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# EPA/TRC AND RETEC SPLIT SAMPLE COMPARISON REPORT FOR THE WELLS G&H - SOUTHWEST PROPERTIES SUPPLEMENTAL REMEDIAL INVESTIGATION WOBURN, MASSACHUSETTS

*Prepared for:*

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**TRC Environmental Corporation**

February 2004

| | |
|---|---|
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February 12, 2004

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Reference: EPA Contract No. 68-W6-0042; Subcontract No. 107061

Subject: EPA/TRC and RETEC Split Sample Comparison Report
Wells G&H - Southwest Properties
Work Assignment No. 128-RSDB-0146

Dear Mr. LeMay:

In accordance with the above referenced subcontract, enclosed is TRC's EPA/TRC and RETEC Split Sample Comparison Report

We trust this submittal is sufficient for your review. Should you have any questions or comments, please feel free to contact me at (978) 656-3565, or TRC Vice President and Lowell Operations Manager , Ms. Joanna Hall at extension 3585.

Sincerely,

TRC Environmental Corporation

David M. Sullivan
Project Manager

Enclosures
cc: Hall, TRC



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# EXECUTIVE SUMMARY

On behalf of the U.S. Environmental Protection Agency (EPA), TRC Environmental Corporation (TRC) provided oversight for the Supplemental Remedial Investigation performed at Wells G&H - Southwest Properties in Woburn, Massachusetts by The RETEC Group (RETEC), a contractor to the Potentially Responsible Party (PRP), Beatrice Corporation. The Supplemental Remedial Investigation provided analytical data for TRC's preparation of a baseline human health and ecological risk assessment (HHRA/ ERA), on behalf of EPA, for the Southwest Properties Site. The Southwest Properties are comprised of three contiguous parcels of land known as Aberjona Auto Parts (Aberjona property), Whitney Barrel (Whitney property), and Murphy Waste Oil (Murphy property).

The results of the Supplemental RI are documented in the *Supplemental Remedial Investigation Report, Southwest Properties, Wells G&H Superfund Site, Woburn, Massachusetts* (RETEC, 2003). TRC has prepared EPA's Baseline HHRA/ERA, which is documented in the *Draft Baseline Human Health and Ecological Risk Assessment, Southwest Properties, Wells G&H Superfund Site, Operable Unit 2, Woburn, Massachusetts* (TRC, 2003a). Technical review comments on the RETEC Supplemental RI prepared by TRC for EPA were provided in a technical memorandum dated November 3, 2003 (TRC, 2003b). Please refer to these respective documents for information on the nature and extent of contamination and the presence or absence of risk at the Southwest Properties.

TRC's oversight included observing PRP sample collection and handling procedures and accepting split samples on behalf of EPA. The objective for the oversight and collection of the split samples was to verify that the data were obtained using analytical methodologies stated in the work plan prepared by the PRP and to monitor the accuracy and precision of the RETEC analytical data. In addition, the EPA's split sample data were used with the RETEC data to prepare the Baseline HHRA/ERA. Split samples included 16 soil samples, 8 groundwater samples, and 3 sediment samples

A preliminary comparison of the split sample data was submitted to EPA on May 5, 2003 (TRC, 2003c). This report provides builds on issues or trends noted during the preliminary review, identifies new issues noted based on the use of validated RETEC data, and reconciles the issues with the data quality objectives and the preliminary findings of the risk assessment.

The quantitative comparison of the two data sets is generally within the range of acceptable difference. Details are provided in subsequent sections of this report.

### Overall Issues Potentially Affecting Data Usability

Table ES.1. (Data Discrepancy/Usability Impact Summary) briefly summarizes the individual data discrepancy issues that potentially affect data usability and the decision-making process.

For each discrepancy, one party's split sample results exceeded a risk-based standard while the other party's result fell below the standard. The PRP results summarized in Table ES.1

consistently under-reported the contaminant concentration versus the EPA sample result. Since the RETEC 2002 Supplemental Remedial Investigation data can represent a large portion of the database at a particular property, there is potential for 2002 PRP data to impart a low bias to the calculated risk if the split data are representative of other 2002 PRP data.

Table ES.2 (Actions to Consider for Data Discrepancies with Potential to Impact Data Usability) summarizes recommended actions.

Quantitation Limit issues were also identified in the database (e.g., elevated quantitation limits in excess of comparison criteria). However, none were found to substantively impact data usability or the outcome of the risk assessment.

Note that none of the identified discrepancies or quantitation limit issues affected the ecological risk assessment.

**References**


RETEC 2003 *Supplemental Remedial Investigation Report, Southwest Properties, Wells G&H Superfund Site, Woburn, Massachusetts.* Prepared by The RETEC Group. Prepared for Beatrice Company. August 2003

TRC 2003a *Draft Baseline Human Health and Ecological Risk Assessment. Southwest Properties, Wells G&H Superfund Site, Operable Unit 2, Woburn, Massachusetts.* Prepared by TRC Environmental Corporation. Prepared for the United States Environmental Protection Agency – Region 1. November 2003

TRC 2003b *Technical Review. Supplemental Remedial Investigation Report, Southwest Properties, Volumes I through XXIII, Wells G&H Superfund Site, Woburn, Massachusetts*, August 2003, prepared by The RETEC Group on behalf of Beatrice Company. Technical Review prepared by TRC Environmental Corporation, Lowell, Massachusetts, November 3, 2003

TRC 2003c *Preliminary Split Sample Comparison Report, Wells G&H – Southwest Properties, Woburn, Massachusetts*, Work Assignment: 128-RSDB-0146. Prepared for: United States Environmental Protection Agency, Region 1. Prepared by TRC Environmental Corporation, Lowell, Massachusetts. May 5, 2003

| Table ES.1. Data Discrepancy /Usability Impact Summary | | | | |
|---|---|---|---|---|
| | | EPA/TRC Result | PRP Result | |
| Sample ID | Analyte | Other Data Trend Issue | | Potential Project Impact |
| ***Soil*** | | | | |
| WB-6(0-2) | Aroclor 1260 | 1370 J µg/kg | ND<br>(11.3 UJ µg/kg) | PRP result is more than two orders of magnitude lower than EPA result.<br><br>Low bias may affect the samples not split.<br><br>∴Potential for low bias to impact assessment of the extent of contamination. |
| WB-7(0-2) | Aroclor 1260 | 2000 J µg/kg | ND<br>(5.8 U J µg/kg) | PRP result is more than two orders of magnitude lower than EPA result.<br><br>Low bias may affect the samples not split.<br><br>∴Potential for low bias to impact assessment of the extent of contamination. |

**NOTES:**
ND - Not Detected

| Table ES.2. Actions to Consider for Data Discrepancies with Potential to Impact Data Usability | | | |
|---|---|---|---|
| Matrix | Sample ID | Analyte | Actions to Consider |
| Soil | WB-6(0-2) | Aroclor 1260 | • Identify cause(s) of low bias in result. Re-calculate if in error.<br>• Review soil results that were not split to identify/ document other potential low biased results.<br>• Consider resampling as part of feasibility study if systematic error is identified that affects all/most samples. |
| | WB-7(0-2) | Aroclor 1260 | |

# COMPARISON OF EPA/TRC AND RETEC SPLIT SAMPLE ANALYTICAL DATA

## 1.0 INTRODUCTION

Metcalf & Eddy (M&E) received Work Assignment (WA) No. 128-RSDB-0146 under the United States Environmental Protection Agency (EPA) Response Action Contract (RAC) No. 68-W6-0042 to perform Remedial Investigation/Feasibility Study (RI/FS) Oversight at the Wells G&H Superfund Site Operable Unit 2 (OU-2), (Southwest Properties) in Woburn, Massachusetts (i.e., the Site). M&E assigned primary responsibilities for most of the tasks in this project to RAC Team Subcontractor, TRC Environmental Corporation (TRC).

The objective of this assignment was the preparation of a baseline human health and ecological risk assessment (HHRA/ERA) for the Southwest Properties, which consist of three contiguous parcels of land known as Aberjona Auto Parts (Aberjona property), Whitney Barrel (Whitney property), and Murphy Waste Oil (Murphy property). EPA required the collection of additional data from the Southwest Properties by the Potentially Responsible Party (PRP) Beatrice Corporation to support preparation of the baseline HHRA/ERA.

In response to EPA's request, The RETEC Group (RETEC), a contractor to the PRP, performed a Supplemental Remedial Investigation (Supplemental RI). The results of the Supplemental RI are documented in the *Supplemental Remedial Investigation Report, Southwest Properties, Wells G&H Superfund Site, Woburn, Massachusetts* (RETEC, 2003). Environmental data collected during several sampling events conducted by property operators, PRPs, and split samples collected on behalf of EPA by TRC were utilized to prepare the baseline human health and ecological risk assessment, which is documented in the *Draft Baseline Human Health and Ecological Risk Assessment, Southwest Properties, Wells G&H Superfund Site, Operable Unit 2, Woburn, Massachusetts* (TRC, 2003a). TRC also performed a technical review of the RETEC Supplemental RI provided to EPA in a technical memorandum dated November 3, 2003 (TRC, 2003b). Please refer to these documents for additional information on the nature and extent of contamination and/or the presence and/or absence of risk at the Southwest Properties.

Site activities performed by TRC included oversight of the PRP's environmental sampling (e.g., groundwater, sediment, surface water and soil), related data gathering, and split sampling, in areas of interest to EPA. The objective for the oversight and collection of the split samples was to verify that the data were obtained using analytical methodologies stated in the work plan prepared by the PRP and to monitor the accuracy and precision of the RETEC analytical data. A preliminary comparison of the split sample data was submitted to EPA on May 5, 2003 (TRC, 2003c). This split sample comparison report builds on issues or trends noted during the preliminary comparison, identifies new issues noted based on the use of validated RETEC data, and reconciles the issues with the data quality objectives and the preliminary findings of the risk assessment. Split samples included 16 soil samples, 8 groundwater samples, and 3 sediment samples. Copies of the qualified Form Is for each split sample collected by TRC are provided in

Appendix A. TRC also collected seven soil samples, one sediment sample, and six groundwater samples for additional coverage throughout the site. Copies of the qualified Form Is for these samples are provided in Appendix B.

# 2.0 OBJECTIVES OF SPLIT SAMPLE COLLECTION

TRC provided sampling and analytical quality assurance support to EPA as part of the field oversight. The oversight activities conducted by TRC included obtaining split samples for EPA in conjunction with and at the same location as samples collected by RETEC for the PRP. The objective for the collection of the split samples was to monitor the accuracy and precision of the RETEC analytical data and verify that the data were obtained using analytical methodologies stated in the work plan prepared by the PRP. In addition, the split sample data were collected to support preparation of a baseline human health and ecological risk assessment.

Details regarding sample collection, sample handling, sample analysis, and quality control procedures associated with the split samples are presented in the EPA-approved Field Sampling Plan and Quality Assurance Project Plan (QAPP) prepared by TRC, dated November 2002. The Field Oversight QAPP was developed to direct TRC personnel in field oversight activities and to specify quality assurance procedures and protocols. The Field Oversight QAPP was prepared in accordance with EPA Region I's guidance document entitled *Region I, EPA-New England Compendium of Quality Assurance Project Plan Requirements and Guidance, Final, October 1999.*

Table 2-1 provides a summary of the analytical program for split samples collected by EPA/TRC and RETEC. The analytical program was specified in the following EPA-approved documents, prepared by TRC:

- *Field Sampling Plan for RI/FS Oversight, Southwest Properties, Wells G&H Superfund Site, Operable Unit 2, Woburn, Massachusetts,* November 2002

- *Quality Assurance Project Plan for Remedial Investigation/Feasibility Study Oversight, Wells G&H Superfund Site, Operable Unit 2, Southwest Properties, Woburn, Massachusetts,* Revision 1.0, November 2002.

Split samples were analyzed for one or all of the following analytical fractions as summarized in the above-listed documents: Volatile organic compounds (VOCs: groundwater and soil), semivolatile organic compounds (SVOCs: groundwater, sediment, and soil), polychlorinated biphenyl (PCB) Aroclors (groundwater, sediment, and soil), PCB congeners (groundwater, sediment, and soil), metals (groundwater, sediment, and soil), cyanide (groundwater, sediment, and soil), and hexavalent chromium (sediment and soil). The laboratories which performed the analyses for EPA/TRC and RETEC are summarized in Table 2-2.

## Table 2-1. Split Sample Summary

| EPA/TRC ID | Date Collected | Matrix | RETEC ID | Site Location | Volatiles | | Semivolatiles | | Pesticides | | PCB Aroclors | | Metals | | Cyanide | | PCB Congeners | | Hexavalent Chromium | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | EPA | RETEC | EPA | RETEC | EPA | RETEC | EPA | RETEC | EPA | RETEC | EPA | RETEC | EPA | RETEC | EPA | RETEC |
| MW-1 | 12/12/2002 | Groundwater | MW-1 | Murphy | X | X | | | | | | | X | X(a) | X | X | X | | | |
| MW-18S | 12/18/2002 | Groundwater | MW-18S | Murphy | X | X | X | | | | | | X | X(a) | X | X | | | | |
| MWE-18S (Field Duplicate) | 12/18/2002 | Groundwater | NA | Murphy | X | | X | | | | | | X | | X | | | | | |
| MW-4S | 12/13/2002 | Groundwater | MW-4S | Whitney | | | X | | | X | X | X | X | X(a) | X | X | X | | | |
| MW-6S | 12/16/2002 | Groundwater | MW-6S | Whitney | | X | X | | | X | X | X | | X | | X | X | X | | |
| MWE-6S (Field Duplicate) | 12/16/2002 | Groundwater | NA | Whitney | | | | | | | X | | | | | | X | | | |
| WB-1R | 12/16/2002 | Groundwater | WB-1R | Whitney | X | X | X | | | | | | X | X | X | X | | | | X |
| AB-1 | 12/16/2002 | Groundwater | AB-1 | Aberjona | X | X | | | | | | | | X | | X | | | | X |
| AB-6SS | 12/16/2002 | Groundwater | AB-6SS | Aberjona | X | X | X | | | | | | X | X | X | X | | | | X |
| AB-2SS | 12/17/2002 | Groundwater | AB-2SS | Aberjona | | X | | | | X | X | X | | X | | X | | X | | X |
| | | | | | | | | | | | | | | | | | | | | |
| MR-11/0-0.5 | 12/3/2002 | Wetland Sediment | MR-11SS | Murphy | | X | X | X | | X | X | X | X | X | X | X | X | X | X | X |
| WB-9/0-0.5 | 12/3/2002 | Wetland Sediment | WB-9SS | Whitney | | | | | | | | | X | X(b) | X | | | | | X |
| MR-12/0-0.5 | 12/4/2002 | Wetland Sediment | MR-12SS | Murphy | X | X | X | X | | X | X | X | X | X | X | X | X | X | X | X |
| MRE-12/0-0.5 (Field Duplicate) | 12/4/2002 | Wetland Sediment | NA | Murphy | X | | X | | | | X | | X | | X | | X | | X | |
| | | | | | | | | | | | | | | | | | | | | |
| WB-6/0-2 | 11/25/2002 | Surface Soil | WB-6SS | Whitney | X | X | X | X | | X | X | X | X | X | X | X | | X | | X |
| WB-7/0-2 | 11/25/2002 | Surface Soil | WB-7SS | Whitney | X | X | X | X | | X | X | X | X | X | X | X | X | X | | X |
| WB-8/0-2 | 11/26/2002 | Surface Soil | WB-8SS | Whitney | | | | | | | X | | X | X | X | X | X | | | X |
| WB-10/0-2 | 11/25/2002 | Surface Soil | WB-10SS | Whitney | X | X | X | X | | X | X | X | X | X | X | X | X | X | | X |
| WB-13/0-2 | 12/5/2002 | Surface Soil | WB-13SS | Whitney | X | X | X | X | | X | | X | X | X | X | X | | X | | X |
| AB-13/0-2 | 12/2/2002 | Surface Soil | AB-13SS | Aberjona | | | | | | X | X | X | | | | | X | X | | |
| AB-14/0-2 | 11/26/2002 | Surface Soil | AB-14SS | Aberjona | | | | | | | | | X | X | X | X | | | | |
| AB-15/0-2 | 11/26/2002 | Surface Soil | AB-15SS | Aberjona | X | | X | | | | | | X | X | X | X | | | | |
| AB-16/0-2 | 11/26/2002 | Surface Soil | AB-16SS | Aberjona | X | X | X | X | | X | | X | X | X | X | X | | X | | X |
| | | | | | | | | | | | | | | | | | | | | |
| MR-10/3-5 | 12/2/2002 | Subsurface Soil | MR-10D | Murphy | X | | X | | | | | | | X | X | X | | | | X |
| MR-11/0.75-1.75 | 12/4/2002 | Subsurface Wetland Soil | MR-11D | Murphy | X | | X | | | X | | X | X | X(b) | X | | X | X | | X |
| WB-6/2-4 | 11/25/2002 | Subsurface Soil | WB-6D | Whitney | X | X | | X | | X | | X | | X | | X | | X | | X |
| WB-7/2-4 | 11/25/2002 | Subsurface Soil | WB-7D | Whitney | X | X | X | X | | X | | X | | X | | X | | X | | X |
| WB-10/2-4 | 11/25/2002 | Subsurface Soil | WB-10D | Whitney | X | X | X | X | | X | | X | | X | | X | | X | | X |
| AB-13/5-7 | 12/2/2002 | Subsurface Soil | AB-13D | Aberjona | | | | | | X | | X | | | | | X | X | | |
| AB-15/4-4.5 | 12/2/2002 | Subsurface Soil | AB-15D | Aberjona | X | | X | | | | | | X | X | X | X | | | | |

X = Sample collected
(a) = analyzed for mercury only
(b) = analyzed for chromium only
NA = Not Applicable
Note: Split sample evaluations were performed for samples and parameters analyzed by both parties.

**Table 2-2. Summary of Laboratories Used for Split Sample Analyses**

| Parameter | Sample Medium | EPA/TRC's Laboratory | Laboratory Location | RETEC's Laboratory | Laboratory Location |
|---|---|---|---|---|---|
| VOCs | Groundwater | Mitkem Corporation | Warwick, Rhode Island | New England Testing Laboratory, Inc. | Providence, Rhode Island |
| | Soil/Sediment | Mitkem Corporation | Warwick, Rhode Island | New England Testing Laboratory, Inc. | Providence, Rhode Island |
| SVOCs | Groundwater | Woods Hole Group | Raynham, Massachusetts | New England Testing Laboratory, Inc. | Providence, Rhode Island |
| | Soil/Sediment | Woods Hole Group | Raynham, Massachusetts | New England Testing Laboratory, Inc. | Providence, Rhode Island |
| PCB Aroclors | Groundwater | Mitkem Corporation | Warwick, Rhode Island | New England Testing Laboratory, Inc. | Providence, Rhode Island |
| | Soil/Sediment | Southwest Research Institute | San Antonio, Texas | New England Testing Laboratory, Inc. | Providence, Rhode Island |
| PCB Congeners | Groundwater | Philip Analytical Services | Burlington, Ontario | Triangle Laboratories | Durham, North Carolina |
| | Soil/Sediment | Philip Analytical Services | Burlington, Ontario | Triangle Laboratories | Durham, North Carolina |
| Metals | Groundwater | Columbia Analytical Services | Kelso, Washington | New England Testing Laboratory, Inc. | Providence, Rhode Island |
| | Soil/Sediment | Woods Hole Group | Raynham, Massachusetts | New England Testing Laboratory, Inc. | Providence, Rhode Island |
| Cyanide | Groundwater | Columbia Analytical Services | Kelso, Washington | New England Testing Laboratory, Inc. | Providence, Rhode Island |
| | Soil/Sediment | Woods Hole Group | Raynham, Massachusetts | New England Testing Laboratory, Inc. | Providence, Rhode Island |
| Hexavalent Chromium | Soil/Sediment | Southwest Research Institute | San Antonio, Texas | Lancaster Laboratories | Lancaster, Pennsylvania |

# 3.0 QUALITY CONTROL (QC) REVIEW OF EPA/TRC DATA

All EPA/TRC data received Tier II data validation in accordance with *Region I, EPA-New England Data Validation Functional Guidelines for Evaluating Environmental Analyses*, December 1996, *Region I, EPA-NE Data Validation Functional Guidelines for Evaluating Inorganic Analyses*, June 13, 1988, and *Region I, EPA-NE Data Validation Functional Guidelines for Evaluating Toxic Polychlorinated Biphenyls and Total Homologues Analysis,* July 31, 1998. The validation guidelines were modified in order to accommodate the method-specific criteria specified in the DAS Analytical Specifications, which were provided in the *Quality Assurance Project Plan for Remedial Investigation/Feasibility Study Oversight, Wells G&H Superfund Site, Operable Unit 2, Southwest Properties, Woburn, Massachusetts*, Revision 1.0, November 2002. Table 3-1 summarizes the highlights of the data validation performed on EPA/TRC's data. In addition, for ease of comparison, highlights of the Tier III validation performed on the PRP's data are summarized in Table 3-2.

A review of the EPA/TRC data validation reports indicates that most of the data were generally acceptable. Nondetect VOC results in two sediment samples (MR-12 [0-0.5] and MRE-12 [0-0.5]) were rejected (R) due to high moisture content. Results for 1,2-dibromo-3-chloropropane in two groundwater samples (MW-18S and MWE-18S) were rejected (R) because the minimum relative response factor (RRF) of 0.05 was not met during instrument calibration for this compound. The results for 3,3'-dichlorobenzidine in all soil and sediment samples, 2,4-dimethylphenol, 4-chloroaniline, 2,4-dinitrophenol, and pentachlorophenol in one soil sample and two sediment samples were rejected (R) due to the lack of recovery of these analytes in the laboratory fortified blank (LFB) analysis.

Several data points in the EPA/TRC data set were flagged as estimated (J or UJ) for various reasons including:

- detections at concentrations below the quantitation limits;
- percent relative standard deviations (%RSDs) and percent differences (%Ds) for initial and continuing calibration nonconformances, respectively (VOCs, PCB Aroclors, SVOCs);
- low or high surrogate recoveries (VOCs, SVOCs, PCB Aroclors);
- low internal standard areas (SVOCs, metals);
- high recoveries in LFBs (VOCs, SVOCs, metals);
- low recoveries in LFBs (VOCs, SVOCs);
- exceedance of calibration range (VOCs);
- high moisture content (VOCs);
- high recoveries in laboratory control samples (LCS) (metals);
- low recoveries in LCSs (VOCs);
- negative bias in instrument blank analysis (metals);

- high recoveries in contract-required detection limit (CRDL) standard (metals);
- low recoveries in interference check sample analyses (metals);
- negative or positive interference in interference check sample analyses (metals);
- high %D in ICP serial dilution analysis (metals);
- high recoveries in PE sample (cyanide, metals);
- high relative percent difference (RPD) in field duplicate analyses (SVOCs);
- high recoveries in linear range standard (metals);
- high RPD in MS/MSD analyses (PCB Aroclors);
- high %D in evaluation of dual column results (PCB Aroclors);
- high recoveries in calibration verifications (metals);
- low or high matrix spike recoveries (metals); and
- high RPDs in laboratory duplicate analyses (metals).

In addition, mercury analyses of soil samples WB-6 (0-2), WB-7 (0-2), and WB-10 (0-2), the PCB Aroclor extraction of soil sample WB-7 (0-2), and the PCB congener extractions of soil samples AB-13 (0-2), AB-13 (5-7), WB-7 (0-2), and WB-10 (0-2) were performed outside of holding times and were qualified as estimated (J/UJ). Finally, some VOC, SVOC, and metals analytical results were qualified as not detected (U) or flagged with "EB" due to laboratory, equipment or trip blank contamination.

## Table 3-1.
## Highlights of Data Validation for Split Sample Parameters: EPA/TRC Data
## Wells G&H – Southwest Properties Split Sample Data

**VOCs–Sediment/Soil**

(1) All holding times were met.
(2) The PE sample results were within the acceptance criteria.
(3) Methylene chloride and toluene were detected in the trip blanks. All associated samples underwent Tier II validation and were qualified appropriately, thereby eliminating any false positives.
(4) Acetone was detected in the equipment blank. An indeterminate amount of sampling error may exist for acetone in select soil samples.
(5) Nondetect results in two sediment samples were rejected due to high moisture content (>70%).

**SVOCs–Sediment/Soil**

(1) All holding times were met.
(2) All PE sample results were within the acceptance criteria.
(3) Phenol and naphthalene were detected in laboratory blanks. All associated samples underwent Tier II validation and were qualified appropriately, thereby eliminating any false positives.
(4) Phenol, naphthalene, and 2-methylphenol were detected in the equipment blank. An indeterminate amount of sampling error may exist for phenol, naphthalene, and/or 2-methylphenol in select soil and sediment samples.
(5) Results for 3,3'-dichlorobenzidine were rejected in all soil and sediment samples due to the lack of recovery in the associated LFB.
(6) Results for 2,4-dimethylphenol, 4-chloroaniline, 2,4-dinitrophenol, and pentachlorophenol were rejected in one soil sample and two sediment samples due to the lack of recovery in the associated LFB.

**PCB Aroclors–Sediment/Soil**

(1) None of the data was rejected (i.e., deemed unusable).
(2) One soil sample was extracted outside of the holding time.
(3) The PE sample results were within the acceptance criteria.
(4) PCB Aroclors were not detected in laboratory blanks or the equipment blank.

**PCB Congeners-Sediment/Soil**

(1) None of the data was rejected.
(2) All holding times were met for sediment samples.
(3) Analysis holding times were not met for four soil samples.
(4) The PE sample results were within the acceptance criteria.
(5) Contaminants were not detected in the equipment blank.
(6) Contaminants were detected in the laboratory blanks. However, sample concentrations exceeded blank action levels established during data validation and therefore were not adversely affected.

## Table 3-1.
## Highlights of Data Validation for Split Sample Parameters: EPA/TRC Data
## Wells G&H – Southwest Properties Split Sample Data

**Metals & Cyanide-Sediment/Soil**

(1) None of the data was rejected.
(2) All holding times were met for cyanide analyses.
(3) The mercury analyses of 3 soil samples were performed outside of the holding time.
(4) The cyanide PE sample results were within the acceptance criteria.
(5) Zinc exceeded the acceptance limits in the metals PE sample. Zinc results may be biased high in select soil and sediment samples.
(6) Aluminum was detected in the equipment blank. An indeterminate amount of sampling error may exist for aluminum in select soil and sediment samples.
(7) Antimony, selenium, and thallium were detected in laboratory blanks. All associated samples underwent Tier II validation and were qualified appropriately, thereby eliminating any false positives.

**Hexavalent Chromium–Sediment**

(1) None of the sediment data was rejected.
(2) One sediment sample was analyzed outside of the holding time. The affected sample was a field duplicate. The results of the field duplicate compared well with the original sample, indicating that the data were not adversely affected.
(3) The PE sample results were within the acceptance criteria.
(4) MS recoveries and evaluation of ancillary analyses indicated that a reducing environment exists for all sediment samples.
(5) Hexavalent chromium was not detected in the laboratory method blanks.
(6) Equipment blank data were not available as the result was rejected due to a holding time exceedance.
(7) The quantitation limits for all results were reported from the digestion performed at pH>12.

**VOCs–Groundwater**

(1) All holding times were met.
(2) All PE sample results were within the acceptance criteria.
(3) Methylene chloride was detected in the equipment blank and 1,1-dichloroethene and/or acetone were detected in the trip blanks. All associated samples underwent Tier II validation and were qualified appropriately, thereby eliminating any false positives.
(4) Results for 1,2-dibromo-3-chloropropane were rejected in 2 groundwater samples due to a calibration nonconformance.

**PCB Aroclors–Groundwater**

(1) None of the data was rejected.
(2) All holding times were met.
(3) The PE sample results were within the acceptance criteria.
(4) PCB Aroclors were not detected in laboratory blanks or the equipment blank.

**PCB Congeners–Groundwater**

(1) None of the data was rejected.
(2) All holding times were met.
(3) The PE sample results were within the acceptance criteria.
(4) Contaminants were detected in the laboratory blanks. However, sample concentrations exceeded blank action levels established during data validation and therefore were not adversely affected.

**Table 3-1.**
**Highlights of Data Validation for Split Sample Parameters: EPA/TRC Data**
**Wells G&H – Southwest Properties Split Sample Data**

**Metals & Cyanide–Groundwater**

(1) None of the data was rejected.
(2) All holding times were met.
(3) All metals PE sample results were within the acceptance criteria.
(4) Cyanide exceeded the acceptance limits in the PE sample. Cyanide results may be biased high in select groundwater samples.
(5) Arsenic was detected in the equipment blank. All associated samples underwent Tier II validation and were qualified appropriately, thereby eliminating any false positives.
(6) Antimony, beryllium, copper, lead, nickel, silver, thallium, and zinc were detected in laboratory blanks. All associated samples underwent Tier II validation and were qualified appropriately, thereby eliminating any false positives.

PE – Performance Evaluation
PCBs – Polychlorinated Biphenyls
SVOCs – Semivolatile Organic Compounds
VOCs – Volatile Organic Compounds
LFB – Laboratory Fortified Blank

## Table 3-2.
## Highlights of Data Validation for Split Sample Parameters: PRP Data
## Wells G&H – Southwest Properties Split Sample Data

**VOCs–Sediment/Soil**

(1) The ethylene dibromide analysis of one sample was performed outside of the holding time.
(2) Tetrachloroethene slightly exceeded the acceptance limits in the PE sample. Tetrachloroethene results may be biased high in select soil/sediment samples.
(3) Methylene chloride was detected in the laboratory method blanks and/or trip blanks. All associated samples underwent Tier III validation and were qualified appropriately, thereby eliminating any false positives.
(4) Contaminants were not detected in the equipment blank.
(5) Nondetect results in one sediment sample were rejected due to high moisture content (>70%).

**SVOCs–Sediment/Soil**

(1) The diluted analysis of one soil sample and the extraction of two sediment samples were performed outside of the holding time.
(2) 2-Methylphenol fell slightly below the acceptance limits in the PE sample. 2-Methylphenol results may be biased low in select soil/sediment samples.
(3) *Di-n-butylphthalate, bis(2-ethylhexyl)phthalate, and/or dibenz(a,h)anthracene were detected in* laboratory method blanks. All associated samples underwent Tier III validation and were qualified appropriately, thereby eliminating any false positives.
(4) Contaminants were not detected in the equipment blank.
(5) Results for 4-chloroaniline and carbazole in one sediment sample and 2,4,5-trichlorophenol in one sediment sample were rejected due to poor instrument response during calibration.
(6) The result for 4-nitrophenol was rejected in one sediment sample due to poor recoveries in the MS and MSD.
(7) Results for 2,4-dimethylphenol in two sediment samples were rejected due to lack of recovery in the LFB.

**PCB Aroclors–Sediment/Soil**

(1) None of the data was rejected.
(2) The extraction of two sediment samples was performed outside of the holding time.
(3) The PE sample results were within the acceptance criteria.
(4) Aroclor 1260 was detected in the field blank associated with two sediment samples. These results were flagged with "FB" during validation. An indeterminate amount of sampling error exists for Aroclor 1260 in these sediment samples.

**PCB Congeners-Sediment/Soil**

(1) None of the data was rejected.
(2) All holding times were met.
(3) The PE sample results were within the acceptance criteria.
(4) Contaminants were not detected in the equipment blank.
(5) PCB 118 was detected in the laboratory blanks. However, sample concentrations exceeded blank action levels established during data validation and therefore were not adversely affected.

## Table 3-2.
## Highlights of Data Validation for Split Sample Parameters: PRP Data
## Wells G&H – Southwest Properties Split Sample Data

**Metals & Cyanide-Sediment/Soil**

(1) None of the data was rejected.
(2) All holding times were met.
(3) All metals and cyanide PE sample results were within the acceptance criteria.
(4) Selenium was detected in the equipment blank. All associated samples underwent Tier III validation and were qualified appropriately, thereby eliminating any false positives.
(5) Various metals were detected in laboratory blanks. All associated samples underwent Tier III validation and were qualified appropriately, thereby eliminating any false positives.

**Hexavalent Chromium–Sediment**

(1) None of the sediment data was rejected.
(2) The PE sample results were within the acceptance criteria.
(3) MS recoveries and evaluation of ancillary analyses indicated that a reducing environment exists for sediment samples which were split.
(4) Hexavalent chromium was not detected in the laboratory method blanks or equipment blank.
(5) The quantitation limits for the split sample results were reported from the digestion performed at pH 11.

**VOCs–Groundwater**

(1) The diluted analysis of one groundwater sample was performed outside of the holding time.
(2) All PE sample results were within the acceptance criteria.
(3) Trichloroethene, chloroform, and 1,4-dichlorobenzene were detected in the laboratory method blanks. All associated samples underwent Tier III validation and were qualified appropriately, thereby eliminating any false positives.
(4) Dibromochloromethane was detected in one trip blank. All associated samples underwent Tier III validation and were qualified appropriately, thereby eliminating any false positives.
(5) Contaminants were not detected in the equipment blank.

**PCB Aroclors–Groundwater**

(1) None of the data was rejected.
(2) All holding times were met.
(3) The PE sample results were within the acceptance criteria.
(4) PCB Aroclors were not detected in laboratory blanks or the equipment blank.

