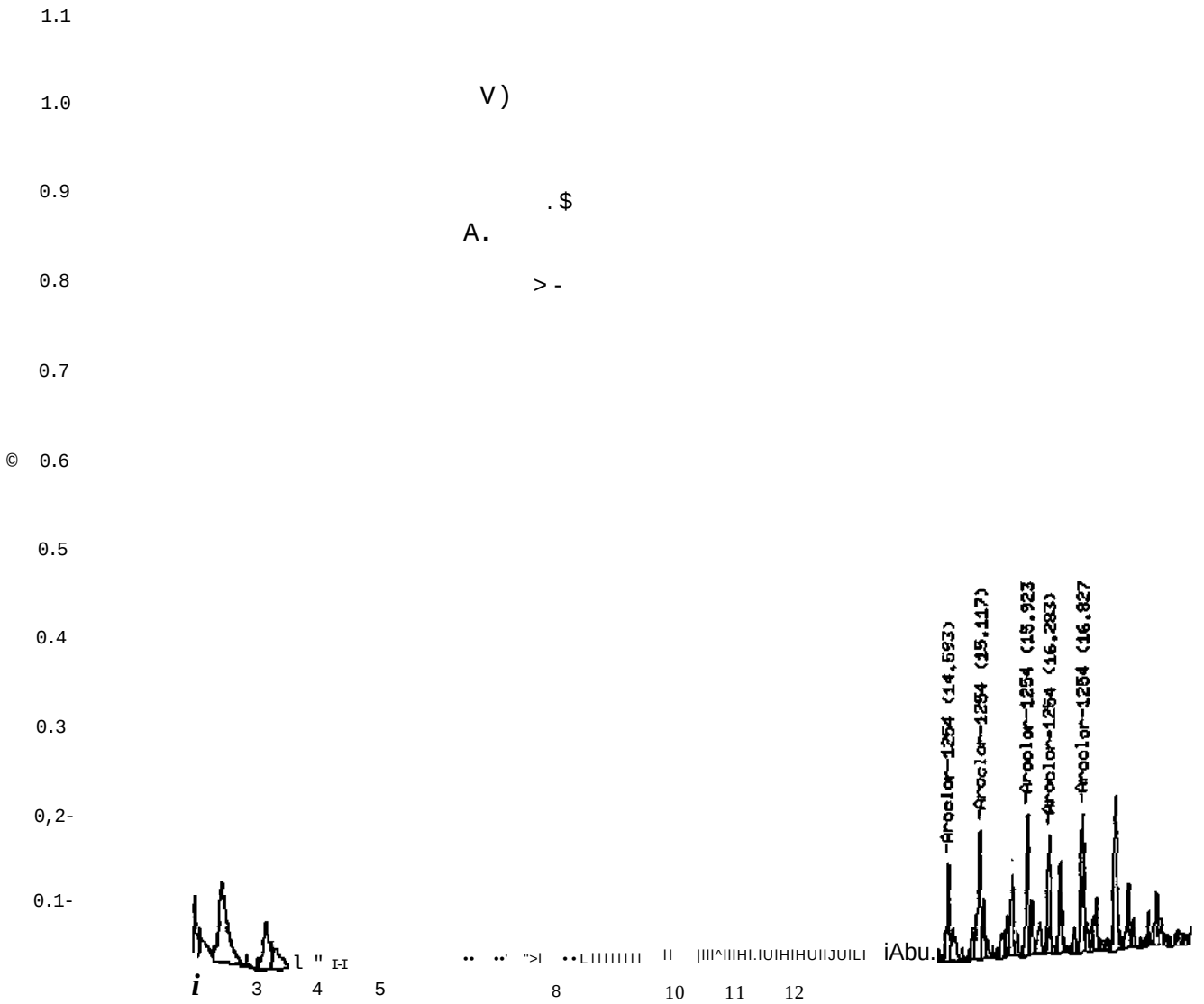
Data File: A;heM/'hp3.i/1254FCuNFIRMa,b/E3956155tD
Date .: 19-SEP-2002 17:05
Client ID: L94081-5
Sample Info: L94081-5
Volume Injected CuL>: 2.0
Column phase: RTX-CLPesticidei 1

Instrument: hp3.i

Operator: CPW
Column diameter: 0.32

•chem/hp3.i/1254FC0NFIRMa.b/E3956155.D

3\.