**PCB Congeners–Groundwater**

(1) None of the data was rejected.
(2) All holding times were met.
(3) The PE sample results were within the acceptance criteria.
(4) Contaminants were not detected in the equipment blank.
(5) PCB 118 was detected in the laboratory blanks. However, sample concentrations exceeded blank action levels established during data validation and therefore were not adversely affected.

| Table 3-2.<br>Highlights of Data Validation for Split Sample Parameters: PRP Data<br>Wells G&H – Southwest Properties Split Sample Data |
|---|
| **Metals & Cyanide–Groundwater**<br><br>(1) None of the data was rejected.<br>(2) All holding times were met.<br>(3) All metals and cyanide PE sample results were within the acceptance criteria.<br>(4) Aluminum, calcium, lead, sodium, and zinc were detected in the equipment blank. All associated samples underwent Tier III validation and were qualified appropriately, thereby eliminating any false positives.<br>(5) Various metals were detected in laboratory blanks. All associated samples underwent Tier III validation and were qualified appropriately, thereby eliminating any false positives. |

PE – Performance Evaluation
PCBs – Polychlorinated Biphenyls
RPDs – Relative Percent Differences
SVOCs – Semivolatile Organic Compounds
VOCs – Volatile Organic Compounds
LFB – Laboratory Fortified Blank
MS – Matrix Spike
MSD – Matrix Spike Duplicate

# 4.0 CRITERIA FOR EVALUATION OF SPLIT SAMPLES

Acceptance criteria were developed for comparison of EPA/TRC split-sample data to PRP data for all analyses performed and were presented in the *Quality Assurance Project Plan for Remedial Investigation/Feasibility Study Oversight, Wells G&H Superfund Site, Operable Unit 2, Southwest Properties, Woburn, Massachusetts*, Revision 1.0, November 2002. The criteria are also detailed in this section and serve as the basis for data comparison. The data comparison considered the comparability of individual organic and inorganic analytes within a fraction, across the whole analytical fraction (i.e., VOCs, SVOCs, Metals, PCBs), and overall for all analytical fractions.

## 4.1 Comparison Criteria

The relative percent difference (RPD), a standard measure of precision between field duplicate samples, was used as the basis for assessing the comparability of the EPA/TRC and PRP data. The RPD is a measure of the agreement between individual datum for field duplicate samples collected at the same sampling location under identical conditions. Since EPA/TRC split samples actually represent a field duplicate of the PRP's samples, the concept was applied here to quantify the comparability between the EPA/TRC and PRP split-sample pairs. The RPD was calculated for each analyte when detected concentrations were reported for the EPA/TRC and PRP data. The equation for RPD is:

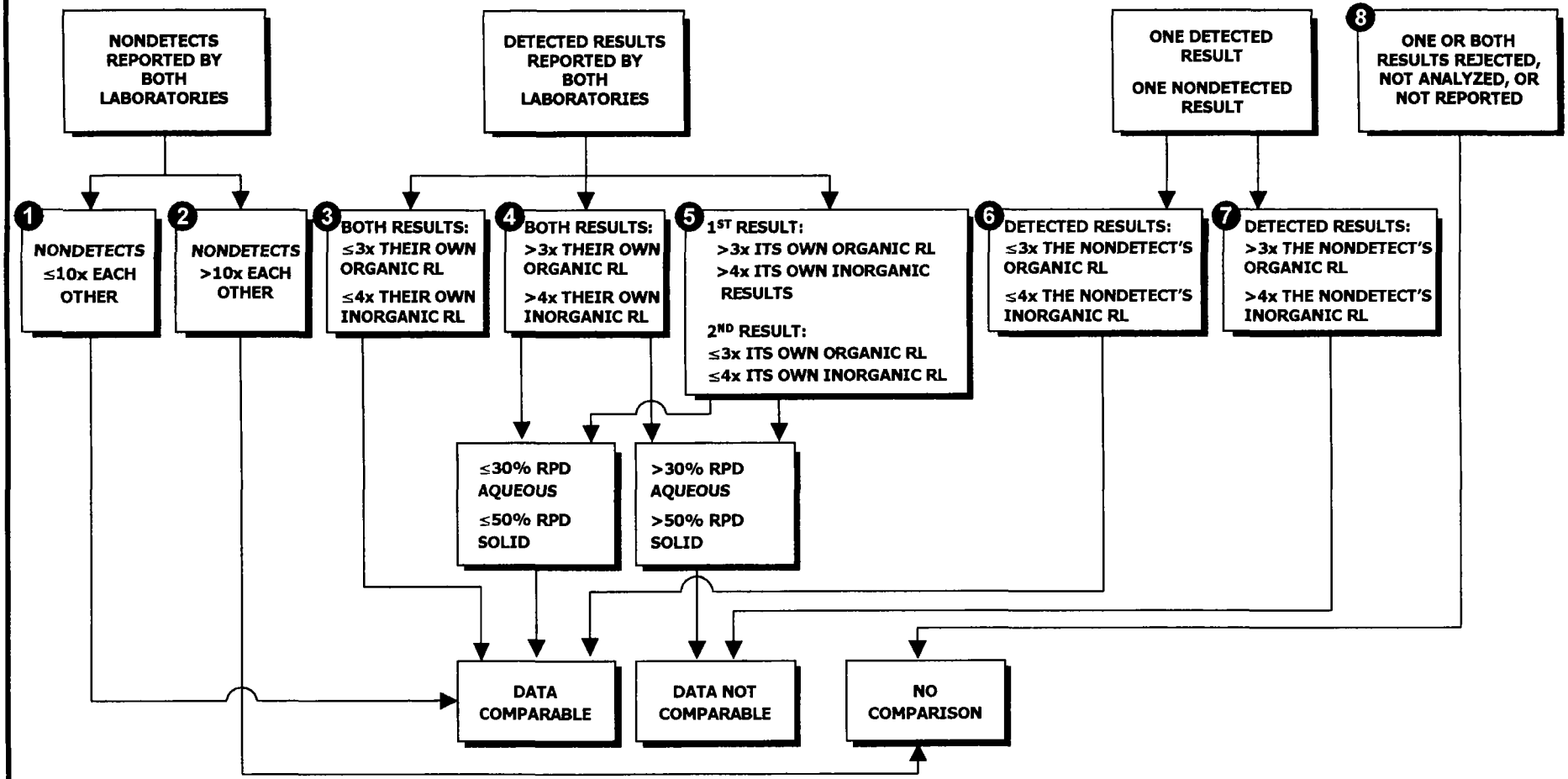
$$RPD = [(A - B) / [(A + B) / 2]] \times 100$$

Where:

A = EPA/TRC's split-sample concentration
B = PRP's split-sample concentration

The RPD is not calculated when: (1) either EPA/TRC or PRP data are reported as nondetects, (2) both EPA/TRC and PRP data are reported as nondetects, and (3) either EPA/TRC or PRP data are rejected, not reported, or not analyzed.

EPA's current field duplicate precision acceptance criteria are used as comparability criteria for this project. As stated in the functional guidelines used for data validation, the precision acceptance criterion is a maximum RPD of 30 for aqueous samples or 50 for solid samples, with additional provisions for data near the reporting limit (RL). The RL is the sample-specific detection limit (SSDL) or sample quantitation limit (SQL) reported by each laboratory for each individual sample. As described below, the comparison criteria are further expanded to include project-specific acceptance criteria. Figure 4-1 presents a flow diagram showing the comparison process that was used to evaluate split-sample data. The criteria discussed below are defined on Figure 4-1 by the number shown in parentheses for each criterion.




**Notes:**

RPD = Relative Percent Difference

RL = Reporting Limit (SQLs or Sample Quantitation Limits were Used for TRC Data and for the PRP's Data, if Available)

* = Refer to Comparison Criteria for Handling Field Duplicate Pairs and Associated Spilt Samples

**FIGURE 4-1**
**DATA COMPARISON FLOW DIAGRAM FOR INDIVIDUAL ANALYTES***
SOUTHWEST PROPERTIES/OU2
WELLS G&H SUPERFUND SITE
MIDDLESEX COUNTY, MASSACHUSETTS

Metcalf & Eddy

TRC
Boott Mills South
Foot of John Street
Lowell, MA 01852
978-970-5600

QUADRANGLE LOCATION
MASS

TRC PROJ. NO.: 02136-0390-01466
EPA CONTRACT NO.: 68-W6-0042
RAC SUBCONTRACT NO.: 107061

02136/SOUTHWEST/QAPP/FLOW2

## 4.2 General Comparison Criteria

Data for each analyte were considered comparable if:

- Both split-sample results were nondetects and the difference between the reporting limits was less than or equal to a factor of 10 (Box 1) (Note: If the difference in RLs was greater than a factor of 10, the No Comparison Criteria listed below was referenced.)

- Both detected split-sample results were less than or equal to three times (3x) their own RL for organic parameters or four times (4x) their own RL for inorganic parameters (Box 3).

- Both detected split-sample results were greater than 3x their own RL for organic parameters, or greater than 4x their own RL for inorganic parameters, and the calculated RPD was less than or equal to 50 for solid samples and less than or equal to 30 for aqueous samples (Box 4).

- One detected split-sample result was less than or equal to 3x its RL for organic parameters, or less than or equal to 4x its RL for inorganic parameters; and the other detected result was greater than 3x its RL for organic parameters, or greater than 4x its RL for inorganic parameters; and the calculated RPD was less than or equal to 50 for solid samples and less than or equal to 30 for aqueous samples (Box 5).

- One split-sample result was nondetect and one split-sample result was detected at a concentration less than or equal to 3x its RL for organic parameters or 4x its RL for inorganic parameters (Box 6).

## 4.3 No Comparison Criteria

For each analyte, there was no basis for comparison if:

- Both split-sample results were nondetects and the difference between their RLs was greater than a factor of 10 (Box 2) (Note: In this case, data usability was evaluated based on technical judgment).

- One or both split-sample results were rejected, not analyzed, or not reported (Box 8).

In all other cases, the data were not comparable. Professional judgment may be used in some cases to assess comparability in unusual circumstances.

## 4.4 Field Duplicate Comparison Criteria

When only one field duplicate pair (from either EPA/TRC or the PRP) existed as part of the split-sample pair (i.e., one data set has a field duplicate pair and the other data set does not), the RPD was first calculated between the field duplicate pair, and the field duplicate pair's

comparability was assessed according to the general and no comparison criteria described above. To assess comparability between data from the field duplicate pair and the associated split sample, the general and no comparison criteria were applied as described above, with the following exceptions:

- If the comparison criteria for the field duplicate pair were not met when both results were detected for an individual analyte, there was no basis for comparison with the corresponding split-sample data.

- If the comparison criteria for the field duplicate pair were not met when one result was detected and the other result was not detected for an individual analyte, there was no basis for comparison with the corresponding split-sample data.

- If the comparison criteria for the field duplicate pair were not met or if there was no basis for comparison for the field duplicate pair results when both results were nondetects for an individual analyte, there was no basis for comparison with the corresponding split-sample data.

- If the comparison criteria for the field duplicate pair were met for an analyte, the following guidelines were used to assess comparability of the split-sample data:

  - If both field duplicate results were nondetects and their RLs were not the same and the associated split-sample result was nondetect, the RL of the field duplicate pair that was closer to the RL of the split sample was compared with the split-sample RL and the general and no comparison criteria were applied.

  - If both field duplicate results were nondetects and their RLs were not the same and the associated split-sample result was detected, the RL of the field duplicate pair that was closer to the split-sample detected result was compared with the split-sample result and the general and no comparison criteria were applied.

  - If both field duplicate results were nondetects and their RLs were the same and the associated split-sample result was nondetect, the RL of the field duplicate pair was compared with the RL of the split sample and the general and no comparison criteria were applied.

  - If both field duplicate results were detected and the associated split-sample result was detected, the RPD was calculated by comparing the average of the field duplicate results to the split-sample result and the general and no comparison criteria were applied.

  - If both field duplicate results were detected and the associated split-sample result was not detected, the average of the field duplicate results and the split sample RL was used for comparison and the general and no comparison criteria were applied.

- If one field duplicate result was detected and the other was not detected and the associated split-sample result was detected, the detected field duplicate result was compared with the split-sample result and the general and no comparison criteria were applied.

- If one field duplicate result was detected and the other was not detected and the associated split-sample result was not detected, the detected field duplicate result was compared with the split sample RL and the general and no comparison criteria were applied.

Since EPA/TRC and the PRP did not ever collect field duplicates for the same split-sample pair, the criteria used in this situation were not included in this report.

## 4.5 Case-by-Case Comparison Criteria

For each analyte, comparability was assessed using technical judgment on a case-by-case basis if:

- One split-sample result was not detected because of validation qualification for laboratory or field blank contamination or potential laboratory contamination was noted for unvalidated data (e.g., B qualifier).

- One of the general comparison criteria described above was not met.

- Other situations existed that were not addressed in the general comparison criteria or site-specific events that affect the comparison results.

**NOTE**: When technical judgment was used to consider data comparable or non-comparable (e.g., other site-specific conditions or objectives such as both split sample results are below the site cleanup criteria), supporting information is presented in this report.

## 4.6 Overall Analytical Fraction Comparison Criteria

For each split-sample and field duplicate pair, the above criteria are applied on an analyte-by-analyte basis. To evaluate whether split-sample and field duplicate data compare for each analytical fraction analyzed (i.e., VOCs, PCBs, Metals), the percentage of detected analytes that are comparable by fraction for each sample was assessed. If 75% of the detected data (data in which an analyte is detected in either one or both split samples or field duplicates) within an analytical fraction met the comparison criteria, the fraction was considered comparable. If less than 75% of the detected data met the comparison criteria, the nondetected data (data in which an analyte is not detected in both split or field duplicate samples) were then considered, and overall analytical fraction comparability was assessed on a case-by-case basis using professional judgment. Non-comparable data (data in which one or both split-sample or field duplicate results were rejected, not analyzed, or not reported) were not included in the assessment of the analytical fraction. The above criteria served as guidelines for overall comparability of the fraction; however, in some cases technical judgment was used to supplement the guidelines.

## 4.7 Overall Split Sample Comparison Criterion

Each split-sample and field duplicate pair was considered comparable overall if comparability was achieved for 75% of the analytical fractions. This criterion served as a guideline for overall comparability of the split-sample and field duplicate pairs; however, in some cases technical judgment was used to supplement the guideline.

# 5.0 SPLIT SAMPLE COMPARISON RESULTS

Appendix A presents a detailed, quantitative comparison of the EPA/TRC and PRP data. The split sample comparison tables include all samples regardless of the analytical results. The RPD calculated between results of the EPA/TRC samples and PRP samples is also provided in the tables.

**Volatile Organic Compounds**

Table A-1a and A-1b provide summaries of the VOCs in the five groundwater split samples collected and nine soil/sediment split samples collected at Southwest Properties.

**Semi-Volatile Organic Compounds**

Table A-2 provides a summary of the SVOCs in nine soil/sediment split samples collected at Southwest Properties.

**PCB Congeners and PCB Aroclors**

Tables A-3a and A-3b provide summaries of the PCB congeners in the one groundwater split sample and seven soil/sediment split samples collected at Southwest Properties. It should be noted that only the toxicity equivalent quotients (TEQs) of PCB congeners were evaluated for the split sample assessment since the TEQs represented the value used in the decision-making process. Table A-3a and A-3b also provide summaries of the PCB Aroclors in the three groundwater split samples and six soil/sediment split samples collected at Southwest Properties.

**Inorganic Analytes**

Tables A-4a and A-4b provide summaries of metals, cyanide, and/or hexavalent chromium in five groundwater split samples and 14 soil/sediment split samples collected at Southwest Properties.

Based on the review of the split sample results, the qualitative comparability for the two data sets (EPA/TRC and PRP) was generally within the range of acceptable differences expected for results from two laboratories. Some variation in analytical results were noted. The greatest deviation from comparability goals was evident with PCB congener TEQs and the metals in soil/sediment samples. The poor comparability of the data could be attributed to sample heterogeneity and may not be a true measure of data comparability. As discussed in Section 5.3, only a small percentage of these non-comparable results yielded potentially adverse effects on data usability. Based on this, no corrective action was warranted.

## 5.1 Case-by-Case Comparison Results

A brief summary of the results of the quantitative comparison presented in Appendix A is given below. Split sample results were evaluated using the criteria detailed in Section 4.0. This evaluation resulted in the following classifications of split sample results:

- No Basis for Comparison
- Non-Comparable Results
- Comparable Results

Only those data points which were found to have no basis for comparison or to be outside of the comparability goals (Not Comparable Results) are discussed below. All other results are considered comparable. Table 5-5 summarizes the percentage of data that fell into each classification.

### *5.1.1 No Basis for Comparison*

The classification of No Basis for Comparison was used in the following circumstances:

Scenario #1: Compounds were not detected in either party's samples but the quantitation limits were not within 10x each other.

Scenario #2: The result for the compound was rejected in one or both parties' samples.

Scenario #3: The RPD for the compound in the corresponding field duplicate pair was outside the field duplicate acceptance criteria.

Tables 5-1 and 5-2 summarize the samples and results which fell into these categories for groundwater and soil/sediment samples. In all cases, data usability was not affected by these results due to the following reasons:

- Both results were nondetects and both quantitation limits were below the project action limits.

- Both results were nondetects. Only one of the two parties reported a quantitation limit below the project action limit. Since one party demonstrated the absence of this compound below the project action limit, data usability was not adversely affected.

- For compounds where the RPDs in the corresponding field duplicate pair were outside the acceptance criteria, either all three results were below the project action limit or all three results were above the project action limit, thereby not affecting the overall data usability or decision-making process.

### *5.1.2 Non-Comparable Results*

The classification of Non-Comparable Results was used in the following circumstances:

Scenario #1: Compound was detected by each party and one of the two concentrations were >3x its QL for organics or >4x its QL for inorganics and the RPD exceeded the acceptance criteria (30 for groundwater and 50 for soil/sediment samples).

a. both results were below the project action limit; overall data usability not affected.
b. both results were above the project action limit; overall data usability not affected.
c. a project action limit does not exist for the affected compound; overall data usability not affected.
d. only one of the two results exceeded the project action limit; may affect overall data usability.

Scenario #2: Compound was detected by one party at a concentration >3x its QL for organics or >4x its QL for inorganics and was not detected by the other party.

a. both results were below the project action limit; overall data usability not affected.
b. only the detected result or nondetect quantitation limit was above the project action limit; may affect overall data usability.
c. a project action limit does not exist for the affected compound; overall data usability not affected.

Tables 5-3 and 5-4 summarize the samples and results which fell into these categories for groundwater and soil/sediment samples. Instances where data usability was potentially affected are highlighted in these tables.

## 5.2 Overall Analytical Fraction Comparison Results

Overall comparability by analytical fraction and matrix is summarized in Table 5-5. The goal of >75% comparability was not met in several instances. However, technical judgment was used to asses the comparability where data usability was not affected, as discussed below.

**VOCs in soil/sediment:** It should be noted that the majority of VOC results had no basis for comparison due to the differences in quantitation limits between the two parties results. The large difference in quantitation limits was due to the collection and analysis of low-level samples by EPA/TRC and high-level samples by the PRP. It should be noted that the PRP did not collect low-level samples for VOCs in soils, as planned for in the PRP's QAPP and as required by EPA. In most cases, except as noted in Section 6, data usability was not adversely affected for the VOC results as the project action limits were achieved in both cases.

**SVOCs in soil/sediment:** The low percentage of comparable results for the SVOC data did not affect the data usability for all results with the exception of benzo(b)fluoranthene in one sample and benzo(k)fluoranthene in three samples. A trend was noted whereby the concentration of benzo(k)fluoranthene was significantly lower in the results obtained from the PRP's laboratory. Based on this potential trend for benzo(k)fluoranthene, the decision-making process may be affected by the results obtained by the PRP's laboratory on the other soil/sediment samples submitted for SVOC analysis if this process is based only on the results of this select PAH. Other PAHs in the soil and sediment samples exhibit risk; therefore, the benzo(k)fluoranthene bias does not impact the presence or absence of risk.

**PCB Aroclors in soil/sediment samples:** Discrepancies were noted in three of the six soil samples (see Section 6), which potentially affect data usability. In all six of the split samples, the PRP's laboratory identified only one Aroclor while EPA/TRC's laboratory consistently identified the same Aroclor along with one to two additional Aroclors. Based on this potential trend and comparability exceedances in 50% of the split samples, the decision-making process may be affected by the results obtained by the PRP's laboratory on the other soil/sediment samples submitted for PCB Aroclor analysis, especially at properties where PRP Aroclor data represent a significant portion of the database (i.e., Whitney). Since the Whitney property already exhibits risk due to PCB Aroclors in soil, the identified bias will not impact the presence or absence of risk. However, there is potential for the low bias to impact the assessment of the extent of contamination at Whitney and therefore affect data usability for any subsequent feasibility study (FS) and/or remedial action at this property. Where others (e.g., Clean Harbors) collected most of the data, such as at the Aberjona and Murphy properties and the Murphy wetland, the bias in the PRP data will have little or no effect. A further review of the PRP's PCB Aroclor raw data may be useful if feasibility study needs warrant this review.

**PCB Aroclors in groundwater:** There was no basis for comparison for any of the data due to the difference in quantitation limits between the two parties. The laboratory stated that the required quantitation limits for PCB Aroclors in groundwater could not be achieved; this was not determined until after samples had arrived at the laboratory. This deviation from the project requirements was not brought to EPA/TRC's attention until the results of the analyses were submitted to TRC. Since all groundwater samples submitted for PCB Aroclor analysis were also collected as split samples, overall usability was not affected since the EPA/TRC analyses of the split samples accurately demonstrated that PCB Aroclors were not detected at the required quantitation limit.

**PCB congeners and metal in soil/sediment**: In most cases, except as noted in Section 6, the low comparability for the PCB congener (TEQ) and metals data did not affect the data usability as the results exceeded the project action limits or fell below the project action limits in both cases.

## 5.3 Overall Split Sample Comparison Results

As seen in Table 5-5, only 42.8% of the analytical fractions achieved overall comparability of ≥ 75%. Although this is outside the established criteria, data usability was only adversely affected in the following percentage of data.

- VOCs (1.4%)
- SVOCs (1.0%)
- PCB Aroclors (4.8%)
- PCB congeners (12.5%)
- Metals (0.66%)
- Cyanide (0%)
- Hexavalent Chromium (0%)

| Table 5-1. No Basis for Comparison Results: Groundwater Samples | | | |
|---|---|---|---|
| **Sample ID** | **Scenario #1** | **Scenario #2** | **Scenario #3** |
| AB-1 | 1,1,1-Trichloroethane<br>Trichloroethene | - | - |
| AB-6SS | 1,1,1-Trichloroethane<br>Antimony<br>Beryllium<br>Lead<br>Zinc<br>Silver | - | - |
| AB-2SS | All PCB Aroclors | - | - |
| MW-1 | 1,1,1-Trichloroethane<br>Trichloroethene | - | - |
| MW-4S | All PCB Aroclors | - | - |
| MW-6S | All PCB Aroclors | - | - |
| WB-1R | 1,1,1-Trichloroethane<br>Trichloroethene<br>Antimony<br>Beryllium<br>Lead<br>Selenium | - | - |
| MW-18S | Chloroform<br>Carbon tetrachloride<br>1,2-Dichloroethane<br>1,2-Dichloropropane<br>Bromodichloromethane<br>cis-1,3-Dichloropropene<br>trans-1,3-Dichloropropene<br>Ethylene dibromide<br>1,1,2,2-Tetrachloroethane<br>1,4-Dichlorobenzene | 1,2-Dibromo-3-chloropropane | - |

Scenario #1: Compounds not detected in either party's samples but QLs not within 10x each other.

Scenario #2: Result for the compound was rejected in one or both parties' samples.

Scenario #3: RPD for the compound in corresponding field duplicate pair outside field duplicate acceptance criteria.

- No compounds affected under this scenario.

**NOTE:** Data usability not affected by any of these scenarios.

## Table 5-2. No Basis for Comparison Results: Soil/Sediment Samples

| Sample ID | Scenario #1 | Scenario #2 | Scenario #3 |
|---|---|---|---|
| MR-11 (0-0.5) | 27 SVOCs | 2,4-Dimethylphenol<br>4-Chloroaniline<br>2,4-Dinitrophenol<br>4-Nitrophenol<br>Pentachlorophenol<br>Carbazole<br>3,3'-Dichlorobenzidine | Anthracene<br>Bis(2-ethylhexyl)phthalate<br>Benzo(k)fluoranthene<br>Indeno(1,2,3-cd)pyrene<br>Aroclor 1254<br>Aroclor 1260 |
| AB-16 (0-2) | Phenol<br>2-Methylphenol<br>Naphthalene<br>Acenaphthylene<br>Acenaphthene<br>Fluorene<br>All VOCs<br>Selenium | 3,3'-Dichlorobenzidine | - |
| MR-12 (0-0.5) | Hexachlorobenzene | 2,4-Dimethylphenol<br>4-Chloroaniline<br>2,4,5-Trichlorophenol<br>2,4-Dinitrophenol<br>Pentachlorophenol<br>3,3'-Dichlorobenzidine<br>All VOCs | Benzaldehyde |
| WB-6 (0-2) | Phenol<br>2-Methylphenol<br>Aroclor 1221<br>Most VOCs<br>Selenium | 3,3'-Dichlorobenzidine | - |
| WB-7 (0-2) | Phenol<br>2-Methylphenol<br>Aroclor 1016<br>Aroclor 1221<br>Aroclor 1232<br>Aroclor 1248<br>Selenium | 3,3'-Dichlorobenzidine | - |
| WB-10 (0-2) | Phenol<br>2-Methylphenol | 3,3'-Dichlorobenzidine | |
| WB-6 (2-4) | Most VOCs | - | - |
| WB-7 (0-2) | Most VOCs | - | - |
| WB-7 (2-4) | 2-Methylphenol<br>Acenaphthylene<br>Fluorene<br>Hexachlorobenzene<br>Most VOCs | 3,3'-Dichlorobenzidine | - |
| WB-10 (0-2) | Aroclor 1221<br>Most VOCs<br>Selenium<br>Phenol<br>2-Methylphenol | - | - |
| WB-10 (2-4) | Most VOCs | 3,3'-Dichlorobenzidine | - |
| WB-13 (0-2) | 35 SVOCs | 2,4-Dimethylphenol<br>4-Chloroaniline<br>2,4-Dinitrophenol<br>Pentachlorophenol<br>3,3'-Dichlorobenzidine | - |

Refer to Table 5-1 for scenario definitions.

| Table 5-3. Non-Comparable Results: Groundwater Samples | | | | | | | |
|---|---|---|---|---|---|---|---|
| **Sample ID** | **Scenario #1a** | **Scenario #1b** | **Scenario #1c** | **Scenario #1d** | **Scenario #2a** | **Scenario #2b** | **Scenario #2c** |
| AB-1 | - | - | - | - | - | Dibromochloromethane | - |
| AB-6SS | Aluminum<br>Barium<br>Iron | Trichloroethene | Calcium<br>Potassium<br>Sodium | - | Tetrachloroethene | Dibromochloromethane<br>1,4-Dichlorobenzene | - |
| MW-18S | 1,1,2-Trichloro-1,2,2-trifluoroethane | Vinyl chloride | - | - | - | 1,1-Dichloroethene<br>Benzene<br>Trichloroethene | - |
| WB-1R | - | - | Potassium | - | Nickel<br>Copper | - | - |

Data usability may be adversely affected by lack of comparability.

Scenario #1a: One of two detected results was >3x QL for organics or >4x QL for inorganics and RPD exceeded acceptance criteria. Both results below project action limit.

Scenario #1b: One of two detected results was >3x QL for organics or >4x QL for inorganics and RPD exceeded acceptance criteria. Both results above project action limit.

Scenario #1c: One of two detected results was >3x QL for organics or >4x QL for inorganics and RPD exceeded acceptance criteria. A project action limit does not exist for affected compound.

Scenario #1d: One of two detected results was >3x QL for organics or >4x QL for inorganics and RPD exceeded acceptance criteria. One of two results exceeded project action limit.

Scenario #2a: One of two results was detected at >3x QL for organics or >4x QL for inorganics and other result was nondetect. Both results below project action limit.

Scenario #2b: One of two results was detected at >3x QL for organics or >4x QL for inorganics and other result was nondetect. One of two results exceeded project action limit.

Scenario #2c: One of two results was detected at >3x QL for organics or >4x QL for inorganics and other result was nondetect. A project action limit does not exist for affected compound.

- No compounds affected under this scenario.

## Table 5-4. Non-Comparable Results: Soil/Sediment Samples

| Sample ID | Scenario #1a | Scenario #1b | Scenario #1c | Scenario #1d | Scenario #2a | Scenario #2b | Scenario #2c |
|---|---|---|---|---|---|---|---|
| WB-6 (0-2) | Carbazole<br>Butylbenzylphthalate<br>Benzo(k)fluoranthene<br>Benzo(g,h,i)perylene<br>Copper | Indeno(1,2,3-cd)pyrene<br>Dibenz(a,h)anthracene<br>Aroclor 1254 | - | - | Chloromethane<br>Acetone<br>2-Butanone<br>Methylcyclohexane<br>Chlorobenzene<br>Ethylbenzene<br>Xylenes (total)<br>Beryllium<br>Silver | Vinyl chloride<br>MTBE<br>Aroclor 1260 | Sodium |
| WB-6 (2-4) | Toluene<br>Ethylbenzene<br>Xylenes (total) | - | - | - | Acetone<br>Methyl acetate<br>1,1-Dichloroethane<br>Methylcyclohexane<br>Chlorobenzene<br>1,3-Dichlorobenzene<br>1,4-Dichlorobenzene<br>1,2,4-Trichlorobenzene | - | - |
| WB-7 (0-2) | Fluorene<br>Carbazole<br>Benzo(g,h,i)perylene<br>Barium<br>Manganese<br>Zinc | Indeno(1,2,3-cd)pyrene<br>Dibenz(a,h)anthracene<br>PCB TEQ<br>Arsenic | Potassium<br>Sodium | Benzo(k)fluoranthene | Vinyl chloride<br>Chloroethane<br>Acetone<br>2-Butanone<br>Toluene<br>Silver | Aroclor 1260 | - |

## Table 5-4. Non-Comparable Results: Soil/Sediment Samples

| Sample ID | Scenario #1a | Scenario #1b | Scenario #1c | Scenario #1d | Scenario #2a | Scenario #2b | Scenario #2c |
|---|---|---|---|---|---|---|---|
| WB-7 (2-4) | trans-1,2-Dichloroethene<br>1,1-Dichloroethane<br>Toluene<br>Xylenes (total)<br>Acenaphthene<br>Di-n-octylphthalate | Vinyl chloride<br>2-Methylnaphthalene<br>Bis(2-ethylhexyl)phthalate | - | Trichloroethene | Chloroethane<br>Acetone<br>Methyl acetate<br>2-Butanone<br>Cyclohexane<br>Benzene<br>Methylcyclohexane<br>Tetrachloroethene<br>Ethylbenzene<br>1,3-Dichlorobenzene<br>1,4-Dichlorobenzene<br>1,2-Dichlorobenzene<br>1,2,4-Trichlorobenzene | 1,1-<br>Dichloroethene | - |
| WB-8 (0-1) | Cadmium | - | - | - | Antimony<br>Beryllium<br>Mercury<br>Silver | - | - |
| WB-10 (0-2) | Aluminum<br>Chromium<br>Naphthalene<br>2-Methylnaphthalene<br>Acenaphthene<br>Dibenzofuran<br>Fluorene<br>Phenanthrene<br>Anthracene<br>Carbazole<br>Fluoranthene<br>Pyrene<br>Benzo(g,h,i)perylene | Aroclor 1260<br>Benzo(a)anthracene<br>Benzo(b)fluoranthene<br>Benzo(k)fluoranthene<br>Indeno(1,2,3-cd)pyrene<br>Dibenz(a,h)anthracene | - | - | Acetone<br>Cadmium<br>Silver | Aroclor 1254 | Sodium |
| WB-10 (2-4) | Fluorene<br>Benzo(k)fluoranthene | - | - | - | Acetone<br>2-Butanone | - | - |

## Table 5-4. Non-Comparable Results: Soil/Sediment Samples

| Sample ID | Scenario #1a | Scenario #1b | Scenario #1c | Scenario #1d | Scenario #2a | Scenario #2b | Scenario #2c |
|---|---|---|---|---|---|---|---|
| WB-13 (0-2) | Naphthalene<br>2-Methylnaphthalene<br>Dibenzofuran<br>Fluorene<br>Phenanthrene<br>Anthracene<br>Fluoranthene<br>Benzo(g,h,i)perylene<br>Chromium<br>Manganese<br>Mercury<br>Zinc | Indeno(1,2,3-cd)pyrene | - | Benzo(k)fluoranthene | Acetone<br>Cadmium<br>Silver | - | - |
| MR-11 (0-0.5) | Antimony | PCB TEQ<br>Cadmium | - | Benzo(b)fluoranthene | Phenol<br>Mercury<br>Silver | Acetophenone | Sodium |
| MR-11 (0.75-1.75) | - | - | - | Chromium | - | - | - |
| MR-12 (0-0.5) | Aluminum<br>Antimony<br>Barium<br>Cyanide<br>Manganese<br>Vanadium | Phenanthrene<br>Fluoranthene<br>Pyrene<br>Chrysene<br>Benzo(a)anthracene<br>Benzo(a)pyrene<br>Indeno(1,2,3-cd)pyrene<br>Benzo(g,h,i)perylene<br>PCB TEQ<br>Chromium<br>Copper<br>Lead | Calcium<br>Potassium | Benzo(k)fluoranthene | Mercury<br>Silver | Acetophenone<br>Aroclor 1254<br>Beryllium | - |
| AB-13 (0-2) | Aroclor 1254 | - | - | - | Aroclor 1260 | - | - |
| AB-13 (5-7) | - | - | - | PCB TEQ | - | - | - |
| AB-14 (0-2) | Copper<br>Nickel | - | Potassium | - | Mercury<br>Silver | - | - |
| AB-15 (0-2) | Zinc | - | - | - | Cadmium<br>Mercury<br>Silver | - | - |

## Table 5-4. Non-Comparable Results: Soil/Sediment Samples

| Sample ID | Scenario #1a | Scenario #1b | Scenario #1c | Scenario #1d | Scenario #2a | Scenario #2b | Scenario #2c |
|---|---|---|---|---|---|---|---|
| AB-15 (4-4.5) | Aluminum<br>Barium<br>Cadmium<br>Chromium<br>Iron<br>Manganese<br>Vanadium<br>Zinc | - | Calcium<br>Magnesium<br>Potassium | - | Copper<br>Mercury<br>Silver | - | - |
| AB-16 (0-2) | Aluminum<br>Cadmium | Arsenic | - | - | Silver | - | - |

Data usability may be adversely affected by lack of comparability.
Refer to Table 5-3 for scenario definitions.

| Table 5-5. Overall Analytical Fraction Comparison Statistics* | | | | | |
|---|---|---|---|---|---|
| | | **Total # Data Points** | **No Basis for Comparison** | **Not Comparable Results** | **Comparable Results**** |
| **VOCs** | Soil/Sediment | 384 | 81.1% | 11.3% | 7.6% |
| | Groundwater | 239 | 7.5% | 4.6% | 87.9% |
| | All Media | 623 | - | - | 38.5% |
| **SVOCs** | Soil/Sediment | 561 | 18.4% | 10.0% | 71.6% |
| | Groundwater | NA | NA | NA | NA |
| | All Media | 561 | - | - | 71.6% |
| **PCB Aroclors** | Soil/Sediment | 42 | 21.4% | 19.0% | 59.6% |
| | Groundwater | 21 | 100% | 0% | 0% |
| | All Media | 63 | - | - | 39.7% |
| **PCB Congeners (TEQ)** | Soil/Sediment | 7 | 0% | 57.1% | 42.9% |
| | Groundwater | 1 | 0% | 0% | 100% |
| | All Media | 8 | - | - | 50% |
| **Metals** | Soil/Sediment | 254 | 2.0% | 33.1% | 64.9% |
| | Groundwater | 49 | 18.4% | 18.4% | 63.2% |
| | All Media | 303 | - | - | 69.0% |
| **Cyanide** | Soil/Sediment | 12 | 0% | 11.1% | 88.9% |
| | Groundwater | 5 | 0% | 0% | 100% |
| | All Media | 17 | - | - | 94.1% |
| **Hexavalent Chromium** | Soil/Sediment | 2 | 0% | 0% | 100% |
| | Groundwater | NA | NA | NA | NA |
| | All Media | 2 | - | - | 100% |

* The nondetected data (when an analyte was not detected in both split samples) were considered in generation of these statistics.
** Results which were rejected were not included in the assessment of the analytical fraction
NA – Assoicated media not analyzed for this parameter.

# 6.0 SUMMARY

## 6.1 Overall Summary

TRC, under contract to the U.S. Environmental Protection Agency, Contract No. 68-W6-0042, Work Assignment No. 128-RSDB-0146, provided sampling and analytical quality assurance support to EPA as part of field oversight activities at the Wells G&H Southwest Properties site in Woburn, Massachusetts. As part of the field oversight activities, TRC collected eight groundwater samples and 19 soil/sediment split samples. The objective for the collection of the split samples was to monitor the precision and accuracy of the PRP's data. The PRP and EPA split data were both used to augment an existing database to support EPA's preparation of the Southwest Properties human health and ecological risk assessment; therefore, comparability and quantitation limit issues could impact data usability and affect the presence or absence of risk, and/or subsequent response actions (e.g., feasibility studies). Therefore, the comparability and quantitation limit issues were reviewed in the context of the immediate (risk assessment) and foreseeable (feasibility study/remediation) data applications.

A quantitative comparison of the split sample data was performed utilizing an approach that was agreed upon prior to the onset of the project and detailed in TRC's project QAPP. Professional judgment was also applied to the data comparison to evaluate discrepancies noted between the two data sets.

The quantitative comparability for the two data sets (EPA/TRC and PRP) is generally within the range of acceptable differences expected for results from two laboratories. Although some variation in analytical results was noted, the criteria utilized for assessing the split sample results were conservative for inter-laboratory data.

Higher variation in analytical results was noticed for PCB Congener TEQs and metals detected in soil/sediment. In general, the variability between the two data sets in soil/sediment samples could be attributed to sample heterogeneity, and may not be a true measure of data comparability. In addition, only a small subset of these highly variable results potentially affected the data usability, as discussed below. Thus, corrective action is not recommended for these samples.

## 6.2 Comparability Issues Potentially Affecting Data Usability

Table 6-1 summarizes the individual data discrepancy issues that potentially affect data usability and the decision-making process and summarizes potentially impacted risk assessment scenarios, mitigating factors, and potential project impacts. In each case, results from one party's sample exceeded a risk-based standard while the other result fell below the same standard. Since the RETEC 2002 Supplemental Remedial Investigation data may represent a large portion of the database at a particular property and/or in a particular sample matrix, there is potential for the 2002 PRP data to impart a low bias and affect data usability, should the un-split PRP data exhibit a similar bias.

The discrepancies identified in Table 6-1 were reviewed against this potential, and in most cases the discrepancy issues were found to not have a substantive impact on data usability and to not impact the presence or absence of risk at the Southwest Properties site for one or more of the following reasons:

- **PRP Result > EPA Split Result.** Where the PRP result is higher than the EPA result (high bias), the results are considered conservative and thus acceptable for risk assessment purposes. This occurred in 8 of the 23 discrepancies (<35%).

- **Insignificant Low Bias.** Where the low bias imparted by the PRP data would be insignificant (e.g., the magnitude of potential change would not cause calculated risk to exceed or fall below the Target Risk Range or exceed chemical of potential concern [COPC] screening criteria applied in the risk assessment), then no impact on data usability was concluded. This outcome was caused where the bias was mathematically small or where there were insufficient PRP samples present to affect change. This occurred in 9 of the 23 discrepancies (<40%).

- **Mitigating Factors.** Where split results for other samples for the same compound and matrix were acceptable or showed a high bias (i.e., higher result than the EPA split), then the low bias was assumed to be an isolated occurrence. In this case, no impact on data usability was concluded. This occurred in 1 of the 23 discrepancies (<5%).

- **Related Toxic Compound Presence.** In some cases, a related compound without bias issues and with greater toxicity (i.e., benzo(a)pyrene) was present in all samples potentially affected by low bias for the subject compound (i.e., benzo(k) fluoranthene) at equal or greater concentrations. In these cases, no impact on data usability was concluded since decisions made relative to the unbiased compound would address the risk posed by the biased compound. This occurred in 3 of the 23 discrepancies (13%).

However, data comparability issues with the potential to affect data usability were identified in 2 of the 23 discrepancies (<9%), both of which are associated with Aroclor 1260 in soil. These discrepancies are discussed below.

A potential low bias was identified in two Aroclor 1260 surface soil results for the Whitney Property (Total PCB Aroclors in surface soil drive risk at the Whitney property). The PRP results for both samples are over two orders of magnitude lower than EPA's split result, suggesting a low bias that may affect samples that were not split. In addition, as discussed in Section 5.2, RETEC's laboratory identified only one PCB Aroclor in the split soil/sediment samples while EPA/TRC's laboratory consistently identified the same Aroclor along with one to two additional Aroclors. Since the Whitney property already exhibits risk due to PCB Aroclors in soil, the identified bias will not impact the presence or absence of risk. However, there is potential for the low bias to impact the assessment of the extent of contamination at Whitney and therefore affect data usability for any subsequent feasibility study (FS) and/or remedial action at this property. The potential low bias does not impact the presence or absence of risk at Aberjona and Murphy because there are too few PRP samples in the database.

## 6.3 Observed Trends Potentially Affecting Data Usability

In addition to the discrepancies summarized in Table 6-1, several issues were noted based on the results classified as No Basis for Comparison in Section 5.1.1. In all cases, these issues were highlighted due to the presence of a trend in the PRP's data whereby elevated quantitation limits above project action limits were observed. Based on the trend observed in the small split sample data set, it is possible that results for other samples collected by the PRP exhibited similar results. These elevated quantitation limits above the risk-based standards may affect the overall decision-making process and usability of the data. Table 6-2 highlights these exceedances and provides an assessment of potential project impact. Each exceedance issue is discussed below. It should be noted that one-time exceedances were not noted in Table 6-2; only cases where a potential trend existed were included.

- Trichloroethene reporting limits in groundwater exceeded the Region 9 Preliminary Remediation Goal (PRG) for tapwater. However, the PRP quantitation limit (5 ug/L) is comparable to the EPA drinking water Maximum Contaminant Level (MCL). Therefore, the bias imparted by the elevated detection limits for trichloroethene are not considered significant.

- 1,2-Dichloroethane reporting limits in soil in some cases exceeded risk based comparison criteria (i.e., Massachusetts Contingency Plan Method 1 soil standards). However, 1,2-dichloroethane was not detected in soil or groundwater at the site and was not selected as a COPC. Site wide in soil, only 13% of the reporting limits were greater than the risk criterion based on a total of 88 soil samples; therefore 1,2-dichloroethane is unlikely to be a contaminant at the site.

- Elevated quantitation limits above project action limits were also observed for methylene chloride in soil that exceeded comparison criteria (i.e., Massachusetts Contingency Plan Method 1 soil standards). Methylene chloride exceeded the project-required quantitation limits in the PRP's samples due to blank contamination. Since the quantitation limits for methylene chloride were up to almost 10x higher than the project action limit, it is possible for methylene chloride to be present in the soil/sediment samples above project action limits and not be detected by the laboratory. The elevated quantitation limits could impart a high bias when carried through the risk assessment and contribute to uncertainty in the nature and extent of contamination. However, methylene chloride is not a risk driver at the Southwest Properties and the bias imparted by the elevated quantitation limits is not large enough to change this outcome. Therefore, the uncertainty in the risk results are not significant, do not affect the presence or absence of risk, and do not impact the feasibility study process.

## 6.4 Actions to Consider

Two comparability issues associated with Aroclor 1260 were identified in Section 6.2 with the potential to impact data usability and the risk assessment. Actions to consider with regard to

these discrepancies are summarized in Table 6-3. None of the quantitation limit exceedances were determined to have a substantive impact on data usability and the outcome of the risk assessment, and are therefore not included in Table 6-3. Note also that none of the discrepancies and quanitation limit issues affected the outcome of the ecological risk assessment.

**Table 6-1. Summary of Data Discrepancies Which May Affect Data Usability**

| Sample ID | Analyte | EPA/TRC Result | PRP Result | Risk-Based Standard | Maximum (site/property) | Potentially Impacted Scenario(s) | Mitigating Factors | Comments | Potential Project Impact |
|---|---|---|---|---|---|---|---|---|---|
| ***Groundwater:*** | | | | | | | | | |
| AB-1 | Dibromochloromethane | ND (0.1 U µg/L) | 0.49 J µg/L | 0.13 µg/L[1] | 1.51 µg /L/ 1.51 µg /L | Off-site resident<br><br>Commercial Worker, Trespasser, Resident, and Recreational User<br><br>Construction worker | Off-site resident risk based on site maximum (no impact).<br><br>Direct contact risk << TRRs<br><br>Screened out from indoor air risk assessment (ambient air PRG) – no impact.<br><br>Risk << TRRs | Potential change in dibromochloromethane average is ± 11.6% based on split sample results.<br><br>Insufficient change for the split samples to affect the presence or absence of risk. | PRP result is higher than EPA result and thus conservative.<br><br>No impact on data usability. |
| AB-6SS | Dibromochloromethane | ND (0.1 U µg/L) | 1.03 J µg/L | 0.13 µg /L[1] | 1.51 µg /L/ 1.51 µg /L | Off-site resident<br><br>Commercial Worker, Trespasser, Resident, and Recreational User<br><br>Construction worker | Off-site resident risk based on site maximum (no impact).<br><br>Direct contact risk << TRRs<br><br>Screened out from indoor air risk assessment ambient air PRG) – no impact.<br><br>Risk << TRRs | Potential change in dibromochloromethane average is ± 11.6% based on split sample results.<br><br>Insufficient change for the split samples to affect the presence or absence of risk. | PRP result is higher than EPA result and thus conservative.<br><br>No impact on data usability. |
| | 1,4-Dichlorobenzene | 0.484 µg/L | ND (0.75 UJ µg/L) | 0.5 µg/L[1] | 197 µg/L/ 0.484 µg/L | Off-site resident<br><br>Commercial Worker, Trespasser, Resident, and Recreational User<br><br>Construction worker | Off-site resident risk based on site maximum (no impact).<br><br>Conc. << tox screening value (not a direct contact COPC.)<br><br>Indoor air risk for 1,4-dichlorobenzene << TRR. No direct gw contact for these receptors.<br><br>Risk << TRRs | Difference between detection and ½ detection limit is negligible.<br><br>Potential change in 1,4-dichlorobenzene average is 7.8% based on split samples.<br><br>Insufficient change for the split samples to affect the presence or absence of risk. | Insignificant bias.<br><br>No impact on data usability. |

**Table 6-1 *(Cont.)*. Summary of Data Discrepancies Which Affect Data Usability**

| Sample ID | Analyte | EPA/TRC Result | PRP Result | Risk-Based Standard* | Maximum (site/property) | Potentially Impacted Scenario(s) | Mitigating Factors | Comments | Potential Project Impact |
|---|---|---|---|---|---|---|---|---|---|
| MW-18S | 1,1-Dichloroethene | 3 µg/L | ND<br>(0.08 UJ µg/L) | 0.046 µg/L[1] | 9 µg/L/<br>0.194 µg/L | Off-site resident<br><br>Commercial Worker, Trespasser, Resident, and Recreational User<br><br>Construction worker | Off-site resident risk based on site maximum, which is based on un-split Murphy data (no impact).<br><br>Indoor air risk for 1,1-DCE << TRRs. No direct gw contact for these receptors.<br><br>Risk << TRRs | Significant number of 10 µg/L ND results (median/ mode).<br><br>Split sample results unlikely to affect UCL value.<br><br>Potential change in 1,1-DCE average in Murphy groundwater is < 1%. | PRP result is more than an order of magnitude lower than EPA's result (based on PRP quantitation limit).<br><br>Low bias may affect samples that were not split.<br><br>However, the bias evident in the split is not sufficient to affect the presence or absence of risk if it affects the un-split samples.<br><br>No impact on data usability. |
| | Benzene | 2 U µg /L | 0.78 J µg /L | 0.34 µg/L[1] | 86 µg/L/<br>16 µg/L | Off-site resident<br><br>Commercial Worker, Trespasser, Resident, and Recreational User<br><br>Construction worker | Off-site resident risk based on site maximum, which is based on MW-5S from Whitney.<br><br>Indoor air risk for benzene < TRRs. No direct gw contact for these receptors.<br><br>Risk << TRRs | Significant number (22 out of 30) 5 µg/L ND results (median/ mode).<br><br>Split sample results unlikely to affect UCL value.<br><br>Potential change in benzene average is < 0.3 %. | PRP result is a detection, EPA result is ND. Difference between detection and ½ detection limit is negligible.<br><br>Insignificant bias.<br><br>No impact on data usability. |
| | Trichloroethene | 2 µg/L | 5 U µg/L | 1.6 µg/L[1] | 160 µg/L/<br>160 µg/L | Off-site resident<br><br>Commercial Worker, Trespasser, Resident, and Recreational User<br><br>Construction worker | Off-site resident risk based on site maximum (no impact).<br><br>Indoor air risk for TCE << TRRs. No direct gw contact for these receptors.<br><br>Risk << TRRs | Significant number of 10 µg/L ND results (median/ mode).<br><br>Negligible affect on UCL value.<br><br>Difference between detection and ½ detection limit is negligible.<br><br>Potential change in TCE average < 0.2%. | Insignificant bias.<br><br>No impact on data usability. |

**Table 6-1 *(Cont.)*. Summary of Data Discrepancies Which Affect Data Usability**

| Sample ID | Analyte | EPA/TRC Result | PRP Result | Risk-Based Standard* | Maximum (site/property) | Potentially Impacted Scenario(s) | Mitigating Factors | Comments | Potential Project Impact |
|---|---|---|---|---|---|---|---|---|---|
| ***Soil/Sediment:*** | | | | | | | | | |
| WB-6 (0-2) | Vinyl Chloride | ND (2.6 U µg/kg) | 280 µg/kg | 150 µg/kg [2] | 280 µg/kg/ 280 µg/kg | Recreational User (direct contact & indoor air)<br><br>Construction Worker (direct contact & outdoor air)<br><br>Trespasser<br><br>Commercial Worker (direct contact & indoor air). | Direct contact risk > TRR, but VC < TRR.<br><br>Inhalation risk < TRR.<br><br>Direct contact and inhalation risk << TRR.<br><br>Direct contact risk < TRR.<br><br>Direct contact risk HI+1, but VC<TRR.<br><br>Indoor air risk > TRR, but VC < TRR. | Potential change in vinyl chloride average based on split samples is ± 66% (based on surface soil only), and ± 18% (based on 0-15 foot soil data).<br><br>Indoor air HQ for VC is 1.2 for commercial worker. | PRP result is higher than EPA result and thus conservative.<br><br>Too few EPA results to bias indoor air risk low.<br><br>No impact on data usability. |
| | MTBE | ND (2.6 U µg/kg) | 370 µg/kg | 300 µg/kg [3] | 370 µg/kg/ 45 µg/kg | Commercial Worker, Trespasser, Recreational User, and Construction Worker. | Below Screening Level (BSL) for direct contact routes for this medium (not carried through risk assessment).<br><br>No cancer risk calculated for indoor air (no unit risk available). | Potential change in MTBE average based on split samples is ± 70% (based on surface soil only), and ±60% (based on 0-15 foot soil data).<br><br>Insufficient change for the split samples to affect the presence or absence of risk. | PRP result is higher than EPA result and thus conservative.<br><br>Too few EPA results to bias indoor air risk low.<br><br>No impact on data usability. |
| | Aroclor 1260 | 1370 J µg/kg | ND (11.3 UJ µg/kg) | 220 µg/kg [2], 1000 µg/kg [4] | 11,700 J µg/kg / 11,700 J µg/kg | Commercial Worker, Trespasser, Recreational User, and Construction Worker. | Risk assessed on total PCB basis.<br><br>Total PCB Aroclors drive risk for Commercial Worker. | Potential change in Aroclor 1260 average is ± 4.5% based on split sample results.<br><br>PRP result is more than two orders of magnitude lower than EPA result. Other Aroclor 1260 results reported for this property where PRP<EPA, indicating a low bias. | Low bias may affect samples that were not split.<br><br>Too few potentially biased samples at Aberjona and Murphy to impact presence or absence of risk.<br><br>Whitney site already exhibits risk due to PCB Aroclors in soil.<br><br>***Potential for low bias to impact assessment of the extent of contamination (FS Issue).*** |

**Table 6-1 *(Cont.)*. Summary of Data Discrepancies Which Affect Data Usability**

| Sample ID | Analyte | EPA/TRC Result | PRP Result | Risk-Based Standard* | Maximum (site/property) | Potentially Impacted Scenario(s) | Mitigating Factors | Comments | Potential Project Impact |
|---|---|---|---|---|---|---|---|---|---|
| WB-7 (0-2) | Benzo(k)fluoranthene | 6800 µg/kg | 970 J µg/kg | 6200 µg/kg[2], 7000 µg/kg[3] | 18,000 µg/kg / 18,000 µg/kg | Commercial Worker, Trespasser, Recreational User, and Construction Worker. | UCL > max; EPC based on maximum (an EPA result). | Potential change in b(k)f average is ± 10% based on split sample results.<br><br>PRP result is 7 times lower than EPA result. Other b(k)f results reported for this property where PRP<EPA, indicating a low bias. | Low bias may affect samples that were not split and could affect selection of EPC and maximum value for b(k)f.<br><br>However, benzo(a) pyrene, which is more toxic, is present in 95% of the surface soil samples site-wide at equal or greater concentrations; therefore, the low b(k)f bias should have no substantive impact on decision making regarding the presence or absence of risk, the extent of contamination, or remedial action. |
| | Aroclor 1260 | 2000 J µg/kg | ND (5.8 U J µg/kg) | 220 µg/kg[2], 1000 µg/kg[4] | 11,700 J µg/kg / 11,700 J µg/kg | Commercial Worker, Trespasser, Recreational User, and Construction Worker. | Risk assessed on total PCB basis.<br><br>Total PCB Aroclors drive risk for Commercial Worker. | Potential change in Aroclor 1260 average is ± 7%.<br><br>PRP result is more than two orders of magnitude lower than EPA result. Other Aroclor 1260 results reported for this property where PRP<EPA, indicating a low bias. | Low bias may affect samples that were not split.<br><br>Too few potentially biased samples at Aberjona and Murphy to impact presence or absence of risk.<br><br>Whitney site already exhibits risk due to PCB Aroclors in soil.<br><br>***Potential for low bias to impact assessment of the extent of contamination (feasibility study issue).*** |

**Table 6-1 *(Cont.)*. Summary of Data Discrepancies Which Affect Data Usability**

| Sample ID | Analyte | EPA/TRC Result | PRP Result | Risk-Based Standard* | Maximum (site/property) | Potentially Impacted Scenario(s) | Mitigating Factors | Comments | Potential Project Impact |
|---|---|---|---|---|---|---|---|---|---|
| WB-7 (2-4) | Trichloroethene | 740 µg/kg | 120 J µg/kg | 400 µg/kg[3] | 2,080 µg/kg / 740 µg/kg | Recreational User (direct contact and indoor air)<br><br>Construction Worker (direct contact and outdoor air)<br><br>Trespasser<br><br>Commercial Worker (indoor air). | Direct contact and indoor air risk > TRR, but TCE < TRR.<br><br>Direct contact risk > TRR, but TCE < TRR.<br><br>Direct contact risk < TRR.<br><br>Indoor air risk >> TRR, but TCE < TRR. | Potential change in TCE average is ± 45%.<br><br>PRP result is 6 times lower than EPA result. Other deep TCE soil split at Whitney showed elevated detection limits.<br><br>TCE is not a risk driver at Whitney. | Low bias may affect samples that were not split.<br><br>Insufficient bias to affect presence or absence of risk at Aberjona (all ND).<br><br>Insufficient bias to affect presence or absence of risk at Whitney and Murphy. |
| | 1,1-Dichloroethene | 120 µg/kg | 61 U µg/kg | 12,000µg/kg[2], 41,000µg/kg[4] | 120 µg/kg | Recreational User (direct contact and indoor air)<br><br>Construction Worker (direct contact and outdoor air)<br><br>Trespasser<br><br>Commercial Worker (indoor air). | Soil related indoor air risk < TRR.<br><br>BSL for direct contact routes for this medium (not carried through risk assessment). | Potential change in 1,1-DCE average is ± 13%.<br><br>PRP result is 50% lower than EPA result. | Low bias may affect samples that were not split.<br><br>However, the bias is not sufficient to affect COPC selection or the presence/absence of risk.<br><br>No impact on data usability. |
| WB-10 (0-2) | Aroclor 1254 | 2720 J µg/kg | ND (9.3 UJ µg/kg) | 220 µg/kg[2], 1000 µg/kg[4] | 42,500 µg/kg / 42,500 µg/kg | Commercial Worker, Trespasser, Recreational User, and Construction Worker. | Risk assessed on total PCB basis.<br><br>Total PCB Aroclors drive risk for Commercial Worker.<br><br>Aroclor 1254 is one of the large contributors to PCB Aroclor total risk at Whitney. | Potential change in Aroclor 1254 average is ± 5%. RME EPC still based on maximum.<br><br>PRP result is more than two orders of magnitude lower than EPA result for these split samples, but other split results at this site for Aroclor 1254 have been acceptable or biased high, suggesting that bias indicated by these splits may not be widespread. | Limited potential for widespread low bias for Aroclor 1254 at this site. The low bias associated with these split samples appears limited since other split results for Aroclor 1254 are acceptable or biased high.<br><br>No impact on data usability. |

**Table 6-1 *(Cont.)*. Summary of Data Discrepancies Which Affect Data Usability**

| Sample ID | Analyte | EPA/TRC Result | PRP Result | Risk-Based Standard* | Maximum (site/property) | Potentially Impacted Scenario(s) | Mitigating Factors | Comments | Potential Project Impact |
|---|---|---|---|---|---|---|---|---|---|
| WB-13 (0-2) | Benzo(k)fluoranthene | 9100 J µg/kg | 3800 µg/kg | 6200µg/kg [2], 7000 µg/kg [3] | 18,000 µg/kg / 18,000 µg/kg | Commercial Worker, Trespasser, Recreational User, and Construction Worker. | Co-located with other polycyclic aromatic hydrocarbons (PAHs) with greater toxicity. | Potential change in b(k)f average is ± 9%. RME EPC would still be based on maximum.<br><br>PRP result is more than a factor of two lower than EPA result. Other b(k)f results reported for this property where PRP<EPA, indicating a low bias. | Low bias may affect samples that were not split and could affect selection of EPC and maximum value for b(k)f.<br><br>However, benzo(a) pyrene, which is more toxic, is present in 95% of the surface soil samples site-wide at equal or greater concentrations; therefore, the low b(k)f bias should have no substantive impact on decision making regarding the presence or absence of risk, the extent of contamination, or remedial action. |
| MR-11 (0-0.5) (sediment) | Benzo(b)fluoranthene | 380 J µg/kg | 700 J µg/kg | 620 µg/kg [2]<br><br>No eco-based sediment benchmark available. | 2,900 µg/kg | Trespasser and Recreational User<br><br>Muskrat<br>Shrew | Co-located with other PAHs with greater toxicity.<br><br>PAHs do not present ecological risk. | Potential change in b(b)f average is ± 1%. RME EPC would still be based on maximum.<br><br>Insufficient change for the split samples to affect the presence or absence of risk. | PRP result is higher than EPA result and thus conservative.<br><br>Two few EPA samples to bias risk low. |
| | Acetophenone | ND (800 UJ µg/kg) | 5000 J µg/kg | 490 µg/kg[2], 1600 µg/kg [4]<br><br>No eco-based benchmarks available. | 4,950 J µg/kg | Trespasser and Recreational User | HQ << TRR for both RME and CT. | Potential change in acetophenone average is ± 46%, but HQ << TRR for both RME and CT.<br><br>Insufficient change for the split samples to affect the presence or absence of risk. | PRP result is higher than EPA result and thus conservative.<br><br>Limited EPA results in database. Unlikely to impart bias.<br><br>No impact on data usability. |

**Table 6-1(*Cont.*). Summary of Data Discrepancies Which Affect Data Usability**

| Sample ID | Analyte | EPA/TRC Result | PRP Result | Risk-Based Standard* | Maximum (site/property) | Potentially Impacted Scenario(s) | Mitigating Factors | Comments | Potential Project Impact |
|---|---|---|---|---|---|---|---|---|---|
| MR-11 (0.75-1.75) (sediment) | Chromium | 190 mg/kg | 340 mg/kg | 30 mg/kg [2,6]<br>81 mg/kg [7] | 66,500 mg/kg | Trespasser and Recreational User<br>Benthic organisms<br>Muskrat<br>Mallard<br>Shrew | Direct contact risk > TRR | Potential change in chromium average is ± 0.5%. Negligible change to UCL.<br><br>Insufficient change for the split samples to affect the presence or absence of risk. | PRP result is higher that EPA results and thus conservative.<br><br>Majority of data is Clean Harbors, which has no split results – unknown presence of bias. |
| MR-12 (0-0.5) (sediment) | Benzo(k)fluoranthene | 1600 J µg/kg | 190 J µg/kg | 240 µg/kg [5]<br>6,200 µg/kg [2] | 3,300 J µg/kg | Trespasser and Recreational User<br>Benthic organisms<br>Muskrat<br>Shrew | BSL for direct contact routes and was not selected as a COPC (not carried through risk assessment). | Risk not calculated for this compound (not a COPC).<br><br>PAHs not risk driver for ecological receptors using maximum concentration. | PRP result is more than a factor of 8 lower than EPA result.<br><br>Low bias may affect samples that were not split.<br><br>Low bias could have impacted COPC screening process.<br><br>However, benzo(a) pyrene (BAP), which is more toxic, is a COPC and drives risk. BAP is found in every sample with b(k)f at the same or greater concentration in the majority of samples, or otherwise at a similar order of magnitude.<br><br>The low b(k)f bias should have no substantive impact on decision making regarding the presence or absence of risk, the extent of contamination, or remedial action. |
| | Acetophenone | 720 UJ µg/kg | 2,400 J µg/kg | 490 µg/kg [2],<br>1600µg/kg [4]<br><br>No eco-based benchmarks available | 4950 µg/kg | Trespasser and Recreational User | HQ << TRR for both RME and CT. | Potential change in acetophenone average is ± 21%, but HQ << TRR for both RME and CT.<br><br>Insufficient change for the split samples to affect the presence or absence of risk. | PRP result is higher than EPA result and thus conservative.<br><br>No impact on data usability. |

**Table 6-1 *(Cont.)*. Summary of Data Discrepancies Which Affect Data Usability**

| Sample ID | Analyte | EPA/TRC Result | PRP Result | Risk-Based Standard* | Maximum (site/property) | Potentially Impacted Scenario(s) | Mitigating Factors | Comments | Potential Project Impact |
|---|---|---|---|---|---|---|---|---|---|
| MR-12 (0-0.5) Continued | Aroclor 1254 | 310.5 J µg/kg | 16 UJ µg/kg | 220 µg/kg[2], 1000 µg/kg[4] 60 µg/kg[5] | 220,000 µg/kg | Trespasser and Recreational User<br><br>Benthic organisms<br>Muskrat<br>Mallard<br>Shrew | PCB Aroclors are risk drivers in wetland. | Potential change in Aroclor 1254 average is very small due to large amount of pre-existing Clean Harbors data. | Majority of data is Clean Harbors, which has no split results – unknown presence of bias.<br><br>No impact on data usability. |
| | Beryllium | 1000 J µg/kg | 670 U µg/kg | 15,000 µg/kg[2], 190,000µg/kg[4]<br><br>No eco-based benchmark available for benthic organisms | 1300 µg/kg*<br><br>1,000 µg/kg* | Trespasser and Recreational User<br><br>Muskrat<br>Shrew | BSL for direct contact routes and was not selected as a COPC (not carried through risk assessment).<br><br>Beryllium not a risk driver using maximum concentration. | Risk not calculated for this compound (not a COPC). | PRP result is half of EPA result (using reporting limit).<br><br>Maximum result is an order of magnitude lower than screening concentration.<br><br>Low bias unlikely to affect COPC selection process. No impact on data usability. |
| AB-13 (5-7) | PCB TEQ | 0.00765 J µg/kg | 0.00135 J µg/kg | 0.0039[2] | 0.00372 J µg/kg / 0.00765 J µg/kg | Recreational User and Construction Worker. | Potential change in TEQ average is ± 70%. RME EPC remains the max. CT EPC based on average. In both cases, ILCR < TRR. | Potential change in TEQ average is ± 70%. RME EPC remains the max. CT EPC based on average. In both cases, ILCR < TRR.<br><br>Insufficient change for the split samples to affect the presence or absence of risk. | PRP result is more than a factor of 5 lower than EPA result, but only two samples represent this property (1 PRP and 1 EPA).<br><br>EPA result used to calculate risk (max.). |

[1] Region IX Preliminary Remediation Goals (PRGs) for Tap Water (10/01/02).
[2] Region IX PRG for Residential Soil (10/01/02).
[3] Massachusetts Contingency Plan, Method 1 Soil Standards, 10/31/97.
[4] Region IX PRG for Industrial Soil (10/01/02).
[5] Guidelines for the Protection and Management of Aquatic Sediment Quality in Ontario (Lowest Effect Levels), Ontario Ministry of the Environment, 1992.
[6] Region IX PRG for residential soil for hexavalent chromium
[7] USEPA Eco-Tox Thresholds for Sediment, 1996.