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: 3.40 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	21.409	Weight of sample extracted (g)
Uf	0.100	Unit Correction Factor
Ts	68.700	Total Solid

RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COL (ug/L)	FINAL (ug/Kg)	TARGET RANGE	RATIO
$ l Tetrachloro-m-xylene					CAS ft:		
7.983	7.997	-0.014	233125	34.0217	231.31		
$ 29 Decachlorobiphenyl					CAS ft:		
20.127	20.130	-0.003	199295	42.2721	287.40		
25 Aroclor-1254					CAS #: 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	7S.42
14.997	15.003	•0.006	103717	293.417	1994.92	72.82- 112.82	77.80
15.347	15.350	-0.003	7B763	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 EPA SAMPLE NO.

PESTICIDE ORGANICS ANALYSIS DATA SHEET L94081-6

Lab Name: Contract:

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: ~e-3i.3 decanted: (Y/N) N Date Received: 09/17/2

Extraction: (SepF/Cont/Sonc) SONC Date Extracted:09/17/2

Concentrated Extract Volume: IQOQO (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: (ug/L or ug/Kg) UG/KG	Q
12674-11-2	Aroclor-1016	2192.91	U
1104-28-2	Aroclor-1221		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

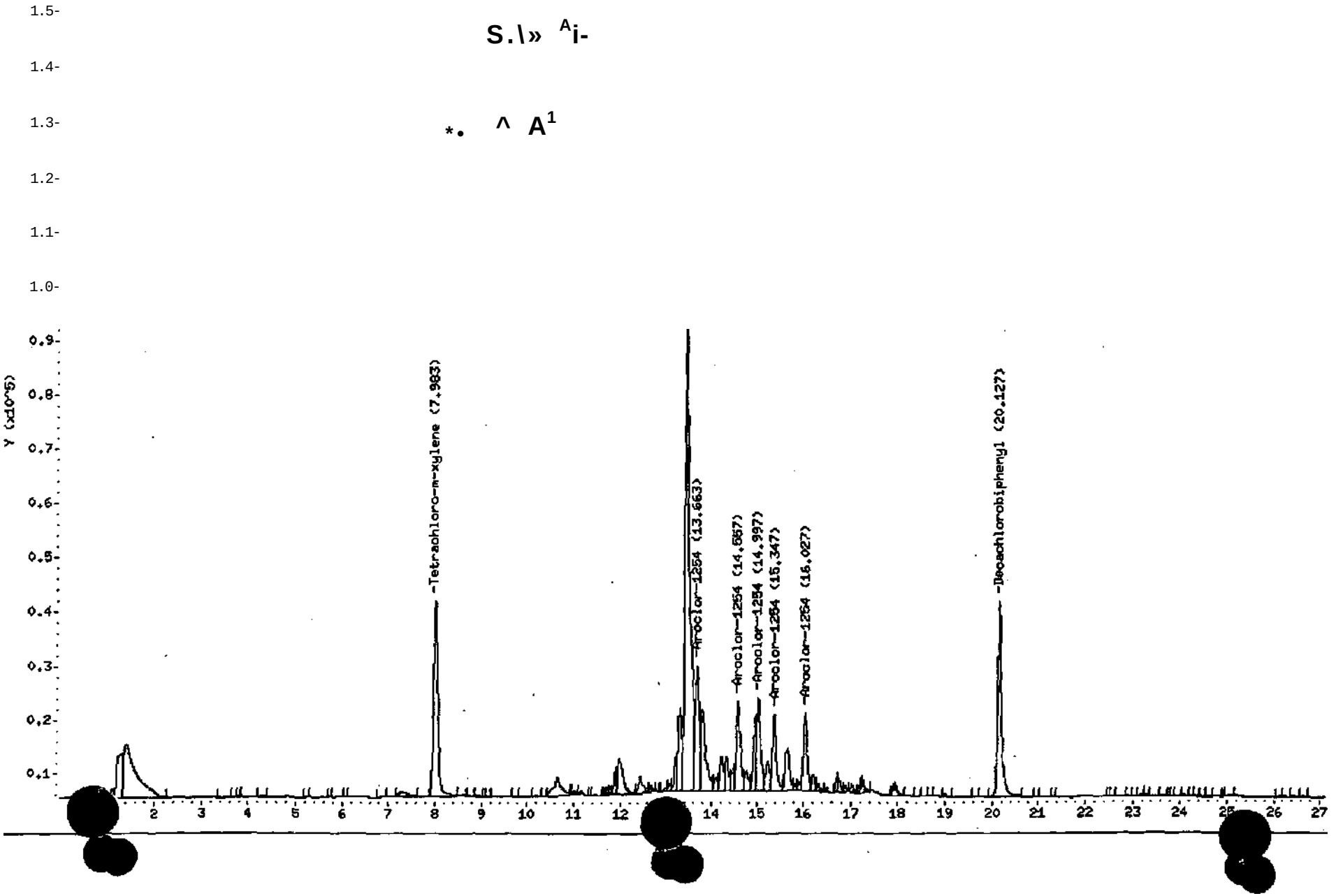
toft 1 $2

Data File: /chem/hpi.i/8082r0917.b/E2989880.D
Date : 19-SEP-2002 11:48
Client ID: L94081-6
Sample Info: L94081-6
Volume Injected (uD: 2.0
Column phase: RTX-CLPesticides 2