* Human Health Risk Assessment Maximum
** Ecological Risk Assessment Maximum

COPC – Chemicals of Potential Concern
VC – Vinyl chloride
HI- Hazard Index
EPC – Exposure Point Concentration
TCE - Trichloroethylene
--- No relevance to conclusion.
ND - Not Detected
MTBE – Methyl tert butyl ether

ILCR – Incremental Lifetime Cancer Risk
BSL – Below screening level for COPC selection.
b(k)f – benzo(k)fluoranthene
b(b)f – benzo(b)fluoranthene
RME – Reasonable Maximum Exposure
CT – Central Tendency
UCL – Upper Concentration Limit gw – groundwater
1,1-DCE – 1,1-dichloroethylene

**Table 6-2. Trends in PRP's Quantitation Limit Exceedances Which Potentially Affect Data Usability**

| Matrix | Analyte | PRP's Reported Quantitation Limit | PRP's Project-Required Quantitation Limit | Risk-Based Standard | Detection Limit Range (site) | Median (site) | Mode (site) Value/#occurrences | Pot. Impacted Scenario(s) | Mitigating Factors | Comments | Potential Project Impact |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Groundwater | Trichloroethene | 5 µg/L | 1 µg/L | 1.6 µg/L[1] | 0.1 – 200 µg/L | 10 U µg/L | 10 U µg/L / 18<br>5 U µg/L / 8 | Off-site resident<br><br>Commercial Worker, Trespasser, Resident, and Recreational User<br><br>Construction worker | Risk based on site max (no impact).<br><br>No direct gw contact for these receptors.<br><br>Indoor air risk for TCE << TRR.<br><br>Risk << TRR | PRP quantitation limit comparable to MCL even without adjustment. | Insignificant bias. |
| Soil/Sediment | Methylene chloride | 280-950 µg/kg | 150 µg/kg | 100 µg/kg[2] | **Soil**<br>4.7 – 4000 µg/kg<br><br>**Sediment**<br>10 – 38,000 µg/kg | **Soil**<br>25 µg/kg<br><br>**Sediment**<br>105 µg/kg | **Soil**<br>25 µg/kg / 14<br>10 µg/kg / 9<br><br>**Sediment**<br>NA | Commercial Worker, Trespasser, Resident, Recreational User, and Construction worker | ***Aberjona –*** *All ND. All but one QL< Risk Standard.*<br><br>***Whitney –*** *60% of NDs < Risk Standard.*<br><br>***Murphy –*** *80% of NDs < Risk Standard*<br><br>***Murphy Wetland –*** *60% of NDs < Risk Standard* | Some PRP results are higher than required limit and risk standard, and may impart a high bias when carried through the risk assessment.<br><br>However, methylene chloride is not a risk driver at the Southwest Properties. | Insignificant bias. |

**Table 6-2. Trends in PRP's Quantitation Limit Exceedances Which Potentially Affect Data Usability**

| Matrix | Analyte | PRP's Reported Quantitation Limit | PRP's Project-Required Quantitation Limit | Risk-Based Standard | Detection Limit Range (site) | Median (site) | Mode (site) Value/#occurrences | Pot. Impacted Scenario(s) | Mitigating Factors | Comments | Potential Project Impact |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | 1,2-Dichloroethane | 34-82 µg/kg | 24 µg/kg | 50 µg/kg[2] | **Soil**<br>1.7 – 5190 µg/kg<br><br>**Sediment**<br>3 – 9500 µg/kg | **Soil**<br>7.5 U µg/kg<br><br>**Sediment**<br>42 UJ µg/kg | **Soil**<br>2.5–2.9U µg/kg / 25<br>7.5 U µg/kg / 19<br><br>**Sediment**<br>NA | Commercial Worker, Trespasser, Resident, Recreational User, and Construction Worker | ***Aberjona –***<br>*All ND. All QLs < Risk Standard*<br><br>***Whitney –***<br>*All ND. All but one QL < Risk Standard*<br><br>***Murphy –***<br>*All ND. 75% of QLs < Risk Standard (without adjustment)*<br><br>***Murphy Wetland –***<br>*All ND. 66% of QLs < Risk Standard (without adjustment).* | 1,2-dichloroethane was not detected in soil and groundwater at the site and was not selected as a COPC.<br><br>Site wide in soil, only 13% of the reporting limits were greater than the risk standard, based on a total of 88 soil samples.<br><br>1,2-dichloroethane is unlikely to be a contaminant at the site. | No impact. |

[1] Region IX PRG for Tap Water (10/01/02)
[2] Massachusetts Contingency Plan, Method 1 Soil Standards, 10/31/97
MCL – Maximum Contaminant Level
NA – Not applicable

**Table 6-3. Actions to Consider for Data Discrepancies with Potential to Impact Risk Assessment**

| Matrix | Sample ID | Analyte | Actions to Consider |
|---|---|---|---|
| *Soil* | WB-6 (0-2) | Aroclor 1260 | ▪ Identify cause(s) of low bias in result. Re-calculate if in error<br>▪ Review soil results that were not split to identify/ document other potential low biased results.<br>▪ Consider resampling as part of feasibility study if systematic error is identified that affects all/most samples. |
| | WB-7 (0-2) | Aroclor 1260 | |

# 7.0 REFERENCES


RETEC 2003 *Supplemental Remedial Investigation Report, Southwest Properties, Wells G&H Superfund Site, Woburn, Massachusetts*. Prepared by the RETEC Group. Prepared for The Beatrice Company. August 2003.

TRC 2003a *Draft Baseline Human Health and Ecological Risk Assessment. Southwest Properties, Wells G&H Superfund Site, Operable Unit 2, Woburn, Massachusetts.* Prepared by TRC Environmental Corporation. Prepared for the United States Environmental Protection Agency – Region 1. November 2003.

TRC 2003b *Technical Review. Supplemental Remedial Investigation Report, Southwest Properties, Volumes I through XXIII, Wells G&H Superfund Site, Woburn, Massachusetts*, August 2003, prepared by The RETEC Group on behalf of Beatrice Company. Technical Review prepared by TRC Environmental Corporation, Lowell, Massachusetts, November 3, 2003.

TRC 2003c *Preliminary Split Sample Comparison Report, Wells G&H – Southwest Properties, Woburn, Massachusetts,* Work Assignment: 128-RSDB-0146. Prepared for the United States Environmental Protection Agency, Region 1. Prepared by TRC Environmental Corporation, Lowell, Massachusetts. May 5, 2003.

# APPENDIX A

# QUALIFIED FORM Is FOR SPLIT SAMPLES COLLECTED BY TRC

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

D03575 AB-1

Lab Name: MITKEM CORPORATION Contract: _____

Lab Code: MITKEM Case No.: 0209M SAS No.: _____ SDG No.: D03579

Matrix: (soil/water) WATER Lab Sample ID: A1862-09A

Sample wt/vol: 5.000 (g/mL) ML Lab File ID: V1F1833

Level: (low/med) LOW Date Received: 12/18/02

% Moisture: not dec. _____ Date Analyzed: 12/26/02

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

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

| CAS NO. | COMPOUND | CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L | Q |
|---|---|---|---|
| 75-71-8 | Dichlorodifluoromethane | 10 | U |
| 74-87-3 | Chloromethane | 0.100 ~~2~~ | U |
| 75-01-4 | Vinyl Chloride | 0.100 ~~2~~ | U |
| 74-83-9 | Bromomethane | 0.100 ~~2~~ | U |
| 75-00-3 | Chloroethane | 2 | U |
| 75-69-4 | Trichlorofluoromethane | 10 | U |
| 75-35-4 | 1,1-Dichloroethene | 0.100 ~~2~~ | U |
| 76-13-1 | 1,1,2-Trichloro-1,2,2-trifluoroethane | 10 | U |
| 67-64-1 | Acetone | 10 | U |
| 75-15-0 | Carbon Disulfide | 0.100 ~~2~~ | U |
| 79-20-9 | Methyl Acetate | 10 | U |
| 75-09-2 | Methylene Chloride | 2 | U |
| 156-60-5 | trans-1,2-Dichloroethene | 10 | U |
| 1634-04-4 | Methyl tert-Butyl Ether | 10 | U |
| 75-34-3 | 1,1-Dichloroethane | 10 | U |
| 156-59-2 | cis-1,2-Dichloroethene | 2 | U |
| 78-93-3 | 2-Butanone | 10 | U |
| 67-66-3 | Chloroform | 0.100 ~~2~~ | U |
| 71-55-6 | 1,1,1-Trichloroethane | 10 | U |
| 110-82-7 | Cyclohexane | 10 | U |
| 56-23-5 | Carbon Tetrachloride | 0.100 ~~2~~ | U |
| 71-43-2 | Benzene | ↓ ~~2~~ | U |
| 107-06-2 | 1,2-Dichloroethane | ↓ ~~2~~ | U |

1B
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

D03575
AB-1

Lab Name: MITKEM CORPORATION Contract: _____

Lab Code: MITKEM Case No.: 0209M SAS No.: _____ SDG No.: D03579

Matrix: (soil/water) WATER Lab Sample ID: A1862-09A

Sample wt/vol: 5.000 (g/mL) ML Lab File ID: V1F1833

Level: (low/med) LOW Date Received: 12/18/02

% Moisture: not dec. _____ Date Analyzed: 12/26/02

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

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

| CAS NO. | COMPOUND | CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L | Q |
|---|---|---|---|
| 79-01-6 | Trichloroethene | 0.100 ~~2~~ | U |
| 108-87-2 | Methylcyclohexane | 10 | U |
| 78-87-5 | 1,2-Dichloropropane | 0.100 ~~2~~ | U |
| 75-27-4 | Bromodichloromethane | ↓ ~~2~~ | U |
| 10061-01-5 | cis-1,3-Dichloropropene | ↓ ~~2~~ | U |
| 108-10-1 | 4-Methyl-2-Pentanone | 10 | U J |
| 108-88-3 | Toluene | 2 | U |
| 10061-02-6 | trans-1,3-Dichloropropene | 0.100 ~~2~~ | U |
| 79-00-5 | 1,1,2-Trichloroethane | ↓ ~~2~~ | U |
| 127-18-4 | Tetrachloroethene | ↓ ~~2~~ | U |
| 591-78-6 | 2-Hexanone | 10 | U J |
| 124-48-1 | Dibromochloromethane | 0.100 ~~2~~ | U |
| 106-93-4 | 1,2-Dibromoethane | ↓ ~~2~~ | U |
| 108-90-7 | Chlorobenzene | 10 | U |
| 100-41-4 | Ethylbenzene | 2 | U |
| 1330-20-7 | Xylene (total) | 10 | U |
| 100-42-5 | Styrene | 10 | U |
| 75-25-2 | Bromoform | 2 | U |
| 98-82-8 | Isopropylbenzene | 10 | U |
| 79-34-5 | 1,1,2,2-Tetrachloroethane | 0.100 ~~2~~ | U |
| 541-73-1 | 1,3-Dichlorobenzene | 0.100 ~~2~~ | U |
| 106-46-7 | 1,4-Dichlorobenzene | 0.100 ~~2~~ | U |
| 95-50-1 | 1,2-Dichlorobenzene | 10 | U |
| 96-12-8 | 1,2-Dibromo-3-chloropropane | 0.100 ~~2~~ | U J |
| 120-82-1 | 1,2,4-Trichlorobenzene | 10 | U |

1F

# VOLATILE ORGANICS ANALYSIS DATA SHEET
## TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

D03575
AB-1

Lab Name: MITKEM CORPORATION Contract: _____

Lab Code: MITKEM Case No.: 0209M SAS No.: _____ SDG No.: D03579

Matrix: (soil/water) WATER Lab Sample ID: A1862-09A

Sample wt/vol: 5.000 (g/mL) ML Lab File ID: V1F1833

Level: (low/med) LOW Date Received: 12/18/02

% Moisture: not dec. _____ Date Analyzed: 12/26/02

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

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

Number TICs found: 0

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

| CAS NUMBER | COMPOUND NAME | RT | EST. CONC. | Q |
|---|---|---|---|---|
| 1. | | | | |
| 2. | | | | |
| 3. | | | | |
| 4. | | | | |
| 5. | | | | |
| 6. | | | | |
| 7. | | | | |
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1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

D03577
AB655

Lab Name: MITKEM CORPORATION Contract: _____

Lab Code: MITKEM Case No.: 0209M SAS No.: _____ SDG No.: D03579

Matrix: (soil/water) WATER Lab Sample ID: A1862-08A

Sample wt/vol: 5.000 (g/mL) ML Lab File ID: V1F1832

Level: (low/med) LOW Date Received: 12/18/02

% Moisture: not dec. _____ Date Analyzed: 12/26/02

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

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

| CAS NO. | COMPOUND | CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L | Q |
|---|---|---|---|
| 75-71-8 | Dichlorodifluoromethane | 10 | U |
| 74-87-3 | Chloromethane | 0.100 ~~2~~ | U |
| 75-01-4 | Vinyl Chloride | 0.153 ~~2~~ | ~~U~~ |
| 74-83-9 | Bromomethane | 0.100 ~~2~~ | U |
| 75-00-3 | Chloroethane | 2 | U |
| 75-69-4 | Trichlorofluoromethane | 10 | U |
| 75-35-4 | 1,1-Dichloroethene | 0.194 ~~2~~ | U |
| 76-13-1 | 1,1,2-Trichloro-1,2,2-trifluoroethane | 10 | U |
| 67-64-1 | Acetone | 10 | U |
| 75-15-0 | Carbon Disulfide | 0.100 ~~2~~ | U |
| 79-20-9 | Methyl Acetate | 10 | U |
| 75-09-2 | Methylene Chloride | 2 | U |
| 156-60-5 | trans-1,2-Dichloroethene | 10 | U |
| 1634-04-4 | Methyl tert-Butyl Ether | 10 | U |
| 75-34-3 | 1,1-Dichloroethane | 10 | U |
| 156-59-2 | cis-1,2-Dichloroethene | 8 | |
| 78-93-3 | 2-Butanone | 10 | U |
| 67-66-3 | Chloroform | 0.107 ~~2~~ | ~~U~~ |
| 71-55-6 | 1,1,1-Trichloroethane | 10 | U |
| 110-82-7 | Cyclohexane | 10 | U |
| 56-23-5 | Carbon Tetrachloride | 0.100 ~~2~~ | U |
| 71-43-2 | Benzene | ↓ ~~2~~ | U |
| 107-06-2 | 1,2-Dichloroethane | ↓ ~~2~~ | U |

1B

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

D03577
AB655

Lab Name: MITKEM CORPORATION Contract: _____

Lab Code: MITKEM Case No.: 0209M SAS No.: _____ SDG No.: D03579

Matrix: (soil/water) WATER Lab Sample ID: A1862-08A

Sample wt/vol: 5.000 (g/mL) ML Lab File ID: V1F1832

Level: (low/med) LOW Date Received: 12/18/02

% Moisture: not dec. _____ Date Analyzed: 12/26/02

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

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

| CAS NO. | COMPOUND | CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L | Q |
|---|---|---|---|
| 79-01-6 | Trichloroethene | 25 | |
| 108-87-2 | Methylcyclohexane | 10 | U |
| 78-87-5 | 1,2-Dichloropropane | 0.100 ~~2~~ | U |
| 75-27-4 | Bromodichloromethane | ~~2~~ | U |
| 10061-01-5 | cis-1,3-Dichloropropene | ~~2~~ | U |
| 108-10-1 | 4-Methyl-2-Pentanone | 10 | U J |
| 108-88-3 | Toluene | 2 | U |
| 10061-02-6 | trans-1,3-Dichloropropene | 0.100 ~~2~~ | U |
| 79-00-5 | 1,1,2-Trichloroethane | ~~2~~ | U |
| 127-18-4 | Tetrachloroethene | 0.418 ~~2~~ | ~~U~~ |
| 591-78-6 | 2-Hexanone | 10 | U J |
| 124-48-1 | Dibromochloromethane | 0.100 ~~2~~ | U |
| 106-93-4 | 1,2-Dibromoethane | ~~2~~ | U |
| 108-90-7 | Chlorobenzene | 10 | U |
| 100-41-4 | Ethylbenzene | 2 | U |
| 1330-20-7 | Xylene (total) | 10 | U |
| 100-42-5 | Styrene | 10 | U |
| 75-25-2 | Bromoform | 2 | U |
| 98-82-8 | Isopropylbenzene | 10 | U |
| 79-34-5 | 1,1,2,2-Tetrachloroethane | 0.100 ~~2~~ | U |
| 541-73-1 | 1,3-Dichlorobenzene | ~~2~~ | U |
| 106-46-7 | 1,4-Dichlorobenzene | 0.484 ~~2~~ | ~~U~~ |
| 95-50-1 | 1,2-Dichlorobenzene | 10 | U |
| 96-12-8 | 1,2-Dibromo-3-chloropropane | 0.100 ~~2~~ | ~~U~~ UJ |
| 120-82-1 | 1,2,4-Trichlorobenzene | 10 | U |

1F

# VOLATILE ORGANICS ANALYSIS DATA SHEET
## TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

D03577
AB-651

Lab Name: MITKEM CORPORATION Contract: _____

Lab Code: MITKEM Case No.: 0209M SAS No.: _____ SDG No.: D03579

Matrix: (soil/water) WATER Lab Sample ID: A1862-08A

Sample wt/vol: 5.000 (g/mL) ML Lab File ID: V1F1832

Level: (low/med) LOW Date Received: 12/18/02

% Moisture: not dec. _____ Date Analyzed: 12/26/02

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

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

Number TICs found: 0

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

| CAS NUMBER | COMPOUND NAME | RT | EST. CONC. | Q |
|---|---|---|---|---|
| 1. | | | | |
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1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

D03579
MW-1

Lab Name: MITKEM CORPORATION Contract: _____

Lab Code: MITKEM Case No.: 0209M SAS No.: _____ SDG No.: D03579

Matrix: (soil/water) WATER Lab Sample ID: A1862-01A

Sample wt/vol: 5.000 (g/mL) ML Lab File ID: V1F1828

Level: (low/med) LOW Date Received: 12/14/02

% Moisture: not dec. _____ Date Analyzed: 12/26/02

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

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

| CAS NO. | COMPOUND | CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L | Q |
|---|---|---|---|
| 75-71-8 | Dichlorodifluoromethane | 10 | U |
| 74-87-3 | Chloromethane | 0.100 ~~2~~ | UJ |
| 75-01-4 | Vinyl Chloride | 0.100 ~~2~~ | U |
| 74-83-9 | Bromomethane | 0.100 ~~2~~ | UJ |
| 75-00-3 | Chloroethane | 2 | U |
| 75-69-4 | Trichlorofluoromethane | 10 | U |
| 75-35-4 | 1,1-Dichloroethene | 0.100 ~~2~~ | U |
| 76-13-1 | 1,1,2-Trichloro-1,2,2-trifluoroethane | 10 | U |
| 67-64-1 | Acetone | 10 | U |
| 75-15-0 | Carbon Disulfide | 0.100 ~~2~~ | U |
| 79-20-9 | Methyl Acetate | 10 | U |
| 75-09-2 | Methylene Chloride | 2 | U |
| 156-60-5 | trans-1,2-Dichloroethene | 10 | U |
| 1634-04-4 | Methyl tert-Butyl Ether | 10 | U |
| 75-34-3 | 1,1-Dichloroethane | 10 | U |
| 156-59-2 | cis-1,2-Dichloroethene | 2 | U |
| 78-93-3 | 2-Butanone | 10 | U |
| 67-66-3 | Chloroform | 0.100 ~~2~~ | U |
| 71-55-6 | 1,1,1-Trichloroethane | 10 | U |
| 110-82-7 | Cyclohexane | 10 | U |
| 56-23-5 | Carbon Tetrachloride | 0.100 ~~2~~ | U |
| 71-43-2 | Benzene | ~~2~~ | U |
| 107-06-2 | 1,2-Dichloroethane | ~~2~~ | U |

1B
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

D03579
MW-1

Lab Name: MITKEM CORPORATION Contract: _____

Lab Code: MITKEM Case No.: 0209M SAS No.: _____ SDG No.: D03579

Matrix: (soil/water) WATER Lab Sample ID: A1862-01A

Sample wt/vol: 5.000 (g/mL) ML Lab File ID: V1F1828

Level: (low/med) LOW Date Received: 12/14/02

% Moisture: not dec. _____ Date Analyzed: 12/26/02

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

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

| CAS NO. | COMPOUND | CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L | Q |
|---|---|---|---|
| 79-01-6 | Trichloroethene | 0.100 ~~2~~ | U |
| 108-87-2 | Methylcyclohexane | 10 | U |
| 78-87-5 | 1,2-Dichloropropane | 0.100 ~~2~~ | U |
| 75-27-4 | Bromodichloromethane | ~~2~~ | U |
| 10061-01-5 | cis-1,3-Dichloropropene | ~~2~~ | U |
| 108-10-1 | 4-Methyl-2-Pentanone | 10 | U J |
| 108-88-3 | Toluene | 2 | U |
| 10061-02-6 | trans-1,3-Dichloropropene | 0.100 ~~2~~ | U |
| 79-00-5 | 1,1,2-Trichloroethane | ~~2~~ | U |
| 127-18-4 | Tetrachloroethene | ~~2~~ | U |
| 591-78-6 | 2-Hexanone | 10 | U J |
| 124-48-1 | Dibromochloromethane | 0.100 ~~2~~ | U |
| 106-93-4 | 1,2-Dibromoethane | ~~2~~ | U |
| 108-90-7 | Chlorobenzene | 10 | U |
| 100-41-4 | Ethylbenzene | 2 | U |
| 1330-20-7 | Xylene (total) | 10 | U |
| 100-42-5 | Styrene | 10 | U |
| 75-25-2 | Bromoform | 2 | U |
| 98-82-8 | Isopropylbenzene | 10 | U |
| 79-34-5 | 1,1,2,2-Tetrachloroethane | 0.100 ~~2~~ | U |
| 541-73-1 | 1,3-Dichlorobenzene | ~~2~~ | U |
| 106-46-7 | 1,4-Dichlorobenzene | ~~2~~ | U |
| 95-50-1 | 1,2-Dichlorobenzene | 10 | U |
| 96-12-8 | 1,2-Dibromo-3-chloropropane | 0.100 ~~2~~ | U J |
| 120-82-1 | 1,2,4-Trichlorobenzene | 10 | U |

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# VOLATILE ORGANICS ANALYSIS DATA SHEET
## TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

D03579
MW-1

Lab Name: MITKEM CORPORATION Contract: _____

Lab Code: MITKEM Case No.: 0209M SAS No.: _____ SDG No.: D03579

Matrix: (soil/water) WATER Lab Sample ID: A1862-01A

Sample wt/vol: 5.000 (g/mL) ML Lab File ID: V1F1828

Level: (low/med) LOW Date Received: 12/14/02

% Moisture: not dec. _____ Date Analyzed: 12/26/02

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

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

Number TICs found: 0

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

| CAS NUMBER | COMPOUND NAME | RT | EST. CONC. | Q |
|---|---|---|---|---|
| 1. | | | | |
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1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

D03581
MW-18S

Lab Name: MITKEM CORPORATION Contract: _____

Lab Code: MITKEM Case No.: 0209M SAS No.: _____ SDG No.: D03579

Matrix: (soil/water) WATER Lab Sample ID: A1862-14A

Sample wt/vol: 5.000 (g/mL) ML Lab File ID: V1F1825

Level: (low/med) LOW Date Received: 12/19/02

% Moisture: not dec. _____ Date Analyzed: 12/26/02

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

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

| CAS NO. | COMPOUND | CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L | Q |
|---|---|---|---|
| 75-71-8 | Dichlorodifluoromethane | 10 | U |
| 74-87-3 | Chloromethane | 2 | U |
| 75-01-4 | Vinyl Chloride | 150 | |
| 74-83-9 | Bromomethane | 2 | U |
| 75-00-3 | Chloroethane | 2 | U |
| 75-69-4 | Trichlorofluoromethane | 10 | U |
| 75-35-4 | 1,1-Dichloroethene | 3 | |
| 76-13-1 | 1,1,2-Trichloro-1,2,2-trifluoroethane | 5 | J |
| 67-64-1 | Acetone | 10 ~~7~~ | ~~J~~ U |
| 75-15-0 | Carbon Disulfide | 2 | U |
| 79-20-9 | Methyl Acetate | 10 | U |
| 75-09-2 | Methylene Chloride | 2 | U |
| 156-60-5 | trans-1,2-Dichloroethene | 11 | |
| 1634-04-4 | Methyl tert-Butyl Ether | 10 | U |
| 75-34-3 | 1,1-Dichloroethane | 100 | |
| 156-59-2 | cis-1,2-Dichloroethene | 360 ~~380~~ | ~~E~~ |
| 78-93-3 | 2-Butanone | 10 | U |
| 67-66-3 | Chloroform | 2 | U |
| 71-55-6 | 1,1,1-Trichloroethane | 36 | |
| 110-82-7 | Cyclohexane | 10 | U |
| 56-23-5 | Carbon Tetrachloride | 2 | U |
| 71-43-2 | Benzene | 2 | U |
| 107-06-2 | 1,2-Dichloroethane | 2 | U |

1B
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

D03581
MW-18 S

Lab Name: MITKEM CORPORATION Contract: _____

Lab Code: MITKEM Case No.: 0209M SAS No.: _____ SDG No.: D03579

Matrix: (soil/water) WATER Lab Sample ID: A1862-14A

Sample wt/vol: 5.000 (g/mL) ML Lab File ID: V1F1825

Level: (low/med) LOW Date Received: 12/19/02

% Moisture: not dec. _____ Date Analyzed: 12/26/02

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

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

| CAS NO. | COMPOUND | CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L | Q |
|---|---|---|---|
| 79-01-6 | Trichloroethene | 2 | |
| 108-87-2 | Methylcyclohexane | 10 | U |
| 78-87-5 | 1,2-Dichloropropane | 2 | U |
| 75-27-4 | Bromodichloromethane | 2 | U |
| 10061-01-5 | cis-1,3-Dichloropropene | 2 | U |
| 108-10-1 | 4-Methyl-2-Pentanone | 10 | U J |
| 108-88-3 | Toluene | 4 | |
| 10061-02-6 | trans-1,3-Dichloropropene | 2 | U |
| 79-00-5 | 1,1,2-Trichloroethane | 2 | U |
| 127-18-4 | Tetrachloroethene | 2 | U |
| 591-78-6 | 2-Hexanone | 10 | U J |
| 124-48-1 | Dibromochloromethane | 2 | U |
| 106-93-4 | 1,2-Dibromoethane | 2 | U |
| 108-90-7 | Chlorobenzene | 10 | U |
| 100-41-4 | Ethylbenzene | 1 | J |
| 1330-20-7 | Xylene (total) | 4 | J |
| 100-42-5 | Styrene | 10 | U |
| 75-25-2 | Bromoform | 2 | U |
| 98-82-8 | Isopropylbenzene | 10 | U |
| 79-34-5 | 1,1,2,2-Tetrachloroethane | 2 | U |
| 541-73-1 | 1,3-Dichlorobenzene | 2 | U |
| 106-46-7 | 1,4-Dichlorobenzene | 2 | U |
| 95-50-1 | 1,2-Dichlorobenzene | 10 | U |
| 96-12-8 | 1,2-Dibromo-3-chloropropane | ~~2~~ | ~~U~~ R |
| 120-82-1 | 1,2,4-Trichlorobenzene | 10 | U |

1F

# VOLATILE ORGANICS ANALYSIS DATA SHEET
## TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

D03581
MW-18S

Lab Name: MITKEM CORPORATION Contract: _____

Lab Code: MITKEM Case No.: 0209M SAS No.: _____ SDG No.: D03579

Matrix: (soil/water) WATER Lab Sample ID: A1862-14A

Sample wt/vol: 5.000 (g/mL) ML Lab File ID: V1F1825

Level: (low/med) LOW Date Received: 12/19/02

% Moisture: not dec. _____ Date Analyzed: 12/26/02

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

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

Number TICs found: 0

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

| CAS NUMBER | COMPOUND NAME | RT | EST. CONC. | Q |
|---|---|---|---|---|
| 1. | | | | |
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1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

D03583
WB-1R

Lab Name: MITKEM CORPORATION Contract: _____

Lab Code: MITKEM Case No.: 0209M SAS No.: _____ SDG No.: D03579

Matrix: (soil/water) WATER Lab Sample ID: A1862-07A

Sample wt/vol: 5.000 (g/mL) ML Lab File ID: V1F1831

Level: (low/med) LOW Date Received: 12/18/02

% Moisture: not dec. _____ Date Analyzed: 12/26/02

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

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

| CAS NO. | COMPOUND | CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L | Q |
|---|---|---|---|
| 75-71-8 | Dichlorodifluoromethane | 10 | U |
| 74-87-3 | Chloromethane | 0.100 ~~2~~ | UJ |
| 75-01-4 | Vinyl Chloride | 0.100 ~~2~~ | U |
| 74-83-9 | Bromomethane | 0.100 ~~2~~ | UJ |
| 75-00-3 | Chloroethane | 2 | U |
| 75-69-4 | Trichlorofluoromethane | 10 | U |
| 75-35-4 | 1,1-Dichloroethene | 0.100 ~~2~~ | U |
| 76-13-1 | 1,1,2-Trichloro-1,2,2-trifluoroethane | 10 | U |
| 67-64-1 | Acetone | 10 | U |
| 75-15-0 | Carbon Disulfide | 0.100 ~~2~~ | U |
| 79-20-9 | Methyl Acetate | 10 | U |
| 75-09-2 | Methylene Chloride | 2 | U |
| 156-60-5 | trans-1,2-Dichloroethene | 10 | U |
| 1634-04-4 | Methyl tert-Butyl Ether | 10 | U |
| 75-34-3 | 1,1-Dichloroethane | 10 | U |
| 156-59-2 | cis-1,2-Dichloroethene | 2 | U |
| 78-93-3 | 2-Butanone | 10 | U |
| 67-66-3 | Chloroform | 0.100 ~~2~~ | U |
| 71-55-6 | 1,1,1-Trichloroethane | 10 | U |
| 110-82-7 | Cyclohexane | 10 | U |
| 56-23-5 | Carbon Tetrachloride | 0.100 ~~2~~ | U |
| 71-43-2 | Benzene | ~~2~~ | U |
| 107-06-2 | 1,2-Dichloroethane | ~~2~~ | U |

1B
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

D03583
WB-1R

Lab Name: MITKEM CORPORATION Contract: _____

Lab Code: MITKEM Case No.: 0209M SAS No.: _____ SDG No.: D03579

Matrix: (soil/water) WATER Lab Sample ID: A1862-07A

Sample wt/vol: 5.000 (g/mL) ML Lab File ID: V1F1831

Level: (low/med) LOW Date Received: 12/18/02

% Moisture: not dec. _____ Date Analyzed: 12/26/02

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

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

| CAS NO. | COMPOUND | CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L | Q |
|---|---|---|---|
| 79-01-6 | Trichloroethene | 0.100 ~~2~~ | U |
| 108-87-2 | Methylcyclohexane | 10 | U |
| 78-87-5 | 1,2-Dichloropropane | 0.100 ~~2~~ | U |
| 75-27-4 | Bromodichloromethane | ↓ ~~2~~ | U |
| 10061-01-5 | cis-1,3-Dichloropropene | ↓ ~~2~~ | U |
| 108-10-1 | 4-Methyl-2-Pentanone | 10 | U J |
| 108-88-3 | Toluene | 2 | U |
| 10061-02-6 | trans-1,3-Dichloropropene | 0.100 ~~2~~ | U |
| 79-00-5 | 1,1,2-Trichloroethane | ↓ ~~2~~ | U |
| 127-18-4 | Tetrachloroethene | ↓ ~~2~~ | U |
| 591-78-6 | 2-Hexanone | 10 | U J |
| 124-48-1 | Dibromochloromethane | 0.100 ~~2~~ | U |
| 106-93-4 | 1,2-Dibromoethane | ↓ ~~2~~ | U |
| 108-90-7 | Chlorobenzene | 10 | U |
| 100-41-4 | Ethylbenzene | 2 | U |
| 1330-20-7 | Xylene (total) | 10 | U |
| 100-42-5 | Styrene | 10 | U |
| 75-25-2 | Bromoform | 2 | U |
| 98-82-8 | Isopropylbenzene | 10 | U |
| 79-34-5 | 1,1,2,2-Tetrachloroethane | 0.100 ~~2~~ | U |
| 541-73-1 | 1,3-Dichlorobenzene | ↓ ~~2~~ | U |
| 106-46-7 | 1,4-Dichlorobenzene | ↓ ~~2~~ | U |
| 95-50-1 | 1,2-Dichlorobenzene | 10 | U |
| 96-12-8 | 1,2-Dibromo-3-chloropropane | 0.100 ~~2~~ | U J |
| 120-82-1 | 1,2,4-Trichlorobenzene | 10 | U |

1F

# VOLATILE ORGANICS ANALYSIS DATA SHEET
## TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

D03583
WB-1R

Lab Name: MITKEM CORPORATION Contract: _____

Lab Code: MITKEM Case No.: 0209M SAS No.: _____ SDG No.: D03579

Matrix: (soil/water) WATER Lab Sample ID: A1862-07A

Sample wt/vol: 5.000 (g/mL) ML Lab File ID: V1F1831

Level: (low/med) LOW Date Received: 12/18/02

% Moisture: not dec. _____ Date Analyzed: 12/26/02

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

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

Number TICs found: 0

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

| CAS NUMBER | COMPOUND NAME | RT | EST. CONC. | Q |
|---|---|---|---|---|
| 1. | | | | |
| 2. | | | | |
| 3. | | | | |
| 4. | | | | |
| 5. | | | | |
| 6. | | | | |
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| 19. | | | | |
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| 27. | | | | |
| 28. | | | | |
| 29. | | | | |
| 30. | | | | |

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

D03585
MWE-18S

Lab Name: MITKEM CORPORATION Contract: _____

Lab Code: MITKEM Case No.: 0209M SAS No.: _____ SDG No.: D03579

Matrix: (soil/water) WATER Lab Sample ID: A1862-15A

Sample wt/vol: 5.000 (g/mL) ML Lab File ID: V1F1826

Level: (low/med) LOW Date Received: 12/19/02

% Moisture: not dec. _____ Date Analyzed: 12/26/02

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

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

| CAS NO. | COMPOUND | CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L | Q |
|---|---|---|---|
| 75-71-8 | Dichlorodifluoromethane | 10 | U |
| 74-87-3 | Chloromethane | 2 | U |
| 75-01-4 | Vinyl Chloride | 130 | |
| 74-83-9 | Bromomethane | 2 | U |
| 75-00-3 | Chloroethane | 2 | U |
| 75-69-4 | Trichlorofluoromethane | 10 | U |
| 75-35-4 | 1,1-Dichloroethene | 2 | U |
| 76-13-1 | 1,1,2-Trichloro-1,2,2-trifluoroethane | 4 | J |
| 67-64-1 | Acetone | 10 ~~7~~ | ~~J~~ U |
| 75-15-0 | Carbon Disulfide | 2 | U |
| 79-20-9 | Methyl Acetate | 10 | U |
| 75-09-2 | Methylene Chloride | 2 | U |
| 156-60-5 | trans-1,2-Dichloroethene | 11 | |
| 1634-04-4 | Methyl tert-Butyl Ether | 10 | U |
| 75-34-3 | 1,1-Dichloroethane | 96 | |
| 156-59-2 | cis-1,2-Dichloroethene | 340 ~~370~~ | ~~B~~ |
| 78-93-3 | 2-Butanone | 10 | U |
| 67-66-3 | Chloroform | 2 | U |
| 71-55-6 | 1,1,1-Trichloroethane | 36 | |
| 110-82-7 | Cyclohexane | 10 | U |
| 56-23-5 | Carbon Tetrachloride | 2 | U |
| 71-43-2 | Benzene | 2 | U |
| 107-06-2 | 1,2-Dichloroethane | 2 | U |

1B
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

D03585
MWE-18S

Lab Name: MITKEM CORPORATION Contract: _____

Lab Code: MITKEM Case No.: 0209M SAS No.: _____ SDG No.: D03579

Matrix: (soil/water) WATER Lab Sample ID: A1862-15A

Sample wt/vol: 5.000 (g/mL) ML Lab File ID: V1F1826

Level: (low/med) LOW Date Received: 12/19/02

% Moisture: not dec. _____ Date Analyzed: 12/26/02

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

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

| CAS NO. | COMPOUND | CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L | Q |
|---|---|---|---|
| 79-01-6 | Trichloroethene | 2 | |
| 108-87-2 | Methylcyclohexane | 10 | U |
| 78-87-5 | 1,2-Dichloropropane | 2 | U |
| 75-27-4 | Bromodichloromethane | 2 | U |
| 10061-01-5 | cis-1,3-Dichloropropene | 2 | U |
| 108-10-1 | 4-Methyl-2-Pentanone | 10 | U J |
| 108-88-3 | Toluene | 3 | |
| 10061-02-6 | trans-1,3-Dichloropropene | 2 | U |
| 79-00-5 | 1,1,2-Trichloroethane | 2 | U |
| 127-18-4 | Tetrachloroethene | 2 | U |
| 591-78-6 | 2-Hexanone | 10 | U J |
| 124-48-1 | Dibromochloromethane | 2 | U |
| 106-93-4 | 1,2-Dibromoethane | 2 | U |
| 108-90-7 | Chlorobenzene | 10 | U |
| 100-41-4 | Ethylbenzene | 1 | J |
| 1330-20-7 | Xylene (total) | 4 | J |
| 100-42-5 | Styrene | 10 | U |
| 75-25-2 | Bromoform | 2 | U |
| 98-82-8 | Isopropylbenzene | 10 | U |
| 79-34-5 | 1,1,2,2-Tetrachloroethane | 2 | U |
| 541-73-1 | 1,3-Dichlorobenzene | 2 | U |
| 106-46-7 | 1,4-Dichlorobenzene | 2 | U |
| 95-50-1 | 1,2-Dichlorobenzene | 10 | U |
| 96-12-8 | 1,2-Dibromo-3-chloropropane | ~~2~~ | ~~U~~ R |
| 120-82-1 | 1,2,4-Trichlorobenzene | 10 | U |

1F

# VOLATILE ORGANICS ANALYSIS DATA SHEET
## TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

D03585
MWE-18S

Lab Name: MITKEM CORPORATION Contract: _____

Lab Code: MITKEM Case No.: 0209M SAS No.: _____ SDG No.: D03579

Matrix: (soil/water) WATER Lab Sample ID: A1862-15A

Sample wt/vol: 5.000 (g/mL) ML Lab File ID: V1F1826

Level: (low/med) LOW Date Received: 12/19/02

% Moisture: not dec. _____ Date Analyzed: 12/26/02

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

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

Number TICs found: 0

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

| CAS NUMBER | COMPOUND NAME | RT | EST. CONC. | Q |
|---|---|---|---|---|
| 1. | | | | |
| 2. | | | | |
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FORM 1
PCB ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

D03576
AB-255

Lab Name: MITKEM CORPORATION Contract:

Lab Code: MITKEM Case No.: 0209M SAS No.: SDG No.: D03579

Matrix: (soil/water) WATER Lab Sample ID: A1862-13A

Sample wt/vol: 1000 (g/ml) ML Lab File ID: E5A8752F

% Moisture: _____ decanted: (Y/N)___ Date Received: 12/18/02

Extraction: (SepF/Cont/Sonc) SEPF Date Extracted: 12/18/02

Concentrated Extract Volume: 1000(uL) Date Analyzed: 01/08/03

Injection Volume: 1.5(uL) Dilution Factor: 1.0

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

| CAS NO. | COMPOUND | CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L | Q |
|---|---|---|---|
| 12674-11-2 | Aroclor-1016 | 0.020 | U J |
| 11104-28-2 | Aroclor-1221 | 0.020 | U |
| 11141-16-5 | Aroclor-1232 | 0.020 | U |
| 53469-21-9 | Aroclor-1242 | 0.020 | U |
| 12672-29-6 | Aroclor-1248 | 0.020 | U |
| 11097-69-1 | Aroclor-1254 | 0.020 | U |
| 11096-82-5 | Aroclor-1260 | 0.020 | U J |

FORM 1
PCB ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

D03580
MW-6S

Lab Name: MITKEM CORPORATION Contract:

Lab Code: MITKEM Case No.: 0209M SAS No.: SDG No.: D03579

Matrix: (soil/water) WATER Lab Sample ID: A1862-11A

Sample wt/vol: 1000 (g/ml) ML Lab File ID: E5A8789F

% Moisture: _____ decanted: (Y/N)___ Date Received: 12/18/02

Extraction: (SepF/Cont/Sonc) SEPF Date Extracted: 12/18/02

Concentrated Extract Volume: 1000(uL) Date Analyzed: 01/09/03

Injection Volume: 1.5(uL) Dilution Factor: 1.0

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

| CAS NO. | COMPOUND | CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L | Q |
|---|---|---|---|
| 12674-11-2------ | Aroclor-1016 | 0.020 | U J |
| 11104-28-2------ | Aroclor-1221 | 0.020 | U |
| 11141-16-5------ | Aroclor-1232 | 0.020 | U |
| 53469-21-9------ | Aroclor-1242 | 0.020 | U |
| 12672-29-6------ | Aroclor-1248 | 0.020 | U |
| 11097-69-1------ | Aroclor-1254 | 0.020 | U |
| 11096-82-5------ | Aroclor-1260 | 0.020 | U J |

FORM 1
PCB ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

D03582
MW-4S

Lab Name: MITKEM CORPORATION Contract:

Lab Code: MITKEM Case No.: 0209M SAS No.: SDG No.: D03579

Matrix: (soil/water) WATER Lab Sample ID: A1862-02A

Sample wt/vol: 1000 (g/ml) ML Lab File ID: E5A8782F

% Moisture: _____ decanted: (Y/N)___ Date Received: 12/14/02

Extraction: (SepF/Cont/Sonc) SEPF Date Extracted: 12/18/02

Concentrated Extract Volume: 1000(uL) Date Analyzed: 01/09/03

Injection Volume: 1.5(uL) Dilution Factor: 1.0

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

| CAS NO. | COMPOUND | CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L | Q |
|---|---|---|---|
| 12674-11-2 | Aroclor-1016 | 0.020 | U |
| 11104-28-2 | Aroclor-1221 | 0.020 | U |
| 11141-16-5 | Aroclor-1232 | 0.020 | U |
| 53469-21-9 | Aroclor-1242 | 0.020 | U |
| 12672-29-6 | Aroclor-1248 | 0.020 | U |
| 11097-69-1 | Aroclor-1254 | 0.020 | U |
| 11096-82-5 | Aroclor-1260 | 0.020 | U |

FORM 1
PCB ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

D03584
MWE-6S

Lab Name: MITKEM CORPORATION Contract:

Lab Code: MITKEM Case No.: 0209M SAS No.: SDG No.: D03579

Matrix: (soil/water) WATER Lab Sample ID: A1862-12A

Sample wt/vol: 1000 (g/ml) ML Lab File ID: E5A8800F

% Moisture: _____ decanted: (Y/N)___ Date Received: 12/18/02

Extraction: (SepF/Cont/Sonc) SEPF Date Extracted: 12/18/02

Concentrated Extract Volume: 1000(uL) Date Analyzed: 01/10/03

Injection Volume: 1.5(uL) Dilution Factor: 1.0

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

| CAS NO. | COMPOUND | CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L | Q |
|---|---|---|---|
| 12674-11-2 | Aroclor-1016 | 0.020 | UJ |
| 11104-28-2 | Aroclor-1221 | 0.020 | U |
| 11141-16-5 | Aroclor-1232 | 0.020 | U |
| 53469-21-9 | Aroclor-1242 | 0.020 | U |
| 12672-29-6 | Aroclor-1248 | 0.020 | U |
| 11097-69-1 | Aroclor-1254 | 0.020 | U |
| 11096-82-5 | Aroclor-1260 | 0.020 | UJ |

# METALS
-1-
## INORGANIC ANALYSIS DATA SHEET

Client: Metcalf & Eddy
Project No.: 02136-0390-01463
Project Name: Woburn, MA-Southwest
Matrix: WATER

Service Request: K2209045
Date Collected: 12/12/02
Date Received: 12/14/02
Units: µG/L
Basis: NA

Sample Name: D03579 MW-1 Lab Code: K2209045-001

| Analyte | Analysis Method | MRL | MDL | Dil. | Date Extracted | Date Analyzed | Result | C | Q |
|---|---|---|---|---|---|---|---|---|---|
| Aluminum | 6020 | 15.0 | 0.4 | 1 | 1/06/03 | 1/8/03 | 23.8 | | ~~B~~ J |
| Antimony | 6020 | 0.500 | 0.005 | 1 | 1/06/03 | 1/8/03 | 0.076 | ~~B~~ | UJ |
| Arsenic | 6020 | 0.20 | 0.05 | 1 | 1/06/03 | 1/9/03 | 0.18 | ~~B~~ | UJ |
| Barium | 6020 | 2.000 | 0.008 | 1 | 1/06/03 | 1/8/03 | 20.6 | | J |
| Beryllium | 6020 | 0.200 | 0.005 | 1 | 1/06/03 | 1/9/03 | 0.006 | ~~B~~ | UJ |
| Cadmium | 6020 | 0.200 | 0.007 | 1 | 1/06/03 | 1/8/03 | 0.155 | ~~B~~ | J |
| Cobalt | 6020 | 2.000 | 0.005 | 1 | 1/06/03 | 1/8/03 | 1.330 | ~~B~~ | J |
| Copper | 6020 | 2.00 | 0.05 | 1 | 1/06/03 | 1/8/03 | 2.18 | | UJ |
| Lead | 6020 | 0.200 | 0.006 | 1 | 1/06/03 | 1/8/03 | 0.057 | B | UJ |
| Manganese | 6020 | 1.00 | 0.04 | 1 | 1/06/03 | 1/8/03 | 23.7 | | J |
| Nickel | 6020 | 20.00 | 0.02 | 1 | 1/06/03 | 1/8/03 | 1.16 | ~~B~~ | UJ |
| Selenium | 6020 | 3.0 | 0.2 | 1 | 1/06/03 | 1/8/03 | 0.2 | U | UJ |
| Silver | 6020 | 1.000 | 0.003 | 1 | 1/06/03 | 1/8/03 | 0.003 | ~~B~~ | UJ |
| Thallium | 6020 | 0.500 | 0.002 | 1 | 1/06/03 | 1/8/03 | 0.041 | ~~B~~ | J |

% Solids: 0.0

Comments:

# METALS
-1-
## INORGANIC ANALYSIS DATA SHEET

SAMPLE NO.
D03579
MW-1

ontract: Metcalf & Eddy

ab Code: KLAB Case No.: 02136-039 SAS No.: 0209M SDG NO.: K2209045

atrix (soil/water): WATER Lab Sample ID: K2209045-001

evel (low/med): LOW Date Received: 12/14/02

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

| CAS No. | Analyte | Concentration | C | Q | M |
|---|---|---|---|---|---|
| 7440-70-2 | Calcium | 26500 | | | P |
| 7440-47-3 | Chromium | 0.72 | B | J | P |
| 7439-89-6 | Iron | 54.4 | B | | P |
| 7439-95-4 | Magnesium | 4100 | | | P |
| 7439-97-6 | Mercury | 0.10 | U | | CV |
| 7440-09-7 | Potassium | 2930 | | | P |
| 7440-23-5 | Sodium | 41000 | | | P |
| 7440-62-2 | Vanadium | 0.60 | U | | P |
| 7440-66-6 | Zinc | 1.4 | B | UJ | P |

Color Before: Clarity Before: Texture:

Color After: Clarity After: Artifacts:

Comments:

# METALS
-1-
## INORGANIC ANALYSIS DATA SHEET

Client: Metcalf & Eddy
Project No.: 02136-0390-01463
Project Name: Woburn, MA-Southwest
Matrix: WATER

Service Request: K2209045
Date Collected: 12/13/02
Date Received: 12/14/02
Units: µG/L
Basis: NA

Sample Name: D03582 MW-45 Lab Code: K2209045-002

| Analyte | Analysis Method | MRL | MDL | Dil. | Date Extracted | Date Analyzed | Result | C | Q |
|---|---|---|---|---|---|---|---|---|---|
| Aluminum | 6020 | 15.0 | 0.4 | 1 | 1/06/03 | 1/8/03 | 20.9 | | ~~B~~ J |
| Antimony | 6020 | 0.500 | 0.005 | 1 | 1/06/03 | 1/8/03 | 0.274 | ~~B~~ | UJ |
| Arsenic | 6020 | 0.20 | 0.05 | 1 | 1/06/03 | 1/9/03 | 0.20 | ~~B~~ | UJ |
| Barium | 6020 | 2.000 | 0.008 | 1 | 1/06/03 | 1/8/03 | 15.7 | | J |
| Beryllium | 6020 | 0.200 | 0.005 | 1 | 1/06/03 | 1/9/03 | 0.005 | U | |
| Cadmium | 6020 | 0.200 | 0.007 | 1 | 1/06/03 | 1/8/03 | 0.039 | ~~B~~ | J |
| Cobalt | 6020 | 2.000 | 0.005 | 1 | 1/06/03 | 1/8/03 | 0.546 | ~~B~~ | J |
| Copper | 6020 | 2.00 | 0.05 | 1 | 1/06/03 | 1/8/03 | 1.64 | ~~B~~ | UJ |
| Lead | 6020 | 0.200 | 0.006 | 1 | 1/06/03 | 1/8/03 | 0.887 | | UJ |
| Manganese | 6020 | 1.00 | 0.04 | 1 | 1/06/03 | 1/8/03 | 75.8 | | J |
| Nickel | 6020 | 20.00 | 0.02 | 1 | 1/06/03 | 1/8/03 | 0.93 | ~~B~~ | UJ |
| Selenium | 6020 | 3.0 | 0.2 | 1 | 1/06/03 | 1/8/03 | 0.3 | ~~B~~ | J |
| Silver | 6020 | 1.000 | 0.003 | 1 | 1/06/03 | 1/8/03 | 0.003 | ~~B~~ | UJ |
| Thallium | 6020 | 0.500 | 0.002 | 1 | 1/06/03 | 1/8/03 | 0.012 | ~~B~~ | J |

% Solids: 0.0

Comments:

# METALS

-1-

## INORGANIC ANALYSIS DATA SHEET

SAMPLE NO.

D03582 MW-45

ontract: Metcalf & Eddy

ab Code: KLAB Case No.: 02136-039 SAS No.: 0209M SDG NO.: K2209045

atrix (soil/water): WATER Lab Sample ID: K2209045-002

evel (low/med): LOW Date Received: 12/14/02

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

| CAS No. | Analyte | Concentration | C | Q | M |
|---|---|---|---|---|---|
| 7440-70-2 | Calcium | 46100 | | | P |
| 7440-47-3 | Chromium | 3.1 | B | | P |
| 7439-89-6 | Iron | 664 | | | P |
| 7439-95-4 | Magnesium | 2560 | | | P |
| 7439-97-6 | Mercury | 0.10 | U | | CV |
| 7440-09-7 | Potassium | 2640 | | | P |
| 7440-23-5 | Sodium | 39700 | | | P |
| 7440-62-2 | Vanadium | 0.60 | U | | P |
| 7440-66-6 | Zinc | 1.9 | B | UJ. | P |

Color Before: Clarity Before: Texture:

Color After: Clarity After: Artifacts:

Comments:

# METALS
-1-
## INORGANIC ANALYSIS DATA SHEET

Client: Metcalf & Eddy
Project No.: 02136-0390-01463
Project Name: Woburn, MA-Southwest
Matrix: WATER

Service Request: K2209045
Date Collected: 12/18/02
Date Received: 12/20/02
Units: µG/L
Basis: NA

Sample Name: D03581 MW-18S  Lab Code: K2209045-009

| Analyte | Analysis Method | MRL | MDL | Dil. | Date Extracted | Date Analyzed | Result | C | Q |
|---|---|---|---|---|---|---|---|---|---|
| Aluminum | 6020 | 150 | 4.0 | 10 | 1/06/03 | 1/8/03 | 294 | | ~~E~~ J |
| Antimony | 6020 | 0.500 | 0.005 | 1 | 1/06/03 | 1/8/03 | 0.146 | ~~B~~ | UJ |
| Arsenic | 6020 | 0.20 | 0.05 | 1 | 1/06/03 | 1/9/03 | 1.36 | | UJ |
| Barium | 6020 | 2.000 | 0.008 | 1 | 1/06/03 | 1/8/03 | 14.6 | | J |
| Beryllium | 6020 | 0.200 | 0.005 | 1 | 1/06/03 | 1/9/03 | 0.031 | ~~B~~ | UJ |
| Cadmium | 6020 | 0.200 | 0.007 | 1 | 1/06/03 | 1/8/03 | 0.010 | ~~B~~ | J |
| Cobalt | 6020 | 2.000 | 0.005 | 1 | 1/06/03 | 1/8/03 | 0.463 | ~~B~~ | J |
| Copper | 6020 | 2.00 | 0.05 | 1 | 1/06/03 | 1/8/03 | 0.59 | ~~B~~ | UJ |
| Lead | 6020 | 0.200 | 0.006 | 1 | 1/06/03 | 1/8/03 | 3.360 | | J |
| Manganese | 6020 | 10.00 | 0.40 | 10 | 1/06/03 | 1/8/03 | 201 | | J |
| Nickel | 6020 | 20.00 | 0.02 | 1 | 1/06/03 | 1/8/03 | 1.80 | ~~B~~ | UJ |
| Selenium | 6020 | 3.0 | 0.2 | 1 | 1/06/03 | 1/8/03 | 0.7 | ~~B~~ | J |
| Silver | 6020 | 1.000 | 0.003 | 1 | 1/06/03 | 1/8/03 | 0.003 | U | UJ |
| Thallium | 6020 | 0.500 | 0.002 | 1 | 1/06/03 | 1/8/03 | 0.003 | ~~B~~ | UJ |

% Solids: 0.0

Comments:

# METALS

-1-

## INORGANIC ANALYSIS DATA SHEET

SAMPLE NO.

D03581 MW-18S

ntract: Metcalf & Eddy

b Code: KLAB Case No.: 02136-039 SAS No.: 0209M SDG NO.: K2209045

trix (soil/water): WATER Lab Sample ID: K2209045-009

vel (low/med): LOW Date Received: 12/20/02

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

| CAS No. | Analyte | Concentration | C | Q | M |
|---|---|---|---|---|---|
| 7440-70-2 | Calcium | 60700 | | | P |
| 7440-47-3 | Chromium | 10.3 | | | P |
| 7439-89-6 | Iron | 3110 | | | P |
| 7439-95-4 | Magnesium | 6140 | | | P |
| 7439-97-6 | Mercury | 0.10 | U | | CV |
| 7440-09-7 | Potassium | 3280 | | | P |
| 7440-23-5 | Sodium | 53100 | | | P |
| 7440-62-2 | Vanadium | 2.8 | B | | P |
| 7440-66-6 | Zinc | 2.1 | B | U | P |

Color Before: Clarity Before: Texture:

Color After: Clarity After: Artifacts:

Comments:

# METALS

-1-

## INORGANIC ANALYSIS DATA SHEET

Client: Metcalf & Eddy
Project No.: 02136-0390-01463
Project Name: Woburn, MA-Southwest
Matrix: WATER

Service Request: K2209045
Date Collected: 12/18/02
Date Received: 12/20/02
Units: µG/L
Basis: NA

Sample Name: D03585 MWE-18S

Lab Code: K2209045-010

| Analyte | Analysis Method | MRL | MDL | Dil. | Date Extracted | Date Analyzed | Result | C | Q |
|---|---|---|---|---|---|---|---|---|---|
| Aluminum | 6020 | 150 | 4.0 | 10 | 1/06/03 | 1/8/03 | 292 | | ~~B~~ J |
| Antimony | 6020 | 0.500 | 0.005 | 1 | 1/06/03 | 1/8/03 | 0.143 | ~~B~~ | ~~U~~ J |
| Arsenic | 6020 | 0.20 | 0.05 | 1 | 1/06/03 | 1/9/03 | 1.49 | | ~~U~~ J |
| Barium | 6020 | 2.000 | 0.008 | 1 | 1/06/03 | 1/8/03 | 16.1 | | J |
| Beryllium | 6020 | 0.200 | 0.005 | 1 | 1/06/03 | 1/9/03 | 0.030 | ~~B~~ | ~~U~~ J |
| Cadmium | 6020 | 0.200 | 0.007 | 1 | 1/06/03 | 1/8/03 | 0.011 | ~~B~~ | J |
| Cobalt | 6020 | 2.000 | 0.005 | 1 | 1/06/03 | 1/8/03 | 1.160 | B | J |
| Copper | 6020 | 2.00 | 0.05 | 1 | 1/06/03 | 1/8/03 | 0.92 | ~~B~~ | ~~U~~ J |
| Lead | 6020 | 0.200 | 0.006 | 1 | 1/06/03 | 1/8/03 | 2.610 | | J |
| Manganese | 6020 | 10.00 | 0.40 | 10 | 1/06/03 | 1/8/03 | 214 | | J |
| Nickel | 6020 | 20.00 | 0.02 | 1 | 1/06/03 | 1/8/03 | 7.75 | ~~B~~ | ~~U~~ J |
| Selenium | 6020 | 3.0 | 0.2 | 1 | 1/06/03 | 1/8/03 | 0.7 | B | J |
| Silver | 6020 | 1.000 | 0.003 | 1 | 1/06/03 | 1/8/03 | 0.003 | U | UJ |
| Thallium | 6020 | 0.500 | 0.002 | 1 | 1/06/03 | 1/8/03 | 0.003 | ~~B~~ | ~~U~~ J |

% Solids: 0.0

Comments:

# METALS

-1-

## INORGANIC ANALYSIS DATA SHEET

SAMPLE NO.

D03585
MWE-18S

ontract: Metcalf & Eddy

ab Code: KLAB Case No.: 02136-039 SAS No.: 0209M SDG NO.: K2209045

atrix (soil/water): WATER Lab Sample ID: K2209045-010

evel (low/med): LOW Date Received: 12/20/02

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

| CAS No. | Analyte | Concentration | C | Q | M |
|---|---|---|---|---|---|
| 7440-70-2 | Calcium | 58300 | | | P |
| 7440-47-3 | Chromium | 22.1 | | | P |
| 7439-89-6 | Iron | 3070 | | | P |
| 7439-95-4 | Magnesium | 6040 | | | P |
| 7439-97-6 | Mercury | 0.10 | U | | CV |
| 7440-09-7 | Potassium | 3260 | | | P |
| 7440-23-5 | Sodium | 54900 | | | P |
| 7440-62-2 | Vanadium | 3.0 | B | | P |
| 7440-66-6 | Zinc | 4.3 | B | J | P |

Color Before: Clarity Before: Texture:

Color After: Clarity After: Artifacts:

Comments:

# METALS
-1-
## INORGANIC ANALYSIS DATA SHEET

| | | | |
|---|---|---|---|
| Client: | Metcalf & Eddy | Service Request: | K2209045 |
| Project No.: | 02136-0390-01463 | Date Collected: | 12/16/02 |
| Project Name: | Woburn, MA-Southwest | Date Received: | 12/18/02 |
| Matrix: | WATER | Units: | µG/L |
| | | Basis: | NA |

Sample Name: DO3583 WB-1R  Lab Code: K2209045-006

| Analyte | Analysis Method | MRL | MDL | Dil. | Date Extracted | Date Analyzed | Result | C | Q |
|---|---|---|---|---|---|---|---|---|---|
| Aluminum | 6020 | 15.0 | 0.4 | 1 | 1/06/03 | 1/8/03 | 55.9 | | ~~E~~ J |
| Antimony | 6020 | 0.500 | 0.005 | 1 | 1/06/03 | 1/8/03 | 0.019 | B | UJ |
| Arsenic | 6020 | 0.20 | 0.05 | 1 | 1/06/03 | 1/9/03 | 0.15 | B | UJ |
| Barium | 6020 | 2.000 | 0.008 | 1 | 1/06/03 | 1/8/03 | 11.9 | | J |
| Beryllium | 6020 | 0.200 | 0.005 | 1 | 1/06/03 | 1/9/03 | 0.008 | B | UJ |
| Cadmium | 6020 | 0.200 | 0.007 | 1 | 1/06/03 | 1/8/03 | 0.180 | B | J |
| Cobalt | 6020 | 2.000 | 0.005 | 1 | 1/06/03 | 1/8/03 | 7.760 | | J |
| Copper | 6020 | 2.00 | 0.05 | 1 | 1/06/03 | 1/8/03 | 11.4 | | J |
| Lead | 6020 | 0.200 | 0.006 | 1 | 1/06/03 | 1/8/03 | 0.227 | | UJ |
| Manganese | 6020 | 10.00 | 0.40 | 10 | 1/06/03 | 1/8/03 | 198 | | J |
| Nickel | 6020 | 20.00 | 0.02 | 1 | 1/06/03 | 1/8/03 | 7.91 | B | UJ |
| Selenium | 6020 | 3.0 | 0.2 | 1 | 1/06/03 | 1/8/03 | 0.2 | U | UJ |
| Silver | 6020 | 1.000 | 0.003 | 1 | 1/06/03 | 1/8/03 | 0.269 | B | UJ |
| Thallium | 6020 | 0.500 | 0.002 | 1 | 1/06/03 | 1/8/03 | 0.025 | B | JN |

% Solids: 0.0

Comments:

# METALS
-1-
## INORGANIC ANALYSIS DATA SHEET

SAMPLE NO.
DO3583
WB-1R

ontract: Metcalf & Eddy

ab Code: KLAB Case No.: 02136-039 SAS No.: 0209M SDG NO.: K2209045

atrix (soil/water): WATER Lab Sample ID: K2209045-006

evel (low/med): LOW Date Received: 12/18/02

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

| CAS No. | Analyte | Concentration | C | Q | M |
|---|---|---|---|---|---|
| 7440-70-2 | Calcium | 48200 | | | P |
| 7440-47-3 | Chromium | 6.1 | B | | P |
| 7439-89-6 | Iron | 297 | | | P |
| 7439-95-4 | Magnesium | 11500 | | | P |
| 7439-97-6 | Mercury | 0.10 | U | | CV |
| 7440-09-7 | Potassium | 3790 | | | P |
| 7440-23-5 | Sodium | 77800 | | | P |
| 7440-62-2 | Vanadium | 0.60 | U | | P |
| 7440-66-6 | Zinc | 8.6 | B | J | P |

Color Before: Clarity Before: Texture:

Color After: Clarity After: Artifacts:

Comments:

# METALS
-1-
## INORGANIC ANALYSIS DATA SHEET

| | | | |
|---|---|---|---|
| Client: | Metcalf & Eddy | Service Request: | K2209045 |
| Project No.: | 02136-0390-01463 | Date Collected: | 12/16/02 |
| Project Name: | Woburn, MA-Southwest | Date Received: | 12/18/02 |
| Matrix: | WATER | Units: | µG/L |
| | | Basis: | NA |

Sample Name: DO3577 AB-GSS  Lab Code: K2209045-007

| Analyte | Analysis Method | MRL | MDL | Dil. | Date Extracted | Date Analyzed | Result | C | Q |
|---|---|---|---|---|---|---|---|---|---|
| Aluminum | 6020 | 15.0 | 0.4 | 1 | 1/06/03 | 1/8/03 | 74.7 | | ~~B~~ J |
| Antimony | 6020 | 0.500 | 0.005 | 1 | 1/06/03 | 1/8/03 | 0.019 | ~~B~~ | UJ |
| Arsenic | 6020 | 0.20 | 0.05 | 1 | 1/06/03 | 1/9/03 | 0.37 | | UJ |
| Barium | 6020 | 2.000 | 0.008 | 1 | 1/06/03 | 1/8/03 | 15.5 | | J |
| Beryllium | 6020 | 0.200 | 0.005 | 1 | 1/06/03 | 1/9/03 | 0.008 | ~~B~~ | UJ |
| Cadmium | 6020 | 0.200 | 0.007 | 1 | 1/06/03 | 1/8/03 | 0.030 | ~~B~~ | J |
| Cobalt | 6020 | 2.000 | 0.005 | 1 | 1/06/03 | 1/8/03 | 0.568 | ~~B~~ | J |
| Copper | 6020 | 2.00 | 0.05 | 1 | 1/06/03 | 1/8/03 | 1.39 | ~~B~~ | UJ |
| Lead | 6020 | 0.200 | 0.006 | 1 | 1/06/03 | 1/8/03 | 0.064 | ~~B~~ | UJ |
| Manganese | 6020 | 10.00 | 0.40 | 10 | 1/06/03 | 1/8/03 | 398 | | J |
| Nickel | 6020 | 20.00 | 0.02 | 1 | 1/06/03 | 1/8/03 | 1.22 | ~~B~~ | UJ |
| Selenium | 6020 | 3.0 | 0.2 | 1 | 1/06/03 | 1/8/03 | 0.3 | ~~B~~ | J |
| Silver | 6020 | 1.000 | 0.003 | 1 | 1/06/03 | 1/8/03 | 0.003 | U | UJ |
| Thallium | 6020 | 0.500 | 0.002 | 1 | 1/06/03 | 1/8/03 | 0.016 | ~~B~~ | J |

% Solids: 0.0

Comments:

# METALS

-1-

## INORGANIC ANALYSIS DATA SHEET

SAMPLE NO.

D03577 AB655

ntract: Metcalf & Eddy

b Code: KLAB Case No.: 02136-039 SAS No.: 0209M SDG NO.: K2209045

trix (soil/water): WATER Lab Sample ID: K2209045-007

vel (low/med): LOW Date Received: 12/18/02

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

| CAS No. | Analyte | Concentration | C | Q | M |
|---|---|---|---|---|---|
| 7440-70-2 | Calcium | 8680 | | | P |
| 7440-47-3 | Chromium | 1.2 | B | | P |
| 7439-89-6 | Iron | 118 | | | P |
| 7439-95-4 | Magnesium | 4600 | | | P |
| 7439-97-6 | Mercury | 0.10 | U | | CV |
| 7440-09-7 | Potassium | 4580 | | | P |
| 7440-23-5 | Sodium | 1010000 | | | P |
| 7440-62-2 | Vanadium | 0.60 | U | | P |
| 7440-66-6 | Zinc | 0.97 | B | UJ | P |

Color Before: Clarity Before: Texture:

Color After: Clarity After: Artifacts:

Comments:

# METALS

-1-

## INORGANIC ANALYSIS DATA SHEET

SAMPLE NO.

D03579
MW-1

ontract: Metcalf & Eddy

ab Code: KLAB Case No.: 02136-039 SAS No.: 0209M SDG NO.: K2209045

atrix (soil/water): WATER Lab Sample ID: K2209045-001

evel (low/med): LOW Date Received:

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

| CAS No. | Analyte | Concentration | C | Q | M |
|---|---|---|---|---|---|
| | Cyanide | 3.6 | B | J | C |

olor Before: Clarity Before: Texture:

olor After: Clarity After: Artifacts:

omments:

# METALS
-1-
## INORGANIC ANALYSIS DATA SHEET

SAMPLE NO.
D03582 MW-4S

ontract: Metcalf & Eddy

ab Code: KLAB Case No.: 02136-039 SAS No.: 0209M SDG NO.: K2209045

atrix (soil/water): WATER Lab Sample ID: K2209045-002

evel (low/med): LOW Date Received:

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

| CAS No. | Analyte | Concentration | C | Q | M |
|---|---|---|---|---|---|
| | Cyanide | 3.0 | B | J | C |

olor Before: Clarity Before: Texture:

olor After: Clarity After: Artifacts:

omments:

# METALS

-1-

## INORGANIC ANALYSIS DATA SHEET

SAMPLE NO.