Instrument J hpl,i

Operator: CPU
Column diameter: 0,32

/chem/hpl,i/8082r0917,b/E2989880.D

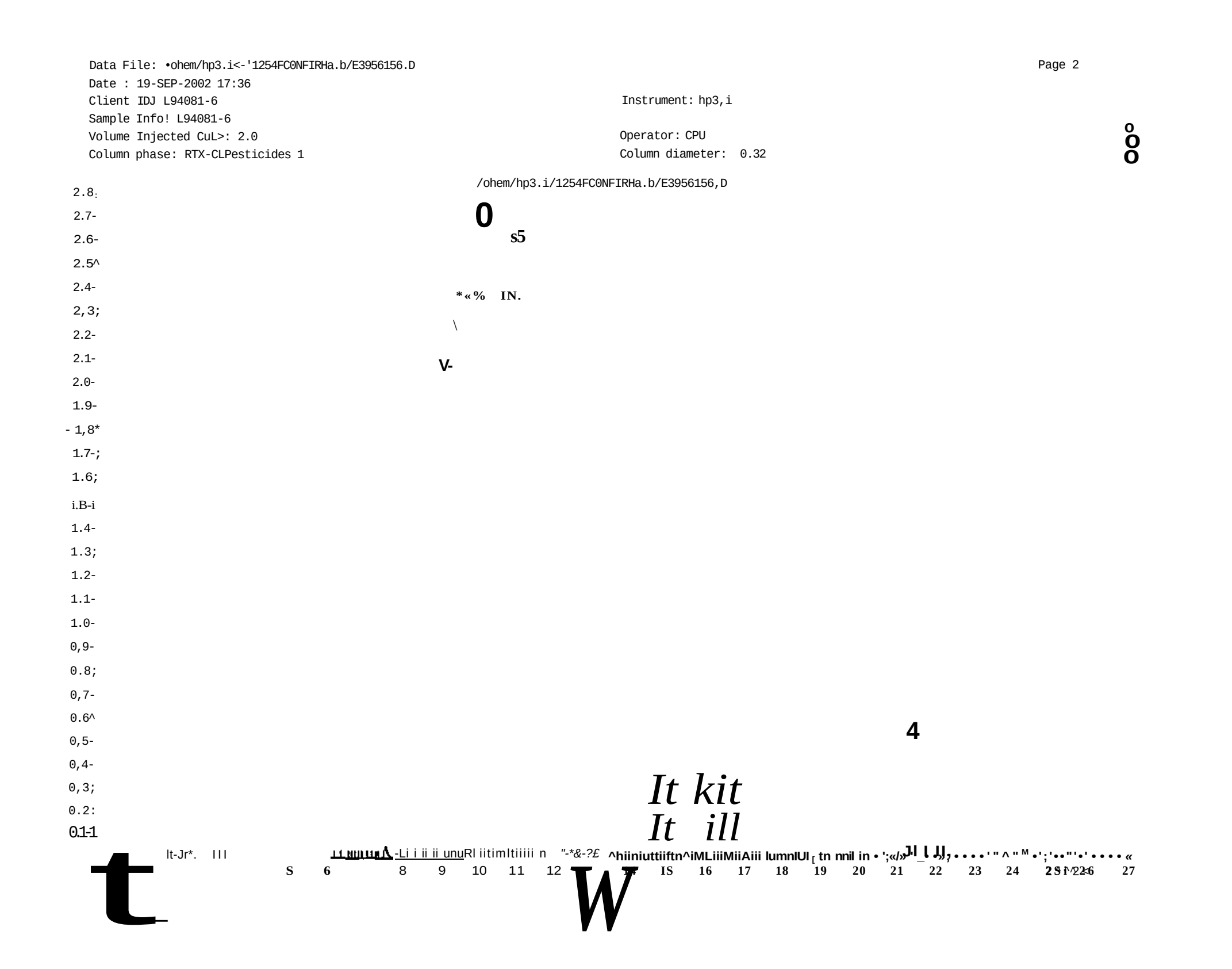


Data File: \chem\hpl.i\8082r0917.b\E2989880.D
Report Date: 19-Sep-2002 16:40

iQC Flag Legend

H - Operator selected an alternate compound hit.

/ohem/hp3.i/1254FC0NFIRHa.b/E3956156,D



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/Kg)

Aroclor-1254	2377.17
Tetrachloro-m-xylene	121.61%
Decachlorobiphenyl	139.99%

Analyst: CPW
Report Date: 09/20/2002 07:21

Supervisor:
Date:

09/20/02

Thru-Put Systems, Inc

Data file.: \chem\hplyi\8082r0917.b\E2989891.D
Lab Smp Id: L94081-7DL. Client Smp ID: L94081-7DL
Inj Date : 19-SEP-2T)02 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 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	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

	RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COL .{ ug/L)	FINAL (ug/Kg)	TARGET RANGE	RATIO
S	I Tetrachloro-m-xylene					CAS ft:		
	7.9B3	7.997	-0.0X4	32418	9.54760	318.BB		
$	29 Decachiorobiphenyl					CAS «		
	20.123	20-130	-0.007	33446	10.9617	366.11		
	25 Aroclor-1254					CAS ft: 11097-69-1		
	13.673	13.670	0.003	126705	410.411	13707.37	80-00- 120.00	100.00
	14.567	14.563	O.OO4	164979	389.772	13018.07	95.55- 135.55	130.21
	15.003	15.003	0.000	136892	3B0.442	12706.46	70.72- 110.72	108.04
	15.350	15.350	0.000	97501	513.297	17143.69	42.78- B2;78	76.95
	16.027	16.033	-0.006	73379	213.534	7131.85	76.54- 116.54 .	57:91