D03583
WG-1R

ɔntract: Metcalf & Eddy

ıb Code: KLAB Case No.: 02136-039 SAS No.: 0209M SDG NO.: K2209045

ıtrix (soil/water): WATER Lab Sample ID: K2209045-006

ıvel (low/med): LOW Date Received:

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

| CAS No. | Analyte | Concentration | C | Q | M |
|---|---|---|---|---|---|
| | Cyanide | 5.8 | | J | C |

ɔ: Before: Clarity Before: Texture:

ɔlor After: Clarity After: Artifacts:

ɔmments:

# METALS
-1-
## INORGANIC ANALYSIS DATA SHEET

SAMPLE NO.
D03577
AB-655

ontract: Metcalf & Eddy

ab Code: KLAB Case No.: 02136-039 SAS No.: 0209M SDG NO.: K2209045

atrix (soil/water): WATER Lab Sample ID: K2209045-007

evel (low/med): LOW Date Received:

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

| CAS No. | Analyte | Concentration | C | Q | M |
|---|---|---|---|---|---|
| | Cyanide | 3.0 | U | | C |

c Before: Clarity Before: Texture:

olor After: Clarity After: Artifacts:

omments:

# METALS
-1-
## INORGANIC ANALYSIS DATA SHEET

SAMPLE NO.
DO3581
MW-18S

Contract: Metcalf & Eddy

Lab Code: KLAB Case No.: 02136-039 SAS No.: 0209M SDG NO.: K2209045

Matrix (soil/water): WATER Lab Sample ID: K2209045-009

Level (low/med): LOW Date Received:

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

| CAS No. | Analyte | Concentration | C | Q | M |
|---|---|---|---|---|---|
| | Cyanide | 3.0 | U | | C |

Color Before: Clarity Before: Texture:

Color After: Clarity After: Artifacts:

Comments:

# METALS

-1-

## INORGANIC ANALYSIS DATA SHEET

SAMPLE NO.

D03585 MWE-18S

ɔntract: Metcalf & Eddy

ıb Code: KLAB Case No.: 02136-039 SAS No.: 0209M SDG NO.: K2209045

ıtrix (soil/water): WATER Lab Sample ID: K2209045-010

ɜvel (low/med): LOW Date Received:

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

| CAS No. | Analyte | Concentration | C | Q | M |
|---|---|---|---|---|---|
| | Cyanide | 3.0 | U | | C |

:o Before: Clarity Before: Texture:

:olor After: Clarity After: Artifacts:

:omments:

1PCB-A
PCB SAMPLE DATA SUMMARY
HIGH RESOLUTION

EPA SAMPLE No.

D03580

Lab Name: PSC ANALYTICAL Contract: 68-W6-0042

Lab Code: PASCAN Case No.: 0209M T.O. No.: SDG No.: D03631 MW-65

Matrix: (soil/water/ash/tissue/oil) WATER Lab Sample ID: 84472

Sample wt/vol.: 1 (g/L) L Lab File ID: 30JAN_MET091

Water Sample Prep.: NA (SEPF/SPE) Date Received: 12/19/02

Concentrated Extract Vol.: 100 (µL) Date Extracted: 12/23/02

Injection Vol.: 1.0 (µL) % Solids/Lipids: 0.0 Date Analyzed: 1/30/2003

GC Column: SPB OCTYL 30M ID: 0.25 (mm) Dilution Factor: 1.0

CONCENTRATION UNITS: (ng/L or ng/g) NG/L

| TARGET ANALYTE | SELECTED IONS | PEAK RT | ION RATIO # | CONCENTRATION | Q | EMPC/EDL |
|---|---|---|---|---|---|---|
| PCB 81 | 292/290 | | | | U | 0.10 ~~0.0052~~ |
| PCB 77 | 292/290 | 25.517 | 0.71 | 0.15 | Y | |
| PCB 123 | 326/328 | 27.050 | 1.43 | 0.0932 | Y J | |
| PCB 118 | 326/328 | 27.450 | 1.45 | 7.27 | | |
| PCB 114 | 326/328 | 27.933 | 1.49 | 0.118 | Y | |
| PCB 105 | 326/328 | 28.533 | 1.48 | 2.26 | | |
| PCB 126 | 326/328 | | | | U | 0.10 ~~0.0328~~ |
| PCB 167 | 360/362 | 33.100 | 1.23 | 0.124 | Y | |
| PCB 156/157 | 360/362 | 34.233 | 1.25 | 0.427 | Y | |
| PCB 169 | 360/362 | | | | U | 0.10 ~~0.0202~~ |
| PCB 193/180 | 394/396 | 35.600 | 1.07 | 0.688 | Y | |
| PCB 170 | 394/396 | 36.900 | 0.99 | 0.39 | | |
| PCB 189 | 394/396 | | | | U | 0.10 ~~0.0222~~ |

NOTE: Concentrations, Estimated Maximum Possible Concentrations (EMPCs), and Estimated Detection Levels (EDLs) for solid samples are calculated on a dry weight basis (except tissues, which are reported on a wet weight basis with % Lipids).

# Column to be used to flag values outside QC limits.

**Q Flags**

X = Analyte Not Detected due to Incorrect Isotope Ratio

Y = May be some contribution due to co-eluting isomers

FORM I-HR PCB-A 21/01/2003 aa

EPA ID #: D03580 MW-65

PSC ID #: 84472

Analyte: PCB

Units: ng/L

| Congener | TEF Humans/mammals | TEF Fish | TEF Birds | Concentration | TEQ Humans/mammals | TEQ Fish | TEQ Birds |
|---|---|---|---|---|---|---|---|
| PCB 77 | 0.0001 | 0.0001 | 0.05 | 0.15 | 0.0000150 | 0.000015000 | 0.0075000 |
| PCB 81 | 0.0001 | 0.0005 | 0.1 | | 0.0000000 | 0.000000000 | 0.0000000 |
| PCB 105 | 0.0001 | <0.000005 | 0.0001 | 2.26 | 0.0002260 | <0.0000113 | 0.0002260 |
| PCB 114 | 0.0005 | <0.000005 | 0.0001 | 0.118 | 0.0000590 | <0.00000053 | 0.0000118 |
| PCB 118 | 0.0001 | <0.000005 | 0.00001 | 7.27 | 0.0007270 | <0.00003635 | 0.0000727 |
| PCB 123 | 0.0001 | <0.000005 | 0.00001 | 0.0932 | 0.0000093 | <0.000000466 | 0.0000009 |
| PCB 126 | 0.1 | 0.005 | 0.1 | | 0.0000000 | 0.000000000 | 0.0000000 |
| PCB 156/157 | 0.0005 | <0.000005 | 0.0001 | 0.427 | 0.0002135 | <0.000002135 | 0.0000427 |
| PCB 167 | 0.00001 | <0.000005 | 0.00001 | 0.124 | 0.0000012 | <0.00000062 | 0.0000012 |
| PCB 169 | 0.01 | 0.00005 | 0.001 | | 0.0000000 | 0.000000000 | 0.0000000 |
| PCB 170 (1994 WHO factor) | 0.0001 | - | - | | 0.0000000 | - | - |
| PCB 193/180 (1994 WHO factor) | 0.00001 | - | - | 0.688 | 0.0000069 | - | - |
| PCB 189 | 0.0001 | <0.000005 | 0.00001 | 0.39 | 0.0000390 | <0.00000195 | 0.0000039 |
| **Including 170, 193/180** | | | | | **0.00129694** | **NA** | **NA** |
| **Not including 170, 193/180** | | | | | **0.00129006** | | **0.00785927** |

Report

1PCB-A
PCB SAMPLE DATA SUMMARY
HIGH RESOLUTION

EPA SAMPLE No.

D03584

Lab Name: PSC ANALYTICAL Contract: 68-W6-0042

Lab Code: PASCAN Case No.: 0209M T.O. No.: SDG No.: D03631 MWE-65

Matrix: (soil/water/ash/tissue/oil) WATER Lab Sample ID: 84473

Sample wt/vol.: 1 (g/L) L Lab File ID: 30JAN_MET101

Water Sample Prep.: NA (SEPF/SPE) Date Received: 12/19/02

Concentrated Extract Vol.: 100 (µL) Date Extracted: 12/23/02

Injection Vol.: 1.0 (µL) % Solids/Lipids: 0.0 Date Analyzed: 1/30/2003

GC Column: SPB OCTYL 30M ID: 0.25 (mm) Dilution Factor: 1.0

CONCENTRATION UNITS: (ng/L or ng/g) NG/L

| TARGET ANALYTE | SELECTED IONS | PEAK RT | ION RATIO # | CONCENTRATION | Q | EMPC/EDL |
|---|---|---|---|---|---|---|
| PCB 81 | 292/290 | | | | U | 0.10 ~~0.059~~ |
| PCB 77 | 292/290 | 25.517 | 0.69 | 0.16 | X | |
| PCB 123 | 326/328 | 27.050 | 1.34 | 0.0907 | J | |
| PCB 118 | 326/328 | 27.450 | 1.45 | 7.38 | | |
| PCB 114 | 326/328 | 27.933 | 1.34 | 0.117 | X | |
| PCB 105 | 326/328 | 28.533 | 1.51 | 2.17 | | |
| PCB 126 | 326/328 | | | | U | 0.10 ~~0.0466~~ |
| PCB 167 | 360/362 | 33.100 | 0.96 * | | ~~X~~ U | 0.115 |
| PCB 156/157 | 360/362 | 34.233 | 1.22 | 0.396 | X | |
| PCB 169 | 360/362 | | | | U | 0.10 ~~0.0255~~ |
| PCB 193/180 | 394/396 | 35.583 | 1.06 | 0.711 | X | |
| PCB 170 | 394/396 | 36.883 | 0.96 | 0.383 | | |
| PCB 189 | 394/396 | | | | U | 0.10 ~~0.0461~~ |

NOTE: Concentrations, Estimated Maximum Possible Concentrations (EMPCs), and Estimated Detection Levels (EDLs) for solid samples are calculated on a dry weight basis (except tissues, which are reported on a wet weight basis with % Lipids).

# Column to be used to flag values outside QC limits.

**Q Flags**

X = Analyte Not Detected due to Incorrect Isotope Ratio

Y = May be some contribution due to co-eluting isomers

FORM I-HR PCB-A 21/01/2003 aa

EPA ID #: D03584 MWE-6S

PSC ID #: 84473

Analyte: PCB

Units: ng/L

| Congener | TEF Humans/mammals | TEF Fish | TEF Birds | Concentration | TEQ Humans/mammals | TEQ Fish | TEQ Birds |
|---|---|---|---|---|---|---|---|
| PCB 77 | 0.0001 | 0.0001 | 0.05 | 0.16 | 0.0000160 | 0.000016000 | 0.0080000 |
| PCB 81 | 0.0001 | 0.0005 | 0.1 | | 0.0000000 | 0.000000000 | 0.0000000 |
| PCB 105 | 0.0001 | <0.000005 | 0.0001 | 2.17 | 0.0002170 | <0.00001085 | 0.0002170 |
| PCB 114 | 0.0005 | <0.000005 | 0.0001 | 0.117 | 0.0000585 | <0.000000585 | 0.0000117 |
| PCB 118 | 0.0001 | <0.000005 | 0.00001 | 7.38 | 0.0007380 | <0.0000369 | 0.0000738 |
| PCB 123 | 0.0001 | <0.000005 | 0.00001 | 0.0907 | 0.0000091 | <0.000000454 | 0.0000009 |
| PCB 126 | 0.1 | 0.005 | 0.1 | | 0.0000000 | 0.000000000 | 0.0000000 |
| PCB 156/157 | 0.0005 | <0.000005 | 0.0001 | 0.396 | 0.0001980 | <0.00000198 | 0.0000396 |
| PCB 167 | 0.00001 | <0.000005 | 0.00001 | | 0.0000000 | 0.000000000 | 0.0000000 |
| PCB 169 | 0.01 | 0.00005 | 0.001 | | 0.0000000 | 0.000000000 | 0.0000000 |
| PCB 170 (1994 WHO factor) | 0.0001 | - | - | 0.383 | 0.0000383 | - | - |
| PCB 193/180 (1994 WHO factor) | 0.00001 | - | - | 0.711 | 0.0000071 | - | - |
| PCB 189 | 0.0001 | <0.000005 | 0.00001 | | 0.0000000 | 0.000000000 | 0.0000000 |

| | | | |
|---|---|---|---|
| **Including 170, 193/180** | **0.00128198** | **NA** | **NA** |
| **Not including 170, 193/180** | **0.00123657** | | **0.00834301** |

Report #3

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

D03606
AB-16(0-2)

Lab Name: MITKEM CORPORATION Contract: _____

Lab Code: MITKEM Case No.: 0209M SAS No.: _____ SDG No.: D03604

Matrix: (soil/water) SOIL Lab Sample ID: A1752-10C

Sample wt/vol: 5.9 (g/mL) G Lab File ID: V1F1418

Level: (low/med) LOW Date Received: 11/27/02

% Moisture: not dec. 7 Date Analyzed: 12/03/02

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

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

| CAS NO. | COMPOUND | CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG | Q |
|---|---|---|---|
| 75-71-8 | Dichlorodifluoromethane | 1.8 | U |
| 74-87-3 | Chloromethane | 1.8 | U |
| 75-01-4 | Vinyl Chloride | 1.8 | U |
| 74-83-9 | Bromomethane | 1.8 | U |
| 75-00-3 | Chloroethane | 1.8 | U |
| 75-69-4 | Trichlorofluoromethane | 1.8 | U |
| 75-35-4 | 1,1-Dichloroethene | 1.8 | U |
| 76-13-1 | 1,1,2-Trichloro-1,2,2-trifluoroethane | 1.8 | U |
| 67-64-1 | Acetone | 4.6 | U J |
| 75-15-0 | Carbon Disulfide | 1.8 | U |
| 79-20-9 | Methyl Acetate | 1.8 | U |
| 75-09-2 | Methylene Chloride | 9.4 | UJ |
| 156-60-5 | trans-1,2-Dichloroethene | 1.8 | U |
| 1634-04-4 | Methyl tert-Butyl Ether | 1.8 | U |
| 75-34-3 | 1,1-Dichloroethane | 1.8 | U |
| 156-59-2 | cis-1,2-Dichloroethene | 1.8 | U |
| 78-93-3 | 2-Butanone | 4.6 | U |
| 67-66-3 | Chloroform | 1.8 | U |
| 71-55-6 | 1,1,1-Trichloroethane | 1.8 | U |
| 110-82-7 | Cyclohexane | 1.8 | U |
| 56-23-5 | Carbon Tetrachloride | 1.8 | U |
| 71-43-2 | Benzene | 1.8 | U |
| 107-06-2 | 1,2-Dichloroethane | 1.8 | U |

1B
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

D03606
AB16 (0-2)

Lab Name: MITKEM CORPORATION Contract: _____

Lab Code: MITKEM Case No.: 0209M SAS No.: _____ SDG No.: D03604

Matrix: (soil/water) SOIL Lab Sample ID: A1752-10C

Sample wt/vol: 5.9 (g/mL) G Lab File ID: V1F1418

Level: (low/med) LOW Date Received: 11/27/02

% Moisture: not dec. 7 Date Analyzed: 12/03/02

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

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

| CAS NO. | COMPOUND | CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG | Q |
|---|---|---|---|
| 79-01-6 | Trichloroethene | 1.8 | U |
| 108-87-2 | Methylcyclohexane | 1.8 | U |
| 78-87-5 | 1,2-Dichloropropane | 1.8 | U |
| 75-27-4 | Bromodichloromethane | 1.8 | U |
| 10061-01-5 | cis-1,3-Dichloropropene | 1.8 | U |
| 108-10-1 | 4-Methyl-2-Pentanone | 4.6 | U J |
| 108-88-3 | Toluene | 1.8 | U |
| 10061-02-6 | trans-1,3-Dichloropropene | 1.8 | U |
| 79-00-5 | 1,1,2-Trichloroethane | 1.8 | U |
| 127-18-4 | Tetrachloroethene | 1.8 | U |
| 591-78-6 | 2-Hexanone | 4.6 | U |
| 124-48-1 | Dibromochloromethane | 1.8 | U |
| 106-93-4 | 1,2-Dibromoethane | 1.8 | U |
| 108-90-7 | Chlorobenzene | 1.8 | U |
| 100-41-4 | Ethylbenzene | 1.8 | U |
| 1330-20-7 | Xylene (Total) | 1.8 | U |
| 100-42-5 | Styrene | 1.8 | U |
| 75-25-2 | Bromoform | 1.8 | U |
| 98-82-8 | Isopropylbenzene | 1.8 | U |
| 79-34-5 | 1,1,2,2-Tetrachloroethane | 1.8 | U |
| 541-73-1 | 1,3-Dichlorobenzene | 1.8 | U |
| 106-46-7 | 1,4-Dichlorobenzene | 1.8 | U |
| 95-50-1 | 1,2-Dichlorobenzene | 1.8 | U |
| 96-12-8 | 1,2-Dibromo-3-chloropropane | 1.8 | U |
| 120-82-1 | 1,2,4-Trichlorobenzene | 1.8 | U |

1F

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

D03606
AB16(02)

Lab Name: MITKEM CORPORATION Contract: _____

Lab Code: MITKEM Case No.: 0209M SAS No.: _____ SDG No.: D03604

Matrix: (soil/water) SOIL Lab Sample ID: A1752-10C

Sample wt/vol: 5.9 (g/mL) G Lab File ID: V1F1418

Level: (low/med) LOW Date Received: 11/27/02

% Moisture: not dec. 7 Date Analyzed: 12/03/02

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

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

Number TICs found: 1

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

| CAS NUMBER | COMPOUND NAME | RT | EST. CONC. | Q |
|---|---|---|---|---|
| 1. 556-67-2 | CYCLOTETRASILOXANE, OCTAMETH | 11.62 | 10 | NJ |
| 2. | | | | |
| 3. | | | | |
| 4. | | | | |
| 5. | | | | |
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1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

D03610
MR-12(0-0.5)

Lab Name: MITKEM CORPORATION Contract: _____

Lab Code: MITKEM Case No.: 0209M SAS No.: _____ SDG No.: D03604

Matrix: (soil/water) SOIL Lab Sample ID: A1752-19C

Sample wt/vol: 4.2 (g/mL) G Lab File ID: V1F1516

Level: (low/med) LOW Date Received: 12/05/02

% Moisture: not dec. 81 Date Analyzed: 12/09/02

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

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

| CAS NO. | COMPOUND | CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG | Q |
|---|---|---|---|
| 75-71-8 | Dichlorodifluoromethane | ~~13~~ | ~~U~~ R |
| 74-87-3 | Chloromethane | ~~13~~ | ~~U~~ |
| 75-01-4 | Vinyl Chloride | ~~13~~ | ~~U~~ |
| 74-83-9 | Bromomethane | ~~13~~ | ~~U~~ |
| 75-00-3 | Chloroethane | 13 | U |
| 75-69-4 | Trichlorofluoromethane | 13 | U |
| 75-35-4 | 1,1-Dichloroethene | 13 | U |
| 76-13-1 | 1,1,2-Trichloro-1,2,2-trifluoroethane | ~~13~~ | ~~U~~ |
| 67-64-1 | Acetone | 470 | J EB |
| 75-15-0 | Carbon Disulfide | 18 | J |
| 79-20-9 | Methyl Acetate | ~~13~~ | ~~U~~ R |
| 75-09-2 | Methylene Chloride | 70 | UJ |
| 156-60-5 | trans-1,2-Dichloroethene | ~~13~~ | ~~U~~ R |
| 1634-04-4 | Methyl tert-Butyl Ether | 110 | J |
| 75-34-3 | 1,1-Dichloroethane | ~~13~~ | ~~U~~ R |
| 156-59-2 | cis-1,2-Dichloroethene | ~~13~~ | ~~U~~ R |
| 78-93-3 | 2-Butanone | 140 | J |
| 67-66-3 | Chloroform | ~~13~~ | ~~U~~ R |
| 71-55-6 | 1,1,1-Trichloroethane | ~~13~~ | ~~U~~ |
| 110-82-7 | Cyclohexane | ~~13~~ | ~~U~~ |
| 56-23-5 | Carbon Tetrachloride | ~~13~~ | ~~U~~ |
| 71-43-2 | Benzene | ~~13~~ | ~~U~~ |
| 107-06-2 | 1,2-Dichloroethane | ~~13~~ | ~~U~~ |

1B
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

D03610
MR-12(0-0.5)

Lab Name: MITKEM CORPORATION Contract: _____

Lab Code: MITKEM Case No.: 0209M SAS No.: _____ SDG No.: D03604

Matrix: (soil/water) SOIL Lab Sample ID: A1752-19C

Sample wt/vol: 4.2 (g/mL) G Lab File ID: V1F1516

Level: (low/med) LOW Date Received: 12/05/02

% Moisture: not dec. 81 Date Analyzed: 12/09/02

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

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

| CAS NO. | COMPOUND | CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG | Q |
|---|---|---|---|
| 79-01-6 | Trichloroethene | ~~13~~ | ~~U~~ R |
| 108-87-2 | Methylcyclohexane | ~~13~~ | ~~U~~ |
| 78-87-5 | 1,2-Dichloropropane | ~~13~~ | ~~U~~ |
| 75-27-4 | Bromodichloromethane | ~~13~~ | ~~U~~ |
| 10061-01-5 | cis-1,3-Dichloropropene | ~~13~~ | ~~U~~ |
| 108-10-1 | 4-Methyl-2-Pentanone | ~~31~~ | ~~U~~ |
| 108-88-3 | Toluene | 170 | J |
| 10061-02-6 | trans-1,3-Dichloropropene | ~~13~~ | ~~U~~ R |
| 79-00-5 | 1,1,2-Trichloroethane | ~~13~~ | ~~U~~ |
| 127-18-4 | Tetrachloroethene | ~~13~~ | ~~U~~ |
| 591-78-6 | 2-Hexanone | ~~31~~ | ~~U~~ ~~J~~ R |
| 124-48-1 | Dibromochloromethane | ~~13~~ | ~~U~~ R |
| 106-93-4 | 1,2-Dibromoethane | ~~13~~ | ~~U~~ |
| 108-90-7 | Chlorobenzene | ~~13~~ | ~~U~~ |
| 100-41-4 | Ethylbenzene | ~~13~~ | ~~U~~ |
| 1330-20-7 | Xylene (Total) | 7 ~~18~~ | J |
| 100-42-5 | Styrene | ~~13~~ | ~~U~~ R |
| 75-25-2 | Bromoform | ~~13~~ | ~~U~~ |
| 98-82-8 | Isopropylbenzene | ~~13~~ | ~~U~~ |
| 79-34-5 | 1,1,2,2-Tetrachloroethane | ~~13~~ | ~~U~~ |
| 541-73-1 | 1,3-Dichlorobenzene | ~~13~~ | ~~U~~ |
| 106-46-7 | 1,4-Dichlorobenzene | ~~13~~ | ~~U~~ |
| 95-50-1 | 1,2-Dichlorobenzene | ~~13~~ | ~~U~~ |
| 96-12-8 | 1,2-Dibromo-3-chloropropane | ~~13~~ | ~~U~~ |
| 120-82-1 | 1,2,4-Trichlorobenzene | ~~13~~ | ~~U~~ |

1F
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

D03610
MR-12(0-0.5)

Lab Name: MITKEM CORPORATION Contract: _____

Lab Code: MITKEM Case No.: 0209M SAS No.: _____ SDG No.: D03604

Matrix: (soil/water) SOIL Lab Sample ID: A1752-19C

Sample wt/vol: 4.2 (g/mL) G Lab File ID: V1F1516

Level: (low/med) LOW Date Received: 12/05/02

% Moisture: not dec. 81 Date Analyzed: 12/09/02

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

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

Number TICs found: 7

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

| CAS NUMBER | COMPOUND NAME | RT | EST. CONC. | Q |
|---|---|---|---|---|
| 1. | STRAIGHT-CHAIN ALKANE | 2.54 | 45 | J |
| 2. | UNKNOWN | 2.68 | 49 | J |
| 3. 563-79-1 | 2-BUTENE, 2,3-DIMETHYL- | 4.25 | 49 | NJ |
| 4. 111-66-0 | 1-OCTENE | 8.02 | 200 | NJ |
| 5. | UNKNOWN | 11.61 | 34 | J |
| 6. 106-68-3 | 3-OCTANONE | 12.26 | 960 | NJ |
| 7. 20296-29-1 | 3-OCTANOL | 12.41 | 67 | NJ |
| 8. | | | | |
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1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

D03611
WB-6(0-2)

Lab Name: MITKEM CORPORATION Contract: _____

Lab Code: MITKEM Case No.: 0209M SAS No.: _____ SDG No.: D03604

Matrix: (soil/water) SOIL Lab Sample ID: A1752-01C

Sample wt/vol: 4.4 (g/mL) G Lab File ID: V1F1410

Level: (low/med) LOW Date Received: 11/27/02

% Moisture: not dec. 12 Date Analyzed: 12/03/02

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

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

| CAS NO. | COMPOUND | CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG | Q |
|---|---|---|---|
| 75-71-8 | Dichlorodifluoromethane | 2.6 | U |
| 74-87-3 | Chloromethane | 2.6 | U |
| 75-01-4 | Vinyl Chloride | 2.6 | U |
| 74-83-9 | Bromomethane | 2.6 | U |
| 75-00-3 | Chloroethane | 2.6 | U |
| 75-69-4 | Trichlorofluoromethane | 2.6 | U |
| 75-35-4 | 1,1-Dichloroethene | 2.6 | U |
| 76-13-1 | 1,1,2-Trichloro-1,2,2-trifluoroethane | 2.6 | U |
| 67-64-1 | Acetone | 120 | JEB |
| 75-15-0 | Carbon Disulfide | 3.2 | |
| 79-20-9 | Methyl Acetate | 2.6 | U |
| 75-09-2 | Methylene Chloride | 9.3 | UJ |
| 156-60-5 | trans-1,2-Dichloroethene | 2.6 | U |
| 1634-04-4 | Methyl tert-Butyl Ether | 2.6 | U |
| 75-34-3 | 1,1-Dichloroethane | 2.6 | U |
| 156-59-2 | cis-1,2-Dichloroethene | 2.6 | U |
| 78-93-3 | 2-Butanone | 29 | |
| 67-66-3 | Chloroform | 2.6 | U |
| 71-55-6 | 1,1,1-Trichloroethane | 2.6 | U |
| 110-82-7 | Cyclohexane | 2.6 | U |
| 56-23-5 | Carbon Tetrachloride | 2.6 | U |
| 71-43-2 | Benzene | 2.9 | |
| 107-06-2 | 1,2-Dichloroethane | 2.6 | U |

1B
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

D03611
WB6(0-2)

Lab Name: MITKEM CORPORATION Contract: _____

Lab Code: MITKEM Case No.: 0209M SAS No.: _____ SDG No.: D03604

Matrix: (soil/water) SOIL Lab Sample ID: A1752-01C

Sample wt/vol: 4.4 (g/mL) G Lab File ID: V1F1410

Level: (low/med) LOW Date Received: 11/27/02

% Moisture: not dec. 12 Date Analyzed: 12/03/02

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

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

| CAS NO. | COMPOUND | CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG | Q |
|---|---|---|---|
| 79-01-6 | Trichloroethene | 2.6 | U |
| 108-87-2 | Methylcyclohexane | 36 | |
| 78-87-5 | 1,2-Dichloropropane | 2.6 | U |
| 75-27-4 | Bromodichloromethane | 2.6 | U |
| 10061-01-5 | cis-1,3-Dichloropropene | 2.6 | U |
| 108-10-1 | 4-Methyl-2-Pentanone | 6.5 | U5 |
| 108-88-3 | Toluene | 4.9 | U |
| 10061-02-6 | trans-1,3-Dichloropropene | 2.6 | U |
| 79-00-5 | 1,1,2-Trichloroethane | 2.6 | U |
| 127-18-4 | Tetrachloroethene | 2.6 | U |
| 591-78-6 | 2-Hexanone | 6.5 | U |
| 124-48-1 | Dibromochloromethane | 2.6 | U |
| 106-93-4 | 1,2-Dibromoethane | 2.6 | U |
| 108-90-7 | Chlorobenzene | 46 | |
| 100-41-4 | Ethylbenzene | 12 | |
| 1330-20-7 | Xylene (Total) | 9.7 | |
| 100-42-5 | Styrene | 2.6 | U |
| 75-25-2 | Bromoform | 2.6 | U |
| 98-82-8 | Isopropylbenzene | 2.6 | U |
| 79-34-5 | 1,1,2,2-Tetrachloroethane | 2.6 | U |
| 541-73-1 | 1,3-Dichlorobenzene | 4.3 | |
| 106-46-7 | 1,4-Dichlorobenzene | 3.7 | |
| 95-50-1 | 1,2-Dichlorobenzene | 2.9 | |
| 96-12-8 | 1,2-Dibromo-3-chloropropane | 2.6 | U |
| 120-82-1 | 1,2,4-Trichlorobenzene | 3.5 | |

1F

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

D03611
WB-6(0-2)

Lab Name: MITKEM CORPORATION Contract: _____

Lab Code: MITKEM Case No.: 0209M SAS No.: _____ SDG No.: D03604

Matrix: (soil/water) SOIL Lab Sample ID: A1752-01C

Sample wt/vol: 4.4 (g/mL) G Lab File ID: V1F1410

Level: (low/med) LOW Date Received: 11/27/02

% Moisture: not dec. 12 Date Analyzed: 12/03/02

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

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

Number TICs found: 29

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

| CAS NUMBER | COMPOUND NAME | RT | EST. CONC. | Q |
|---|---|---|---|---|
| 1. | BRANCHED ALKANE | 3.50 | 110 | J |
| 2. | BRANCHED ALKANE | 3.75 | 70 | J |
| 3. | CYCLIC ALKANE | 4.67 | 73 | J |
| 4. | UNKNOWN | 5.35 | 80 | J |
| 5. | BRANCHED ALKANE | 5.44 | 90 | J |
| 6. | BRANCHED ALKANE | 5.55 | 110 | J |
| 7. | UNKNOWN | 5.84 | 90 | J |
| 8. | BRANCHED ALKANE | 7.18 | 26 | J |
| 9. | UNKNOWN | 7.32 | 33 | J |
| 10. | UNKNOWN | 7.61 | 21 | J |
| 11. | UNKNOWN | 8.05 | 12 | J |
| 12. | CYCLIC ALKANE | 8.43 | 12 | J |
| 13. | CYCLIC ALKANE | 9.10 | 13 | J |
| 14. | CYCLIC ALKANE | 10.11 | 16 | J |
| 15. | UNKNOWN | 10.51 | 11 | J |
| 16. | UNKNOWN | 10.92 | 13 | J |
| 17. 0-00-0 | MENTH-1(8)-ENE | 11.19 | 29 | NJ |
| 18. 79-92-5 | CAMPHENE | 11.40 | 12 | NJ |
| 19. | UNKNOWN | 11.62 | 23 | J |
| 20. | UNKNOWN | 11.87 | 13 | J |
| 21. | UNKNOWN | 12.06 | 18 | J |
| 22. 526-73-8 | BENZENE, 1,2,3-TRIMETHYL- | 12.27 | 23 | NJ |
| 23. | UNKNOWN | 12.46 | 14 | J |
| 24. 611-14-3 | BENZENE, 1-ETHYL-2-METHYL- | 12.77 | 19 | NJ |
| 25. 493-02-7 | NAPHTHALENE, DECAHYDRO-, TRA | 13.10 | 16 | NJ |
| 26. 874-41-9 | BENZENE, 1-ETHYL-2,4-DIMETHY | 13.54 | 11 | NJ |
| 27. | UNKNOWN | 13.70 | 13 | J |
| 28. 527-53-7 | BENZENE, 1,2,3,5-TETRAMETHYL | 14.05 | 12 | NJ |
| 29. | UNKNOWN | 14.51 | 11 | J |
| 30. | | | | |

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

D03612
WB-6 (2-4)

Lab Name: MITKEM CORPORATION Contract: _____

Lab Code: MITKEM Case No.: 0209M SAS No.: _____ SDG No.: D03604

Matrix: (soil/water) SOIL Lab Sample ID: A1752-02C

Sample wt/vol: 6.2 (g/mL) G Lab File ID: V1F1411

Level: (low/med) LOW Date Received: 11/27/02

% Moisture: not dec. 15 Date Analyzed: 12/03/02

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

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

| CAS NO. | COMPOUND | CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG | Q |
|---|---|---|---|
| 75-71-8 | Dichlorodifluoromethane | 1.9 | U |
| 74-87-3 | Chloromethane | 1.9 | U |
| 75-01-4 | Vinyl Chloride | 1.9 | U |
| 74-83-9 | Bromomethane | 1.9 | U |
| 75-00-3 | Chloroethane | 1.9 | U |
| 75-69-4 | Trichlorofluoromethane | 1.9 | U |
| 75-35-4 | 1,1-Dichloroethene | 1.9 | U |
| 76-13-1 | 1,1,2-Trichloro-1,2,2-trifluoroethane | 1.9 | U |
| 67-64-1 | Acetone | 200 | ~~E~~ JEB |
| 75-15-0 | Carbon Disulfide | 1.1 | J J |
| 79-20-9 | Methyl Acetate | 350 ~~1.9~~ | ~~U~~ |
| 75-09-2 | Methylene Chloride | 4.7 | U |
| 156-60-5 | trans-1,2-Dichloroethene | 1.9 | U |
| 1634-04-4 | Methyl tert-Butyl Ether | 1.9 | U |
| 75-34-3 | 1,1-Dichloroethane | 16 | J |
| 156-59-2 | cis-1,2-Dichloroethene | 1.9 | U |
| 78-93-3 | 2-Butanone | 4.7 | U |
| 67-66-3 | Chloroform | 1.9 | U |
| 71-55-6 | 1,1,1-Trichloroethane | 1.9 | U |
| 110-82-7 | Cyclohexane | 1.9 | U |
| 56-23-5 | Carbon Tetrachloride | 1.9 | U |
| 71-43-2 | Benzene | 210 | ~~E~~ J |
| 107-06-2 | 1,2-Dichloroethane | 1.9 | U |

1B
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

D03612
WB-6 (2-4)

Lab Name: MITKEM CORPORATION Contract: _____

Lab Code: MITKEM Case No.: 0209M SAS No.: _____ SDG No.: D03604

Matrix: (soil/water) SOIL Lab Sample ID: A1752-02C

Sample wt/vol: 6.2 (g/mL) G Lab File ID: V1F1411

Level: (low/med) LOW Date Received: 11/27/02

% Moisture: not dec. 15 Date Analyzed: 12/03/02

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

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

| CAS NO. | COMPOUND | CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG | Q |
|---|---|---|---|
| 79-01-6 | Trichloroethene | 1.9 | U |
| 108-87-2 | Methylcyclohexane | 1300 | ~~E~~ J |
| 78-87-5 | 1,2-Dichloropropane | 1.9 | U |
| 75-27-4 | Bromodichloromethane | 1.9 | U |
| 10061-01-5 | cis-1,3-Dichloropropene | 1.9 | U |
| 108-10-1 | 4-Methyl-2-Pentanone | 4.7 | U ~~J~~ |
| 108-88-3 | Toluene | 10 | ~~J~~ J |
| 10061-02-6 | trans-1,3-Dichloropropene | 1.9 | U |
| 79-00-5 | 1,1,2-Trichloroethane | 1.9 | U |
| 127-18-4 | Tetrachloroethene | 1.9 | U ~~J~~ |
| 591-78-6 | 2-Hexanone | 4.7 | U ~~J~~ |
| 124-48-1 | Dibromochloromethane | 1.9 | U |
| 106-93-4 | 1,2-Dibromoethane | 1.9 | U ~~J~~ |
| 108-90-7 | Chlorobenzene | 880 | ~~E~~ J |
| 100-41-4 | Ethylbenzene | 190 ~~240~~ | ~~E~~ ~~J~~ |
| 1330-20-7 | Xylene (Total) | 430 ~~580~~ | ~~E~~ ~~J~~ |
| 100-42-5 | Styrene | 1.9 | U ~~J~~ |
| 75-25-2 | Bromoform | 1.9 | U |
| 98-82-8 | Isopropylbenzene | 79 | J |
| 79-34-5 | 1,1,2,2-Tetrachloroethane | 1.9 | U ~~J~~ |
| 541-73-1 | 1,3-Dichlorobenzene | 100 | J |
| 106-46-7 | 1,4-Dichlorobenzene | 640 | ~~E~~ J |
| 95-50-1 | 1,2-Dichlorobenzene | 1.9 | U ~~J~~ |
| 96-12-8 | 1,2-Dibromo-3-chloropropane | 1.9 | U ~~J~~ |
| 120-82-1 | 1,2,4-Trichlorobenzene | 64 J ~~1.9~~ | ~~U~~ ~~J~~ |

1F

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

D03612
WB-6(2-4)

Lab Name: MITKEM CORPORATION Contract: _____

Lab Code: MITKEM Case No.: 0209M SAS No.: _____ SDG No.: D03604

Matrix: (soil/water) SOIL Lab Sample ID: A1752-02C

Sample wt/vol: 6.2 (g/mL) G Lab File ID: V1F1411

Level: (low/med) LOW Date Received: 11/27/02

% Moisture: not dec. 15 Date Analyzed: 12/03/02

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

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

Number TICs found: 38

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

| CAS NUMBER | COMPOUND NAME | RT | EST. CONC. | Q |
|---|---|---|---|---|
| 1. | BRANCHED ALKANE | 3.50 | 1300 | J |
| 2. | BRANCHED ALKANE | 3.75 | 810 | J |
| 3. | STRAIGHT-CHAINED ALKANE | 4.04 | 820 | J |
| 4. | UNKNOWN | 4.68 | 1500 | J |
| 5. | UNKNOWN | 5.37 | 2400 | J |
| 6. | UNKNOWN | 5.56 | 1900 | J |
| 7. | UNKNOWN | 5.90 | 2900 | J |
| 8. | STRAIGHT-CHAINED ALKANE | 6.04 | 870 | J |
| 9. | UNKNOWN | 7.21 | 1600 | J |
| 10. | UNKNOWN | 7.35 | 2400 | J |
| 11. | UNKNOWN | 7.44 | 2100 | J |
| 12. | UNKNOWN | 7.61 | 1800 | J |
| 13. | UNKNOWN | 7.85 | 2200 | J |
| 14. | STRAIGHT-CHAINED ALKANE | 8.16 | 1400 | J |
| 15. | UNKNOWN | 8.48 | 1700 | J |
| 16. | UNKNOWN | 8.91 | 1300 | J |
| 17. | CYCLIC ALKANE | 9.04 | 840 | J |
| 18. | BRANCHED ALKANE | 9.63 | 1200 | J |
| 19. 611-14-3 | BENZENE, 1-ETHYL-2-METHYL- | 11.75 | 1300 | NJ |
| 20. 95-63-6 | BENZENE, 1,2,4-TRIMETHYL- | 11.83 | 1800 | NJ |
| 21. 611-14-3 | BENZENE, 1-ETHYL-2-METHYL- | 12.07 | 880 | NJ |
| 22. | UNKNOWN | 12.29 | 3200 | J |
| 23. | UNKNOWN | 13.00 | 1300 | J |
| 24. 934-74-7 | BENZENE, 1-ETHYL-3,5-DIMETHY | 13.12 | 2000 | NJ |
| 25. 135-01-3 | BENZENE, 1,2-DIETHYL- | 13.25 | 800 | NJ |
| 26. 934-74-7 | BENZENE, 1-ETHYL-3,5-DIMETHY | 13.44 | 880 | NJ |
| 27. 99-87-6 | BENZENE, 1-METHYL-4-(1-METHY | 13.47 | 1100 | NJ |
| 28. 934-80-5 | BENZENE, 4-ETHYL-1,2-DIMETHY | 13.55 | 1900 | NJ |
| 29. | UNKNOWN | 13.67 | 1800 | J |
| 30. | UNKNOWN | 13.83 | 1100 | J |

1F

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

D03612
WB6(2-4)

Lab Name: MITKEM CORPORATION Contract: _____

Lab Code: MITKEM Case No.: 0209M SAS No.: _____ SDG No.: D03604

Matrix: (soil/water) SOIL Lab Sample ID: A1752-02C

Sample wt/vol: 6.2 (g/mL) G Lab File ID: V1F1411

Level: (low/med) LOW Date Received: 11/27/02

% Moisture: not dec. 15 Date Analyzed: 12/03/02

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

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

Number TICs found: 38

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

| CAS NUMBER | COMPOUND NAME | RT | EST. CONC. | Q |
|---|---|---|---|---|
| 1. 527-84-4 | BENZENE, 1-METHYL-2-(1-METHY | 13.99 | 1100 | NJ |
| 2. 95-93-2 | BENZENE, 1,2,4,5-TETRAMETHYL | 14.05 | 1700 | NJ |
| 3. | UNKNOWN | 14.18 | 1700 | J |
| 4. 27133-93-3 | 2,3-DIHYDRO-1-METHYLINDENE | 14.52 | 2300 | NJ |
| 5. | BRANCHED ALKANE | 14.68 | 1700 | J |
| 6. | UNKNOWN | 14.93 | 1500 | J |
| 7. 17059-48-2 | 1H-INDENE, 2,3-DIHYDRO-1,6-D | 15.04 | 1800 | NJ |
| 8. 17059-48-2 | 1H-INDENE, 2,3-DIHYDRO-1,6-D | 15.61 | 1100 | NJ |
| 9. | | | | |
| 10. | | | | |
| 11. | | | | |
| 12. | | | | |
| 13. | | | | |
| 14. | | | | |
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1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

D03613
WB-7(0-2)

Lab Name: MITKEM CORPORATION Contract: _____

Lab Code: MITKEM Case No.: 0209M SAS No.: _____ SDG No.: D03604

Matrix: (soil/water) SOIL Lab Sample ID: A1752-03C

Sample wt/vol: 6.1 (g/mL) G Lab File ID: V1F1440

Level: (low/med) LOW Date Received: 11/27/02

% Moisture: not dec. 20 Date Analyzed: 12/04/02

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

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

| CAS NO. | COMPOUND | CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG | Q |
|---|---|---|---|
| 75-71-8 | Dichlorodifluoromethane | 2.0 | U |
| 74-87-3 | Chloromethane | 2.0 | U |
| 75-01-4 | Vinyl Chloride | 9.1 | |
| 74-83-9 | Bromomethane | 2.0 | U |
| 75-00-3 | Chloroethane | 10 | |
| 75-69-4 | Trichlorofluoromethane | 2.0 | U |
| 75-35-4 | 1,1-Dichloroethene | 2.0 | U |
| 76-13-1 | 1,1,2-Trichloro-1,2,2-trifluoroethane | 2.0 | U |
| 67-64-1 | Acetone | 58 | J EB |
| 75-15-0 | Carbon Disulfide | 4.1 | |
| 79-20-9 | Methyl Acetate | 2.0 | U |
| 75-09-2 | Methylene Chloride | 7.4 | U J |
| 156-60-5 | trans-1,2-Dichloroethene | 2.0 | U |
| 1634-04-4 | Methyl tert-Butyl Ether | 2.0 | U |
| 75-34-3 | 1,1-Dichloroethane | 2.7 | |
| 156-59-2 | cis-1,2-Dichloroethene | 2.5 | |
| 78-93-3 | 2-Butanone | 11 | |
| 67-66-3 | Chloroform | 2.0 | U |
| 71-55-6 | 1,1,1-Trichloroethane | 2.0 | U |
| 110-82-7 | Cyclohexane | 2.6 | |
| 56-23-5 | Carbon Tetrachloride | 2.0 | U |
| 71-43-2 | Benzene | 1.9 | J |
| 107-06-2 | 1,2-Dichloroethane | 2.0 | U |

1B
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

D03613
WB-7(0-2)

Lab Name: MITKEM CORPORATION Contract: _____

Lab Code: MITKEM Case No.: 0209M SAS No.: _____ SDG No.: D03604

Matrix: (soil/water) SOIL Lab Sample ID: A1752-03C

Sample wt/vol: 6.1 (g/mL) G Lab File ID: V1F1440

Level: (low/med) LOW Date Received: 11/27/02

% Moisture: not dec. 20 Date Analyzed: 12/04/02

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

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

| CAS NO. | COMPOUND | CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG | Q |
|---|---|---|---|
| 79-01-6 | Trichloroethene | 1.4 | J |
| 108-87-2 | Methylcyclohexane | 2.0 | U |
| 78-87-5 | 1,2-Dichloropropane | 2.0 | U |
| 75-27-4 | Bromodichloromethane | 2.0 | U |
| 10061-01-5 | cis-1,3-Dichloropropene | 2.0 | U |
| 108-10-1 | 4-Methyl-2-Pentanone | 5.1 | U J |
| 108-88-3 | Toluene | 23 | |
| 10061-02-6 | trans-1,3-Dichloropropene | 2.0 | U |
| 79-00-5 | 1,1,2-Trichloroethane | 2.0 | U |
| 127-18-4 | Tetrachloroethene | 2.0 | U |
| 591-78-6 | 2-Hexanone | 5.1 | U J |
| 124-48-1 | Dibromochloromethane | 2.0 | U |
| 106-93-4 | 1,2-Dibromoethane | 2.0 | U |
| 108-90-7 | Chlorobenzene | 2.0 | U |
| 100-41-4 | Ethylbenzene | 3.5 | |
| 1330-20-7 | Xylene (Total) | 4.4 | |
| 100-42-5 | Styrene | 2.0 | U |
| 75-25-2 | Bromoform | 2.0 | U |
| 98-82-8 | Isopropylbenzene | 2.0 | U |
| 79-34-5 | 1,1,2,2-Tetrachloroethane | 2.0 | U |
| 541-73-1 | 1,3-Dichlorobenzene | 2.0 | U |
| 106-46-7 | 1,4-Dichlorobenzene | 2.0 | U |
| 95-50-1 | 1,2-Dichlorobenzene | 2.0 | U |
| 96-12-8 | 1,2-Dibromo-3-chloropropane | 2.0 | U |
| 120-82-1 | 1,2,4-Trichlorobenzene | 2.0 | U |

1F
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

D03613
WB-7(0-2)

Lab Name: MITKEM CORPORATION Contract: _____

Lab Code: MITKEM Case No.: 0209M SAS No.: _____ SDG No.: D03604

Matrix: (soil/water) SOIL Lab Sample ID: A1752-03C

Sample wt/vol: 6.1 (g/mL) G Lab File ID: V1F1440

Level: (low/med) LOW Date Received: 11/27/02

% Moisture: not dec. 20 Date Analyzed: 12/04/02

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

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

Number TICs found: 27

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

| CAS NUMBER | COMPOUND NAME | RT | EST. CONC. | Q |
|---|---|---|---|---|
| 1. | UNKNOWN | 2.24 | 32 | J |
| 2. | UNKNOWN | 2.55 | 35 | J |
| 3. | UNKNOWN | 3.50 | 24 | J |
| 4. 508-32-7 | TRICYCLO[2.2.1.02,6]HEPTANE, | 10.87 | 8.5 | NJ |
| 5. 80-56-8 | .ALPHA.-PINENE | 11.06 | 14 | NJ |
| 6. 0-00-0 | MENTH-1(8)-ENE | 11.18 | 30 | NJ |
| 7. 497-32-5 | BICYCLO[2.2.1]HEPTANE, 2,2-D | 11.35 | 19 | NJ |
| 8. 79-92-5 | CAMPHENE | 11.40 | 48 | NJ |
| 9. 556-67-2 | CYCLOTETRASILOXANE, OCTAMETH | 11.62 | 28 | NJ |
| 10. | CYCLIC ALKANE | 11.72 | 41 | J |
| 11. | CYCLIC ALKANE | 11.83 | 100 | J |
| 12. | UNKNOWN | 11.87 | 71 | J |
| 13. | UNKNOWN | 11.90 | 110 | J |
| 14. | UNKNOWN | 12.05 | 5.9 | J |
| 15. | CYCLIC ALKANE | 12.17 | 9.9 | J |
| 16. | UNKNOWN | 12.27 | 14 | J |
| 17. 13466-78-9 | 3-CARENE | 12.30 | 9.5 | NJ |
| 18. | CYCLIC ALKANE | 12.47 | 23 | J |
| 19. | CYCLIC ALKANE | 12.56 | 230 | J |
| 20. 527-84-4 | BENZENE, 1-METHYL-2-(1-METHY | 12.65 | 380 | NJ |
| 21. 620-14-4 | BENZENE, 1-ETHYL-3-METHYL- | 12.76 | 7.5 | NJ |
| 22. 25155-15-1 | BENZENE, METHYL(1-METHYLETHY | 12.90 | 5.7 | NJ |
| 23. 496-11-7 | INDANE | 12.98 | 11 | NJ |
| 24. 1195-79-5 | BICYCLO[2.2.1]HEPTAN-2-ONE, | 13.94 | 49 | NJ |
| 25. | UNKNOWN | 14.56 | 20 | J |
| 26. 464-49-3 | BICYCLO[2.2.1]HEPTAN-2-ONE, | 14.79 | 62 | NJ |
| 27. 91-20-3 | NAPHTHALENE | 15.17 | 47 | NJ |
| 28. | | | | |
| 29. | | | | |
| 30. | | | | |

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

D03614
WB-7(2-4)

Lab Name: MITKEM CORPORATION Contract: _____

Lab Code: MITKEM Case No.: 0209M SAS No.: _____ SDG No.: D03604

Matrix: (soil/water) SOIL Lab Sample ID: A1752-04C

Sample wt/vol: 6.0 (g/mL) G Lab File ID: V1F1414

Level: (low/med) LOW Date Received: 11/27/02

% Moisture: not dec. 7 Date Analyzed: 12/03/02

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

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

| CAS NO. | COMPOUND | CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG | | Q |
|---|---|---|---|---|
| 75-71-8 | Dichlorodifluoromethane | | 1.8 | U |
| 74-87-3 | Chloromethane | | 1.8 | U |
| 75-01-4 | Vinyl Chloride | | 220 | ~~E~~ J. |
| 74-83-9 | Bromomethane | | 1.8 | U |
| 75-00-3 | Chloroethane | | 86 | |
| 75-69-4 | Trichlorofluoromethane | | 1.8 | U |
| 75-35-4 | 1,1-Dichloroethene | 120 | ~~1.8~~ | ~~U~~ |
| 76-13-1 | 1,1,2-Trichloro-1,2,2-trifluoroethane | | 3.8 | |
| 67-64-1 | Acetone | | 33 | JEB. |
| 75-15-0 | Carbon Disulfide | | 1.5 | J |
| 79-20-9 | Methyl Acetate | 420 | ~~1.8~~ | ~~U~~ |
| 75-09-2 | Methylene Chloride | | 15 | UJ |
| 156-60-5 | trans-1,2-Dichloroethene | 200 | ~~4.9~~ | |
| 1634-04-4 | Methyl tert-Butyl Ether | | 1.8 | U |
| 75-34-3 | 1,1-Dichloroethane | 1100 | ~~76~~ | |
| 156-59-2 | cis-1,2-Dichloroethene | 380 | ~~7.0~~ | |
| 78-93-3 | 2-Butanone | | 7.7 | |
| 67-66-3 | Chloroform | | 1.8 | U |
| 71-55-6 | 1,1,1-Trichloroethane | | 1.8 | U |
| 110-82-7 | Cyclohexane | 585 | ~~8.7~~ | |
| 56-23-5 | Carbon Tetrachloride | | 1.8 | U |
| 71-43-2 | Benzene | 160 | ~~3.7~~ | |
| 107-06-2 | 1,2-Dichloroethane | | 1.8 | U |

1B
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

D03614
WB-7(2-4)

Lab Name: MITKEM CORPORATION Contract: _____

Lab Code: MITKEM Case No.: 0209M SAS No.: _____ SDG No.: D03604

Matrix: (soil/water) SOIL Lab Sample ID: A1752-04C

Sample wt/vol: 6.0 (g/mL) G Lab File ID: V1F1414

Level: (low/med) LOW Date Received: 11/27/02

% Moisture: not dec. 7 Date Analyzed: 12/03/02

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

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

| CAS NO. | COMPOUND | CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG | | Q |
|---|---|---|---|---|
| 79-01-6 | Trichloroethene | 740 | ~~2.7~~ | |
| 108-87-2 | Methylcyclohexane | 48J | ~~2.2~~ | |
| 78-87-5 | 1,2-Dichloropropane | | 1.8 | U |
| 75-27-4 | Bromodichloromethane | | 1.8 | U |
| 10061-01-5 | cis-1,3-Dichloropropene | | 1.8 | U |
| 108-10-1 | 4-Methyl-2-Pentanone | | 4.5 | UJ |
| 108-88-3 | Toluene | 3900 | ~~36~~ | |
| 10061-02-6 | trans-1,3-Dichloropropene | | 1.8 | U |
| 79-00-5 | 1,1,2-Trichloroethane | | 1.8 | U |
| 127-18-4 | Tetrachloroethene | 110 | ~~1.8~~ | ~~U~~ |
| 591-78-6 | 2-Hexanone | | 4.5 | U |
| 124-48-1 | Dibromochloromethane | | 1.8 | U |
| 106-93-4 | 1,2-Dibromoethane | | 1.8 | U |
| 108-90-7 | Chlorobenzene | | 1.8 | U |
| 100-41-4 | Ethylbenzene | 410 | ~~1.8~~ | |
| 1330-20-7 | Xylene (Total) | 1400 | ~~5.6~~ | |
| 100-42-5 | Styrene | | 1.8 | U |
| 75-25-2 | Bromoform | | 1.8 | U |
| 98-82-8 | Isopropylbenzene | | 1.8 | U |
| 79-34-5 | 1,1,2,2-Tetrachloroethane | | 1.8 | U |
| 541-73-1 | 1,3-Dichlorobenzene | 92 | ~~1.8~~ | ~~U~~ |
| 106-46-7 | 1,4-Dichlorobenzene | 64J | ~~1.8~~ | ~~U~~ |
| 95-50-1 | 1,2-Dichlorobenzene | 51J | ~~1.8~~ | ~~U~~ |
| 96-12-8 | 1,2-Dibromo-3-chloropropane | | 1.8 | U |
| 120-82-1 | 1,2,4-Trichlorobenzene | 370 | ~~1.8~~ | ~~U~~ |

1F
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

D03614
WB-7(2-4)

Lab Name: MITKEM CORPORATION Contract: _____

Lab Code: MITKEM Case No.: 0209M SAS No.: _____ SDG No.: D03604

Matrix: (soil/water) SOIL Lab Sample ID: A1752-04C

Sample wt/vol: 6.0 (g/mL) G Lab File ID: V1F1414

Level: (low/med) LOW Date Received: 11/27/02

% Moisture: not dec. 7 Date Analyzed: 12/03/02

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

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

Number TICs found: 20

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

| CAS NUMBER | COMPOUND NAME | RT | EST. CONC. | Q |
|---|---|---|---|---|
| 1. | UNKNOWN | 2.54 | 13 | J |
| 2. | UNKNOWN | 2.85 | 18 | J |
| 3. | UNKNOWN | 9.46 | 4.9 | J |
| 4. | STRAIGHT-CHAIN ALKANE | 10.16 | 5.3 | J |
| 5. | UNKNOWN | 10.80 | 5.1 | J |
| 6. | UNKNOWN | 10.92 | 5.0 | J |
| 7. 80-56-8 | .ALPHA.-PINENE | 11.06 | 7.9 | NJ |
| 8. | UNKNOWN | 11.18 | 4.8 | J |
| 9. | UNKNOWN | 11.43 | 10 | J |
| 10. 556-67-2 | CYCLOTETRASILOXANE, OCTAMETH | 11.62 | 19 | NJ |
| 11. | UNKNOWN | 11.82 | 8.7 | J |
| 12. | UNKNOWN | 11.87 | 5.7 | J |
| 13. | CYCLIC ALKANE | 11.91 | 6.5 | J |
| 14. 611-14-3 | BENZENE, 1-ETHYL-2-METHYL- | 12.06 | 7.7 | NJ |
| 15. 95-63-6 | BENZENE, 1,2,4-TRIMETHYL- | 12.27 | 14 | NJ |
| 16. 18968-23-5 | BICYCLO[4.1.0]HEPTANE, 3,7,7 | 12.57 | 4.7 | NJ |
| 17. 526-73-8 | BENZENE, 1,2,3-TRIMETHYL- | 12.77 | 6.2 | NJ |
| 18. 91-57-6 | NAPHTHALENE, 2-METHYL- | 16.57 | 5.5 | NJ |
| 19. 573-98-8 | NAPHTHALENE, 1,2-DIMETHYL- | 17.59 | 15 | NJ |
| 20. 829-26-5 | NAPHTHALENE, 2,3,6-TRIMETHYL | 18.54 | 7.5 | NJ |
| 21. | | | | |
| 22. | | | | |
| 23. | | | | |
| 24. | | | | |
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| 26. | | | | |
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1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

D03617
WB-10 (0-2)

Lab Name: MITKEM CORPORATION Contract: _____

Lab Code: MITKEM Case No.: 0209M SAS No.: _____ SDG No.: D03604

Matrix: (soil/water) SOIL Lab Sample ID: A1752-05C

Sample wt/vol: 5.6 (g/mL) G Lab File ID: V1F1415

Level: (low/med) LOW Date Received: 11/27/02

% Moisture: not dec. 14 Date Analyzed: 12/03/02

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

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

| CAS NO. | COMPOUND | CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG | Q |
|---|---|---|---|
| 75-71-8 | Dichlorodifluoromethane | 2.1 | U |
| 74-87-3 | Chloromethane | 2.1 | U |
| 75-01-4 | Vinyl Chloride | 2.1 | U |
| 74-83-9 | Bromomethane | 2.1 | U |
| 75-00-3 | Chloroethane | 2.1 | U |
| 75-69-4 | Trichlorofluoromethane | 2.1 | U |
| 75-35-4 | 1,1-Dichloroethene | 2.1 | U |
| 76-13-1 | 1,1,2-Trichloro-1,2,2-trifluoroethane | 2.1 | U |
| 67-64-1 | Acetone | 11 | JEB |
| 75-15-0 | Carbon Disulfide | 2.1 | U |
| 79-20-9 | Methyl Acetate | 2.1 | U |
| 75-09-2 | Methylene Chloride | 5.9 | UJ |
| 156-60-5 | trans-1,2-Dichloroethene | 2.1 | U |
| 1634-04-4 | Methyl tert-Butyl Ether | 3.1 | |
| 75-34-3 | 1,1-Dichloroethane | 2.1 | U |
| 156-59-2 | cis-1,2-Dichloroethene | 2.1 | U |
| 78-93-3 | 2-Butanone | 5.2 | U |
| 67-66-3 | Chloroform | 2.1 | U |
| 71-55-6 | 1,1,1-Trichloroethane | 2.1 | U |
| 110-82-7 | Cyclohexane | 2.1 | U |
| 56-23-5 | Carbon Tetrachloride | 2.1 | U |
| 71-43-2 | Benzene | 1.3 | J |
| 107-06-2 | 1,2-Dichloroethane | 2.1 | U |

1B
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

D03617
WB10 (0-2)

Lab Name: MITKEM CORPORATION Contract: _____

Lab Code: MITKEM Case No.: 0209M SAS No.: _____ SDG No.: D03604

Matrix: (soil/water) SOIL Lab Sample ID: A1752-05C

Sample wt/vol: 5.6 (g/mL) G Lab File ID: V1F1415

Level: (low/med) LOW Date Received: 11/27/02

% Moisture: not dec. 14 Date Analyzed: 12/03/02

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

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

| CAS NO. | COMPOUND | CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG | Q |
|---|---|---|---|
| 79-01-6 | Trichloroethene | 2.1 | U |
| 108-87-2 | Methylcyclohexane | 2.1 | U |
| 78-87-5 | 1,2-Dichloropropane | 2.1 | U |
| 75-27-4 | Bromodichloromethane | 2.1 | U |
| 10061-01-5 | cis-1,3-Dichloropropene | 2.1 | U |
| 108-10-1 | 4-Methyl-2-Pentanone | 5.2 | U J |
| 108-88-3 | Toluene | 3.3 | U |
| 10061-02-6 | trans-1,3-Dichloropropene | 2.1 | U |
| 79-00-5 | 1,1,2-Trichloroethane | 2.1 | U |
| 127-18-4 | Tetrachloroethene | 2.1 | U |
| 591-78-6 | 2-Hexanone | 5.2 | U |
| 124-48-1 | Dibromochloromethane | 2.1 | U |
| 106-93-4 | 1,2-Dibromoethane | 2.1 | U |
| 108-90-7 | Chlorobenzene | 2.1 | U |
| 100-41-4 | Ethylbenzene | 2.1 | U |
| 1330-20-7 | Xylene (Total) | 5.5 | |
| 100-42-5 | Styrene | 2.1 | U |
| 75-25-2 | Bromoform | 2.1 | U |
| 98-82-8 | Isopropylbenzene | 2.1 | U |
| 79-34-5 | 1,1,2,2-Tetrachloroethane | 2.1 | U |
| 541-73-1 | 1,3-Dichlorobenzene | 2.1 | U |
| 106-46-7 | 1,4-Dichlorobenzene | 2.1 | U |
| 95-50-1 | 1,2-Dichlorobenzene | 2.1 | U |
| 96-12-8 | 1,2-Dibromo-3-chloropropane | 2.1 | U |
| 120-82-1 | 1,2,4-Trichlorobenzene | 2.1 | U |

1F

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

D03617
WB-10(0-2)

Lab Name: MITKEM CORPORATION Contract: _____

Lab Code: MITKEM Case No.: 0209M SAS No.: _____ SDG No.: D03604

Matrix: (soil/water) SOIL Lab Sample ID: A1752-05C

Sample wt/vol: 5.6 (g/mL) G Lab File ID: V1F1415

Level: (low/med) LOW Date Received: 11/27/02

% Moisture: not dec. 14 Date Analyzed: 12/03/02

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

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

Number TICs found: 2

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

| CAS NUMBER | COMPOUND NAME | RT | EST. CONC. | Q |
|---|---|---|---|---|
| 1. | UNKNOWN | 11.62 | 16 | J |
| 2. 571-58-4 | NAPHTHALENE, 1,4-DIMETHYL- | 17.59 | 33 | NJ |
| 3. | | | | |
| 4. | | | | |
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1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

D03618
WB-10(2-4)

Lab Name: MITKEM CORPORATION Contract: _____

Lab Code: MITKEM Case No.: 0209M SAS No.: _____ SDG No.: D03604

Matrix: (soil/water) SOIL Lab Sample ID: A1752-06C

Sample wt/vol: 5.3 (g/mL) G Lab File ID: V1F1416

Level: (low/med) LOW Date Received: 11/27/02

% Moisture: not dec. 13 Date Analyzed: 12/03/02

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

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

| CAS NO. | COMPOUND | CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG | Q |
|---|---|---|---|
| 75-71-8 | Dichlorodifluoromethane | 2.2 | U |
| 74-87-3 | Chloromethane | 2.2 | U |
| 75-01-4 | Vinyl Chloride | 2.2 | U |
| 74-83-9 | Bromomethane | 2.2 | U |
| 75-00-3 | Chloroethane | 2.2 | U |
| 75-69-4 | Trichlorofluoromethane | 2.2 | U |
| 75-35-4 | 1,1-Dichloroethene | 2.2 | U |
| 76-13-1 | 1,1,2-Trichloro-1,2,2-trifluoroethane | 2.2 | U |
| 67-64-1 | Acetone | 75 | J EB |
| 75-15-0 | Carbon Disulfide | 3.6 | |
| 79-20-9 | Methyl Acetate | 2.2 | U |
| 75-09-2 | Methylene Chloride | 7.0 | UJ |
| 156-60-5 | trans-1,2-Dichloroethene | 2.2 | U |
| 1634-04-4 | Methyl tert-Butyl Ether | 2.2 | U |
| 75-34-3 | 1,1-Dichloroethane | 2.2 | U |
| 156-59-2 | cis-1,2-Dichloroethene | 2.2 | U |
| 78-93-3 | 2-Butanone | 21 | |
| 67-66-3 | Chloroform | 2.2 | U |
| 71-55-6 | 1,1,1-Trichloroethane | 2.2 | U |
| 110-82-7 | Cyclohexane | 2.2 | U |
| 56-23-5 | Carbon Tetrachloride | 2.2 | U |
| 71-43-2 | Benzene | 2.2 | U |
| 107-06-2 | 1,2-Dichloroethane | 2.2 | U |

1B
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

D03618
WB-10 (2-4)

Lab Name: MITKEM CORPORATION Contract: _____

Lab Code: MITKEM Case No.: 0209M SAS No.: _____ SDG No.: D03604

Matrix: (soil/water) SOIL Lab Sample ID: A1752-06C

Sample wt/vol: 5.3 (g/mL) G Lab File ID: V1F1416

Level: (low/med) LOW Date Received: 11/27/02

% Moisture: not dec. 13 Date Analyzed: 12/03/02

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

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

| CAS NO. | COMPOUND | CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG | Q |
|---|---|---|---|
| 79-01-6 | Trichloroethene | 1.6 | J |
| 108-87-2 | Methylcyclohexane | 1.5 | J |
| 78-87-5 | 1,2-Dichloropropane | 2.2 | U |
| 75-27-4 | Bromodichloromethane | 2.2 | U |
| 10061-01-5 | cis-1,3-Dichloropropene | 2.2 | U |
| 108-10-1 | 4-Methyl-2-Pentanone | 5.4 | U J |
| 108-88-3 | Toluene | 2.2 ~~1.5~~ | ~~J~~ U |
| 10061-02-6 | trans-1,3-Dichloropropene | 2.2 | U |
| 79-00-5 | 1,1,2-Trichloroethane | 2.2 | U |
| 127-18-4 | Tetrachloroethene | 2.2 | U |
| 591-78-6 | 2-Hexanone | 5.4 | U |
| 124-48-1 | Dibromochloromethane | 2.2 | U |
| 106-93-4 | 1,2-Dibromoethane | 2.2 | U |
| 108-90-7 | Chlorobenzene | 2.2 | U |
| 100-41-4 | Ethylbenzene | 2.2 | U |
| 1330-20-7 | Xylene (Total) | 3.9 | |
| 100-42-5 | Styrene | 2.2 | U |
| 75-25-2 | Bromoform | 2.2 | U |
| 98-82-8 | Isopropylbenzene | 2.2 | U |
| 79-34-5 | 1,1,2,2-Tetrachloroethane | 2.2 | U |
| 541-73-1 | 1,3-Dichlorobenzene | 2.2 | U |
| 106-46-7 | 1,4-Dichlorobenzene | 1.6 | J |
| 95-50-1 | 1,2-Dichlorobenzene | 2.2 | U |
| 96-12-8 | 1,2-Dibromo-3-chloropropane | 2.2 | U |
| 120-82-1 | 1,2,4-Trichlorobenzene | 2.2 | U |