Average of Peak Concentrations •> 12741.49

Data File: \chem\hpl.i\8082r0917.b\E2989891.D
Report Date: 20-Sep-2002 06:43

^^QC Flag Legend

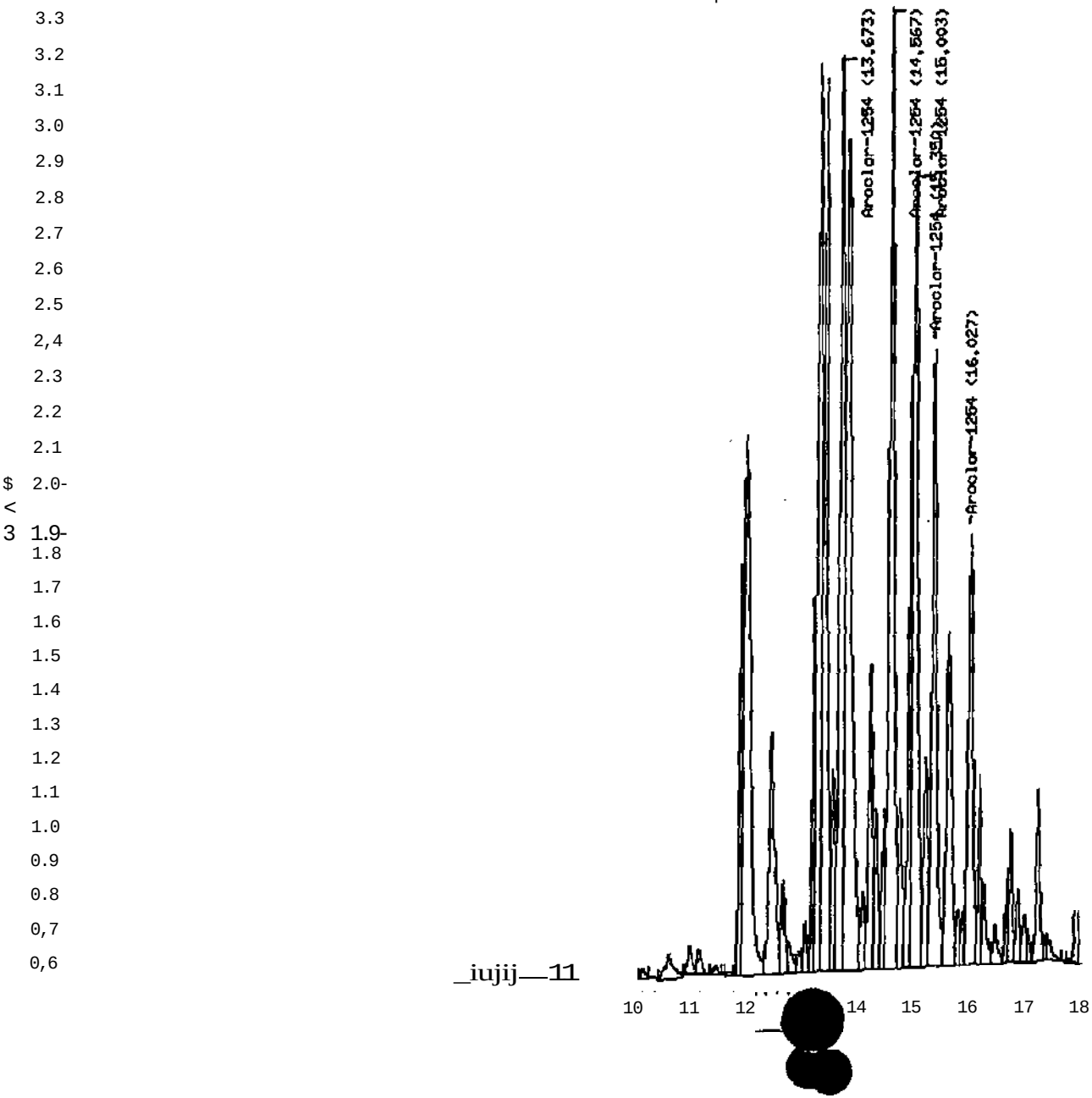
H - Operator selected an alternate compound hit.

Data File: •chem/hpl,i/8082r0917.b.-'E2989891.D
Date : 19-SEP-2002 17:31
Client ID: L94081-7DL
Sample Info: L94081-7
Volume Injected <uL>: 2.0
Column phase! RTX-CLPesticides 2

Instrument: hpl.i

Operator; CPU
Column diameter: 0.32

/chem/hpl.i/8082r0917.b^E2989891.D



Friend Inc.

Data File: /chem/hpl.i/8082r0917.b/E2989891.D
Method: /chem/hpl.i/8082r0917.b/80 82_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:

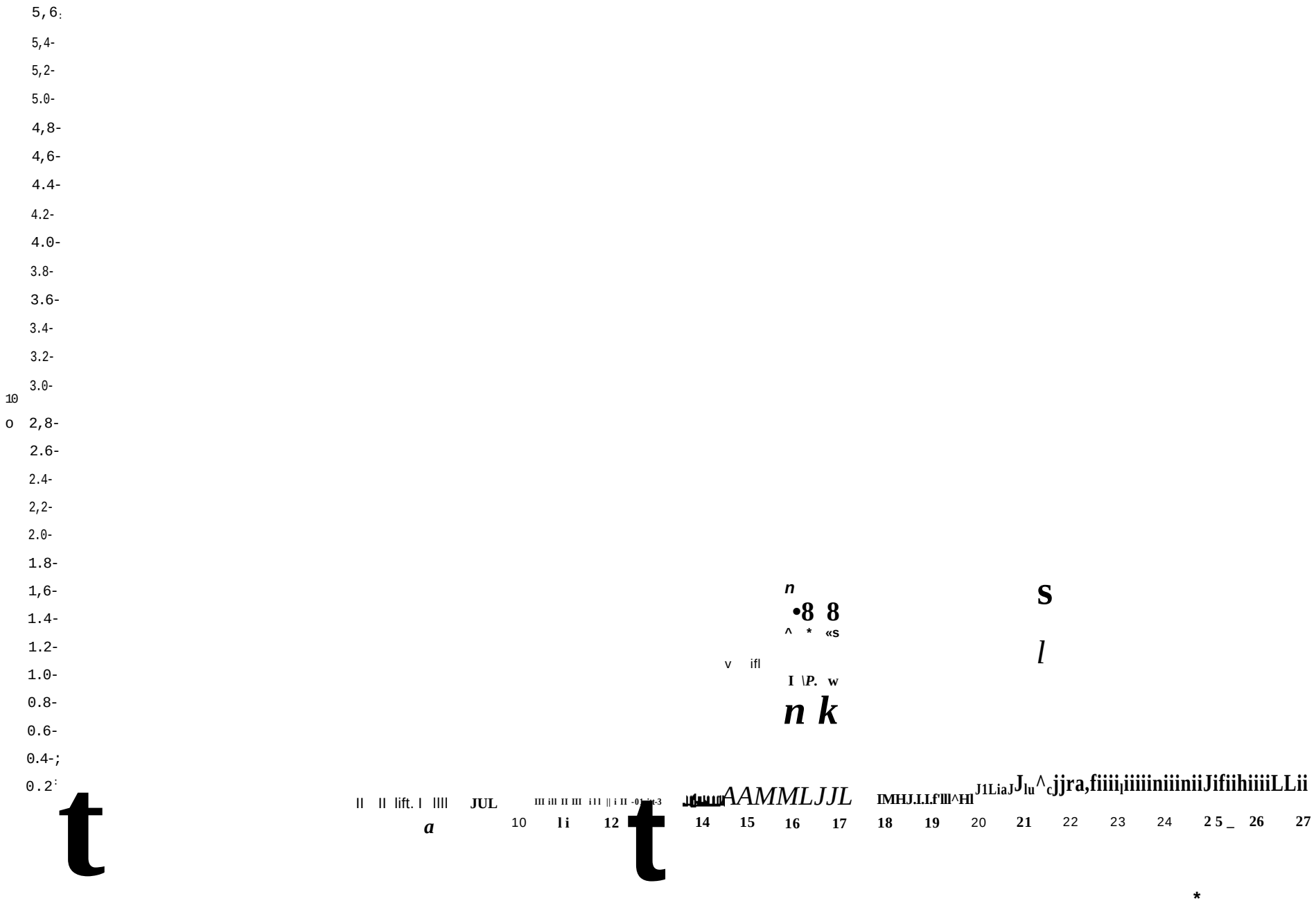
9/20/2

Data File: Ashem/hp3.i/1254FC0NFIRMa.b/E395615?.D
Date : 19-SEP-2002 18:07
Client IDJ L94081-7
Sample Info: L94081-7
Volume Injected <uL>* 2.0
Column phase: RTX-CLPesticides 1

Instrument: hp3.i

Operator: CPW
Column diameter: 0.32

/chem/hp3,i/1254FC0NFIRMa.b/E3956157.D



Friend Inc.

Data File: /chem/hp3.i/1254FCONFIRMa.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:

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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	LaboratoryJD	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 1 s/ spreadsheets. Finally, the worksheets used to perform the evaluation are provided.

FINDINGS

Polychlorinated Biphcnyls (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
A-B-S-E-R-002	Aroclor 1254	**48.7%**	**J**
A-B-S-E-B-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 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, A-B-S-E-B-002	lOx

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.