1F

# VOLATILE ORGANICS ANALYSIS DATA SHEET
## TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

D03618
WB-16 (2-4)

Lab Name: MITKEM CORPORATION Contract: _____

Lab Code: MITKEM Case No.: 0209M SAS No.: _____ SDG No.: D03604

Matrix: (soil/water) SOIL Lab Sample ID: A1752-06C

Sample wt/vol: 5.3 (g/mL) G Lab File ID: V1F1416

Level: (low/med) LOW Date Received: 11/27/02

% Moisture: not dec. 13 Date Analyzed: 12/03/02

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

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

Number TICs found: 8

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

| CAS NUMBER | COMPOUND NAME | RT | EST. CONC. | Q |
|---|---|---|---|---|
| 1. | UNKNOWN | 2.54 | 25 | J |
| 2. 80-56-8 | .ALPHA.-PINENE | 11.05 | 13 | NJ |
| 3. | CYCLIC ALKANE | 11.40 | 6.3 | J |
| 4. 556-67-2 | CYCLOTETRASILOXANE, OCTAMETH | 11.62 | 23 | NJ |
| 5. 95-63-6 | BENZENE, 1,2,4-TRIMETHYL- | 12.27 | 7.6 | NJ |
| 6. | UNKNOWN | 13.79 | 6.4 | J |
| 7. | UNKNOWN | 14.51 | 5.6 | J |
| 8. 1559-81-5 | NAPHTHALENE, 1,2,3,4-TETRAHY | 15.80 | 6.8 | NJ |
| 9. | | | | |
| 10. | | | | |
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1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

D03620
WB13 (0-2)

Lab Name: MITKEM CORPORATION Contract: _____

Lab Code: MITKEM Case No.: 0209M SAS No.: _____ SDG No.: D03604

Matrix: (soil/water) SOIL Lab Sample ID: A1752-24C

Sample wt/vol: 5.7 (g/mL) G Lab File ID: V1F1511

Level: (low/med) LOW Date Received: 12/06/02

% Moisture: not dec. 17 Date Analyzed: 12/09/02

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

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

| CAS NO. | COMPOUND | CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG | Q |
|---|---|---|---|
| 75-71-8 | Dichlorodifluoromethane | 2.1 | U |
| 74-87-3 | Chloromethane | 2.1 | U |
| 75-01-4 | Vinyl Chloride | 2.1 | U |
| 74-83-9 | Bromomethane | 2.1 | U |
| 75-00-3 | Chloroethane | 2.1 | U |
| 75-69-4 | Trichlorofluoromethane | 2.1 | U |
| 75-35-4 | 1,1-Dichloroethene | 2.1 | U |
| 76-13-1 | 1,1,2-Trichloro-1,2,2-trifluoroethane | 2.1 | U |
| 67-64-1 | Acetone | 3.5 | J JEB |
| 75-15-0 | Carbon Disulfide | 2.1 | U |
| 79-20-9 | Methyl Acetate | 2.1 | U |
| 75-09-2 | Methylene Chloride | 7.5 | U.J |
| 156-60-5 | trans-1,2-Dichloroethene | 2.1 | U |
| 1634-04-4 | Methyl tert-Butyl Ether | 2.1 | U |
| 75-34-3 | 1,1-Dichloroethane | 2.1 | U |
| 156-59-2 | cis-1,2-Dichloroethene | 2.1 | U |
| 78-93-3 | 2-Butanone | 5.3 | U |
| 67-66-3 | Chloroform | 2.1 | U |
| 71-55-6 | 1,1,1-Trichloroethane | 2.1 | U |
| 110-82-7 | Cyclohexane | 2.1 | U |
| 56-23-5 | Carbon Tetrachloride | 2.1 | U |
| 71-43-2 | Benzene | 2.1 | U |
| 107-06-2 | 1,2-Dichloroethane | 2.1 | U |

1B
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

D03620
WB-13 (0-2)

Lab Name: MITKEM CORPORATION Contract: _____

Lab Code: MITKEM Case No.: 0209M SAS No.: _____ SDG No.: D03604

Matrix: (soil/water) SOIL Lab Sample ID: A1752-24C

Sample wt/vol: 5.7 (g/mL) G Lab File ID: V1F1511

Level: (low/med) LOW Date Received: 12/06/02

% Moisture: not dec. 17 Date Analyzed: 12/09/02

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

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

| CAS NO. | COMPOUND | CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG | Q |
|---|---|---|---|
| 79-01-6 | Trichloroethene | 2.1 | U |
| 108-87-2 | Methylcyclohexane | 2.1 | U |
| 78-87-5 | 1,2-Dichloropropane | 2.1 | U |
| 75-27-4 | Bromodichloromethane | 2.1 | U |
| 10061-01-5 | cis-1,3-Dichloropropene | 2.1 | U |
| 108-10-1 | 4-Methyl-2-Pentanone | 5.3 | U |
| 108-88-3 | Toluene | 2.1 | U |
| 10061-02-6 | trans-1,3-Dichloropropene | 2.1 | U |
| 79-00-5 | 1,1,2-Trichloroethane | 2.1 | U |
| 127-18-4 | Tetrachloroethene | 2.1 | U |
| 591-78-6 | 2-Hexanone | 5.3 | U J |
| 124-48-1 | Dibromochloromethane | 2.1 | U |
| 106-93-4 | 1,2-Dibromoethane | 2.1 | U |
| 108-90-7 | Chlorobenzene | 2.1 | U |
| 100-41-4 | Ethylbenzene | 2.1 | U |
| 1330-20-7 | Xylene (Total) | 2.1 | U |
| 100-42-5 | Styrene | 2.1 | U |
| 75-25-2 | Bromoform | 2.1 | U |
| 98-82-8 | Isopropylbenzene | 2.1 | U |
| 79-34-5 | 1,1,2,2-Tetrachloroethane | 2.1 | U |
| 541-73-1 | 1,3-Dichlorobenzene | 2.1 | U |
| 106-46-7 | 1,4-Dichlorobenzene | 2.1 | U |
| 95-50-1 | 1,2-Dichlorobenzene | 2.1 | U |
| 96-12-8 | 1,2-Dibromo-3-chloropropane | 2.1 | U |
| 120-82-1 | 1,2,4-Trichlorobenzene | 2.1 | U |

1F
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

D03620
WB-13 (0-2)

Lab Name: MITKEM CORPORATION Contract: _____

Lab Code: MITKEM Case No.: 0209M SAS No.: _____ SDG No.: D03604

Matrix: (soil/water) SOIL Lab Sample ID: A1752-24C

Sample wt/vol: 5.7 (g/mL) G Lab File ID: V1F1511

Level: (low/med) LOW Date Received: 12/06/02

% Moisture: not dec. 17 Date Analyzed: 12/09/02

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

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

Number TICs found: 2

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

| CAS NUMBER | COMPOUND NAME | RT | EST. CONC. | Q |
|---|---|---|---|---|
| 1. | UNKNOWN | 2.68 | 44 | J |
| 2. 106-68-3 | 3-OCTANONE | 12.25 | 42 | NJ |
| 3. | | | | |
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1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

D03621
MRE-12(0-0.5)

Lab Name: MITKEM CORPORATION Contract: _____

Lab Code: MITKEM Case No.: 0209M SAS No.: _____ SDG No.: D03604

Matrix: (soil/water) SOIL Lab Sample ID: A1752-20C

Sample wt/vol: 3.6 (g/mL) G Lab File ID: V1F1517

Level: (low/med) LOW Date Received: 12/05/02

% Moisture: not dec. 83 Date Analyzed: 12/09/02

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

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

| CAS NO. | COMPOUND | CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG | Q |
|---|---|---|---|
| 75-71-8 | Dichlorodifluoromethane | ~~16~~ | ~~U~~ R |
| 74-87-3 | Chloromethane | ~~16~~ | ~~U~~ |
| 75-01-4 | Vinyl Chloride | ~~16~~ | ~~U~~ |
| 74-83-9 | Bromomethane | ~~16~~ | ~~U~~ |
| 75-00-3 | Chloroethane | ~~16~~ | ~~U~~ |
| 75-69-4 | Trichlorofluoromethane | ~~16~~ | ~~U~~ |
| 75-35-4 | 1,1-Dichloroethene | ~~16~~ | ~~U~~ |
| 76-13-1 | 1,1,2-Trichloro-1,2,2-trifluoroethane | ~~16~~ | ~~U~~ |
| 67-64-1 | Acetone | 500 | J EB |
| 75-15-0 | Carbon Disulfide | 16 | J |
| 79-20-9 | Methyl Acetate | ~~16~~ | ~~U~~ R |
| 75-09-2 | Methylene Chloride | 98 | UJ |
| 156-60-5 | trans-1,2-Dichloroethene | ~~16~~ | ~~U~~ R |
| 1634-04-4 | Methyl tert-Butyl Ether | 120 | J |
| 75-34-3 | 1,1-Dichloroethane | ~~16~~ | ~~U~~ R |
| 156-59-2 | cis-1,2-Dichloroethene | ~~16~~ | ~~U~~ R |
| 78-93-3 | 2-Butanone | 150 | J |
| 67-66-3 | Chloroform | ~~16~~ | ~~U~~ R |
| 71-55-6 | 1,1,1-Trichloroethane | ~~16~~ | ~~U~~ |
| 110-82-7 | Cyclohexane | ~~16~~ | ~~U~~ |
| 56-23-5 | Carbon Tetrachloride | ~~16~~ | ~~U~~ |
| 71-43-2 | Benzene | ~~16~~ | ~~U~~ |
| 107-06-2 | 1,2-Dichloroethane | ~~16~~ | ~~U~~ |

1B
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

D03621
MRE-12(0-0.5)

Lab Name: MITKEM CORPORATION Contract: _____

Lab Code: MITKEM Case No.: 0209M SAS No.: _____ SDG No.: D03604

Matrix: (soil/water) SOIL Lab Sample ID: A1752-20C

Sample wt/vol: 3.6 (g/mL) G Lab File ID: V1F1517

Level: (low/med) LOW Date Received: 12/05/02

% Moisture: not dec. 83 Date Analyzed: 12/09/02

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

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

| CAS NO. | COMPOUND | CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG | Q |
|---|---|---|---|
| 79-01-6 | Trichloroethene | ~~16~~ | ~~U~~ R |
| 108-87-2 | Methylcyclohexane | ~~16~~ | ~~U~~ |
| 78-87-5 | 1,2-Dichloropropane | ~~16~~ | ~~U~~ |
| 75-27-4 | Bromodichloromethane | ~~16~~ | ~~U~~ |
| 10061-01-5 | cis-1,3-Dichloropropene | ~~16~~ | ~~U~~ |
| 108-10-1 | 4-Methyl-2-Pentanone | ~~41~~ | ~~U~~ |
| 108-88-3 | Toluene | 110 | J |
| 10061-02-6 | trans-1,3-Dichloropropene | ~~16~~ | ~~U~~ R |
| 79-00-5 | 1,1,2-Trichloroethane | ~~16~~ | ~~U~~ |
| 127-18-4 | Tetrachloroethene | ~~16~~ | ~~U~~ |
| 591-78-6 | 2-Hexanone | ~~41~~ | ~~UJ~~ R |
| 124-48-1 | Dibromochloromethane | ~~16~~ | ~~U~~ |
| 106-93-4 | 1,2-Dibromoethane | ~~16~~ | ~~U~~ |
| 108-90-7 | Chlorobenzene | ~~16~~ | ~~U~~ |
| 100-41-4 | Ethylbenzene | ~~16~~ | ~~U~~ |
| 1330-20-7 | Xylene (Total) | ~~16~~ | ~~U~~ |
| 100-42-5 | Styrene | ~~16~~ | ~~U~~ |
| 75-25-2 | Bromoform | ~~16~~ | ~~U~~ |
| 98-82-8 | Isopropylbenzene | ~~16~~ | ~~U~~ |
| 79-34-5 | 1,1,2,2-Tetrachloroethane | ~~16~~ | ~~U~~ |
| 541-73-1 | 1,3-Dichlorobenzene | ~~16~~ | ~~U~~ |
| 106-46-7 | 1,4-Dichlorobenzene | ~~16~~ | ~~U~~ |
| 95-50-1 | 1,2-Dichlorobenzene | ~~16~~ | ~~U~~ |
| 96-12-8 | 1,2-Dibromo-3-chloropropane | ~~16~~ | ~~U~~ |
| 120-82-1 | 1,2,4-Trichlorobenzene | ~~16~~ | ~~U~~ |

1F

# VOLATILE ORGANICS ANALYSIS DATA SHEET
## TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

D03621
MRE-12(0-0.5)

Lab Name: MITKEM CORPORATION Contract: _____

Lab Code: MITKEM Case No.: 0209M SAS No.: _____ SDG No.: D03604

Matrix: (soil/water) SOIL Lab Sample ID: A1752-20C

Sample wt/vol: 3.6 (g/mL) G Lab File ID: V1F1517

Level: (low/med) LOW Date Received: 12/05/02

% Moisture: not dec. 83 Date Analyzed: 12/09/02

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

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

Number TICs found: 5

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

| CAS NUMBER | COMPOUND NAME | RT | EST. CONC. | Q |
|---|---|---|---|---|
| 1. | UNKNOWN | 2.54 | 260 | J |
| 2. 563-79-1 | 2-BUTENE, 2,3-DIMETHYL- | 4.25 | 45 | NJ |
| 3. 111-66-0 | 1-OCTENE | 8.02 | 180 | NJ |
| 4. 106-68-3 | 3-OCTANONE | 12.26 | 1100 | NJ |
| 5. 589-98-0 | 3-OCTANOL | 12.41 | 64 | NJ |
| 6. | | | | |
| 7. | | | | |
| 8. | | | | |
| 9. | | | | |
| 10. | | | | |
| 11. | | | | |
| 12. | | | | |
| 13. | | | | |
| 14. | | | | |
| 15. | | | | |
| 16. | | | | |
| 17. | | | | |
| 18. | | | | |
| 19. | | | | |
| 20. | | | | |
| 21. | | | | |
| 22. | | | | |
| 23. | | | | |
| 24. | | | | |
| 25. | | | | |
| 26. | | | | |
| 27. | | | | |
| 28. | | | | |
| 29. | | | | |
| 30. | | | | |

# Form I
## Semi-Volatile Organics by GC/MS

Client: **Metcalf & Eddy**
Project: **DAS -Southwest properties, Woburn**
Case: **0209M** SDG: **D03603**
Client ID: **D03600** MR-11(0-0.5)
Matrix: **Soil**

Lab Code: **MA00030**
ETR: **0212008**
Lab ID: **0212008-06**
Associated Blank: **SS1213B2**
Concentration Units: **µg/Kg**

| Date Collected | Date Received | Date Extracted | Date Analyzed | Percent Solid | Sample Amount (g) | Final Volume (ml) | Dilution Factor | Analyst |
|---|---|---|---|---|---|---|---|---|
| 12/03/02 | 12/04/02 | 12/13/02 | 12/26/02 | 62.1 | 20.21 | 2 | 1 | AJA |

| Parameter | Result | | | Parameter | Result | | |
|---|---|---|---|---|---|---|---|
| Benzaldehyde | | 190 | J | Acenaphthene | | 800 | U J |
| Phenol | 25 | ~~800~~ | U J | 2,4-Dinitrophenol | | ~~800~~ | ~~U~~ R |
| 2-Chlorophenol | | 800 | U | 4-Nitrophenol | | 800 | U J |
| bis(2-Chloroethyl)ether | | 800 | U | Dibenzofuran | | 800 | U |
| 2-Methylphenol | 5.1 JEB | ~~800~~ | ~~U~~ | 2,4-Dinitrotoluene | | 800 | U |
| bis(2-Chloroisopropyl)ether | | 800 | U J | Diethylphthalate | | 800 | U |
| Acetophenone | | 800 | U | Fluorene | | 800 | U |
| 4-Methylphenol | | 800 | U | 4-Chlorophenyl-phenylether | | 800 | U |
| n-Nitroso-di-n-propylamine | | 800 | U | 4-Nitroaniline | | 800 | U |
| Hexachloroethane | | 800 | U | 4,6-Dinitro-2-methylphenol | | 800 | U |
| Nitrobenzene | | 800 | U | n-Nitrosodiphenylamine | | 800 | U |
| Isophorone | | 800 | U | 4-Bromophenyl-phenylether | | 800 | U |
| 2-Nitrophenol | | 800 | U | Hexachlorobenzene | 8.0 | ~~800~~ | U |
| 2,4-Dimethylphenol | | ~~800~~ | ~~U~~ R | Atrazine | | 800 | U J |
| bis(2-Chloroethoxy)methane | | 800 | U J | Pentachlorophenol | | ~~800~~ | ~~U~~ R |
| 2,4-Dichlorophenol | | 800 | U | Phenanthrene | 530 J | ~~590~~ | ~~J~~ |
| Naphthalene | 46 JEB | ~~800~~ | ~~U~~ | Anthracene | | 800 | U J |
| 4-Chloroaniline | | ~~800~~ | ~~U~~ R | Carbazole | | 800 | U |
| Hexachlorobutadiene | | 800 | U J | Di-n-butylphthalate | | 800 | U |
| Caprolactam | | 800 | U | Fluoranthene | | 1200 | J |
| 4-Chloro-3-methylphenol | | 800 | U | Pyrene | 1100 J | ~~980~~ | ~~J~~ |
| 2-Methylnaphthalene | | 800 | U | Butylbenzylphthalate | | 800 | U J |
| Hexachlorocyclopentadiene | | 800 | U J | 3,3'-Dichlorobenzidine | | ~~800~~ | ~~U~~ R |
| 2,4,6-Trichlorophenol | | 800 | U | Benz[a]anthracene | 460 | ~~440~~ | J |
| 2,4,5-Trichlorophenol | | 800 | U | Chrysene | 470 | ~~590~~ | J |
| Biphenyl | | 800 | U | bis(2-Ethylhexyl)phthalate | | 640 | J |
| 2-Chloronaphthalene | | 800 | U | Di-n-octylphthalate | | 800 | U J |
| 2-Nitroaniline | | 800 | U | Benzo[b]fluoranthene | 380 | ~~420~~ | J |
| Dimethylphthalate | | 800 | U | Benzo[k]fluoranthene | 320 | ~~340~~ | J |
| 2,6-Dinitrotoluene | | 800 | U | Benzo[a]pyrene | 380 | ~~420~~ | J |
| Acenaphthylene | | 800 | U | Indeno[1,2,3-cd]pyrene | 230 | ~~260~~ | J |
| 3-Nitroaniline | | 800 | U | Dibenz[a,h]anthracene | 110 J | ~~800~~ | ~~U J~~ |
| | | | | Benzo[g,h,i]perylene | 240 | ~~330~~ | J |

| Surrogate | % Recovery | Acceptance Range (%) |
|---|---|---|
| 2-Fluorophenol | 55 | 25-121 |
| Phenol-d5 | 60 | 24-113 |
| Nitrobenzene-d5 | 55 | 23-120 |
| 2-Fluorobiphenyl | 66 | 30-115 |
| 2,4,6-Tribromophenol | 76 | 19-122 |
| Terphenyl-d14 | 75 | 18-137 |

J - Estimated value, below quantitation limit.
U - The analyte was analyzed for but not detected at the sample specific level reported.

01/06/03 09:21

# Form I
## Semi-Volatile Tentatively Identified Compounds (TIC)

Client: **Metcalf & Eddy**
Project: **DAS -Southwest properties, Woburn**
Case: **0209M** SDG: **D03603**
Client ID: **D03600** MR-11 (0-0.5)
Matrix: **Soil**

Lab Code: **MA00030**
ETR: **0212008**
Lab ID: **0212008-06**
Associated Blank: **SS1213B2**
Concentration Units: **µg/Kg**

| Date Collected | Date Received | Date Extracted | Date Analyzed | Percent Solid | Sample Amount (g) | Final Volume (ml) | Dilution Factor | Analyst |
|---|---|---|---|---|---|---|---|---|
| 12/03/02 | 12/04/02 | 12/13/02 | 12/26/02 | 62.1 | 20.21 | 2 | 1 | AJA |

| Parameter | RT | Result | CAS Number |
|---|---|---|---|
| Butane, 2,3-dimethyl-2-nitro- | 5.83 | 500 | 034075-28-0 |
| 2-Pentanone, 4-hydroxy-4-methyl- | 6.13 | 11000 | 000123-42-2 |
| Decahydro-4,4,8,9,10-pentamethylnaphthalene | 14.39 | 350 | 000000-00-0 |

01/06/03 09:22

# Form I
# Semi-Volatile Organics by GC/MS

Client: **Metcalf & Eddy**
Project: **DAS -Southwest properties, Woburn**
Case: **0209M** SDG: **D03603**
Client ID: **D03606** AB16 (0-2)
Matrix: **Soil**

Lab Code: **MA00030**
ETR: **0211137**
Lab ID: **0211137-09**
Associated Blank: **SS1203B3**
Concentration Units: **µg/Kg**

| Date Collected | Date Received | Date Extracted | Date Analyzed | Percent Solid | Sample Amount (g) | Final Volume (ml) | Dilution Factor | Analyst |
|---|---|---|---|---|---|---|---|---|
| 11/26/02 | 11/27/02 | 12/03/02 | 12/16/02 | 92.0 | 20.34 | 1 | 1 | AJA |

| Parameter | Result | | Parameter | Result | |
|---|---|---|---|---|---|
| Benzaldehyde | 270 | U J | Acenaphthene | 270 | U |
| Phenol | 5.2 UJ ~~270~~ | ~~U~~ | 2,4-Dinitrophenol | 270 | U J |
| 2-Chlorophenol | 270 | U | 4-Nitrophenol | 270 | U J |
| bis(2-Chloroethyl)ether | 270 | U | Dibenzofuran | 270 | U |
| 2-Methylphenol | 2.7 UJ ~~270~~ | ~~U~~ | 2,4-Dinitrotoluene | 270 | U |
| bis(2-Chloroisopropyl)ether | 270 | U | Diethylphthalate | 270 | U |
| Acetophenone | 270 | U | Fluorene | 270 | U |
| 4-Methylphenol | 270 | U | 4-Chlorophenyl-phenylether | 270 | U |
| n-Nitroso-di-n-propylamine | 270 | U | 4-Nitroaniline | 270 | U J |
| Hexachloroethane | 270 | U J | 4,6-Dinitro-2-methylphenol | 270 | U J |
| Nitrobenzene | 270 | U | n-Nitrosodiphenylamine | 270 | U |
| Isophorone | 270 | U | 4-Bromophenyl-phenylether | 270 | U J |
| 2-Nitrophenol | 270 | U J | Hexachlorobenzene | 2.0 J ~~270~~ | ~~U~~ |
| 2,4-Dimethylphenol | 270 | U J | Atrazine | 270 | U J |
| bis(2-Chloroethoxy)methane | 270 | U | Pentachlorophenol | 140 | ~~J~~ J |
| 2,4-Dichlorophenol | 270 | U | Phenanthrene | 7.4 J ~~270~~ | ~~U~~ |
| Naphthalene | 4.0 UJ ~~270~~ | ~~U~~ | Anthracene | 270 | U |
| Chloroaniline | 270 | U J | Carbazole | 270 | U |
| Hexachlorobutadiene | 270 | U | Di-n-butylphthalate | 270 | U |
| Caprolactam | 270 | U | Fluoranthene | 15 ~~270~~ | ~~U~~ |
| 4-Chloro-3-methylphenol | 270 | U | Pyrene | 15 ~~270~~ | ~~U~~ |
| 2-Methylnaphthalene | 270 | U | Butylbenzylphthalate | 270 | U |
| Hexachlorocyclopentadiene | 270 | U J | 3,3'-Dichlorobenzidine | ~~270~~ | ~~U~~ R |
| 2,4,6-Trichlorophenol | 270 | U J | Benz[a]anthracene | 9.0 ~~270~~ | ~~U~~ |
| 2,4,5-Trichlorophenol | 270 | U J | Chrysene | 12 ~~270~~ | ~~U~~ |
| Biphenyl | 270 | U | bis(2-Ethylhexyl)phthalate | 100 | J |
| 2-Chloronaphthalene | 270 | U | Di-n-octylphthalate | 270 | U |
| 2-Nitroaniline | 270 | U J | Benzo[b]fluoranthene | 11 ~~270~~ | ~~U~~ J |
| Dimethylphthalate | 270 | U | Benzo[k]fluoranthene | 9.3 ~~270~~ | ~~U~~ |
| 2,6-Dinitrotoluene | 270 | U | Benzo[a]pyrene | 9.9 ~~270~~ | ~~U~~ J |
| Acenaphthylene | 270 | U | Indeno[1,2,3-cd]pyrene | 8.1 ~~270~~ | ~~U~~ J |
| 3-Nitroaniline | 270 | U J | Dibenz[a,h]anthracene | 3.9 ~~270~~ | ~~U~~ J |
| | | | Benzo[g,h,i]perylene | 11 ~~270~~ | ~~U~~ J |

| Surrogate | % Recovery | Acceptance Range (%) |
|---|---|---|
| 2-Fluorophenol | 60 | 25-121 |
| Phenol-d5 | 60 | 24-113 |
| Nitrobenzene-d5 | 59 | 23-120 |
| 2-Fluorobiphenyl | 66 | 30-115 |
| 2,4,6-Tribromophenol | 70 | 19-122 |
| Terphenyl-d14 | 71 | 18-137 |

J - Estimated value, below quantitation limit.
U - The analyte was analyzed for but not detected at the sample specific level reported.

12/23/02 11:17

# Form I
# Semi-Volatile Tentatively Identified Compounds (TIC)

Client: **Metcalf & Eddy**
Project: **DAS -Southwest properties, Woburn**
Case: **0209M** SDG: **D03603**
Client ID: **D03606** AB16(0-2)
Matrix: **Soil**

Lab Code: **MA00030**
ETR: **0211137**
Lab ID: **0211137-09**
Associated Blank: **SS1203B3**
Concentration Units: **µg/Kg**

| Date Collected | Date Received | Date Extracted | Date Analyzed | Percent Solid | Sample Amount (g) | Final Volume (ml) | Dilution Factor | Analyst |
|---|---|---|---|---|---|---|---|---|
| 11/26/02 | 11/27/02 | 12/03/02 | 12/16/02 | 92.0 | 20.34 | 1 | 1 | AJA |

| Parameter | RT | Result | CAS Number |
|---|---|---|---|
| 3-Penten-2-one, 4-methyl- | 3.74 | 440 | 000141-79-7 |
| unknown | 3.94 | 450 | |
| 2-Pentanone, 4-hydroxy-4-methyl- | 4.22 | 14000 | 000123-42-2 |

12/23/02 11:04

# Form I
## Semi-Volatile Organics by GC/MS

Client: **Metcalf & Eddy**
Project: **DAS -Southwest properties, Woburn**
Case: **0209M** SDG: **D03603**
Client ID: **D03610 FD** MR-12(0-0.5)
Matrix: **Soil**

Lab Code: **MA00030**
ETR: **0212021**
Lab ID: **0212021-06**
Associated Blank: **SS1213B2**
Concentration Units: **µg/Kg**

| Date Collected | Date Received | Date Extracted | Date Analyzed | Percent Solid | Sample Amount (g) | Final Volume (ml) | Dilution Factor | Analyst |
|---|---|---|---|---|---|---|---|---|
| 12/04/02 | 12/06/02 | 12/13/02 | 12/26/02 | 34.2 | 20.21 | 1 | 1 | AJA |

| Parameter | Result | |
|---|---|---|
| Benzaldehyde | 2400 | J |
| Phenol | 240 JEB ~~720~~ | ~~U~~ J |
| 2-Chlorophenol | 720 | U J |
| bis(2-Chloroethyl)ether | 720 | U |
| 2-Methylphenol | 180 ~~720~~ | J EB |
| bis(2-Chloroisopropyl)ether | 720 | U J |
| Acetophenone | 720 | U |
| 4-Methylphenol | 720 | U |
| n-Nitroso-di-n-propylamine | 720 | U |
| Hexachloroethane | 720 | U |
| Nitrobenzene | 720 | U |
| Isophorone | 720 | U |
| 2-Nitrophenol | 720 | U |
| 2,4-Dimethylphenol | ~~720~~ | ~~U~~ R |
| bis(2-Chloroethoxy)methane | 720 | U J |
| Dichlorophenol | 720 | U |
| hthalene | 80 J EB ~~720~~ | ~~U~~ |
| 4-Chloroaniline | ~~720~~ | ~~U~~ R |
| Hexachlorobutadiene | 720 | U J |
| Caprolactam | 720 | U |
| 4-Chloro-3-methylphenol | 720 | U |
| 2-Methylnaphthalene | 720 | U |
| Hexachlorocyclopentadiene | 720 | U J |
| 2,4,6-Trichlorophenol | 720 | U |
| 2,4,5-Trichlorophenol | 720 | U |
| Biphenyl | 720 | U |
| 2-Chloronaphthalene | 720 | U |
| 2-Nitroaniline | 720 | U |
| Dimethylphthalate | 720 | U |
| 2,6-Dinitrotoluene | 720 | U |
| Acenaphthylene | 720 | U |
| 3-Nitroaniline | 720 | U |

| Parameter | Result | |
|---|---|---|
| Acenaphthene | 150 | J |
| 2,4-Dinitrophenol | ~~720~~ | ~~U~~ R |
| 4-Nitrophenol | 720 | U J |
| Dibenzofuran | 720 | U |
| 2,4-Dinitrotoluene | 720 | U |
| Diethylphthalate | 720 | U |
| Fluorene | 140 | J |
| 4-Chlorophenyl-phenylether | 720 | U J |
| 4-Nitroaniline | 720 | U |
| 4,6-Dinitro-2-methylphenol | 720 | U |
| n-Nitrosodiphenylamine | 720 | U |
| 4-Bromophenyl-phenylether | 720 | U |
| Hexachlorobenzene | 7.2 ~~720~~ | U |
| Atrazine | 720 | U J |
| Pentachlorophenol | ~~720~~ | ~~U~~ R |
| Phenanthrene | 2000 | J |
| Anthracene | 460 | J |
| Carbazole | 240 | J |
| Di-n-butylphthalate | 720 | U J |
| Fluoranthene | 4300 | J |
| Pyrene | 3000 | J |
| Butylbenzylphthalate | 720 | U J |
| 3,3'-Dichlorobenzidine | ~~720~~ | ~~U~~ R |
| Benz[a]anthracene | 1800 | J |
| Chrysene | 2000 | J |
| bis(2-Ethylhexyl)phthalate | 340 | J |
| Di-n-octylphthalate | 720 | U J |
| Benzo[b]fluoranthene | 1500 | J |
| Benzo[k]fluoranthene | 1800 | |
| Benzo[a]pyrene | 1500 | |
| Indeno[1,2,3-cd]pyrene | 950 | |
| Dibenz[a,h]anthracene | 220 ~~280~~ | J |
| Benzo[g,h,i]perylene | 900 | J |

| Surrogate | % Recovery | Acceptance Range (%) |
|---|---|---|
| 2-Fluorophenol | 38 | 25-121 |
| Phenol-d5 | 37 | 24-113 |
| benzene-d5 | 42 | 23-120 |
| orobiphenyl | 48 | 30-115 |
| 2,4,6-Tribromophenol | 56 | 19-122 |
| Terphenyl-d14 | 45 | 18-137 |

J - Estimated value, below quantitation limit.
U - The analyte was analyzed for but not detected at the sample specific level reported.

01/02/03 16:45

# Form I
## Semi-Volatile Tentatively Identified Compounds (TIC)

Client: **Metcalf & Eddy**
Project: **DAS -Southwest properties, Woburn**
Case: **0209M** SDG: **D03603**
Client ID: **D03610 FD** MR-1210-0.5
Matrix: **Soil**

Lab Code: **MA00030**
ETR: **0212021**
Lab ID: **0212021-06**
Associated Blank: **SS1213B2**
Concentration Units: **µg/Kg**

| Date Collected | Date Received | Date Extracted | Date Analyzed | Percent Solid | Sample Amount (g) | Final Volume (ml) | Dilution Factor | Analyst |
|---|---|---|---|---|---|---|---|---|
| 12/04/02 | 12/06/02 | 12/13/02 | 12/26/02 | 34.2 | 20.21 | 1 | 1 | AJA |

| Parameter | RT | Result | CAS Number |
|---|---|---|---|
| unknown | 5.74 | 1100 | |
| 2-Pentanone, 4-hydroxy-4-methyl- | 6.23 | 34000 | 000123-42-2 |
| Butanoic acid, 2-methyl- | 6.69 | 1000 | 000116-53-0 |
| 2-Cyclohexen-1-one | 9.15 | 1300 | 000930-68-7 |
| Tetradecanoic acid | 16.21 | 1100 | 000544-63-8 |
| Pentadecanoic acid, methyl ester | 16.35 | 1200 | 007132-64-1 |
| Hexadecanoic acid | 16.57 | 1100 | 000057-10-3 |
| 9-Hexadecenoic acid, methyl ester, (Z)- | 17.02 | 1300 | 001120-25-8 |
| 9-Hexadecenoic acid, methyl ester, (Z)- | 17.07 | 1800 | 001120-25-8 |
| Hexadecanoic acid, methyl ester | 17.11 | 2200 | 000112-39-0 |
| unknown | 17.29 | 2200 | |
| Hexadecanoic acid | 17.36 | 8000 | 000057-10-3 |
| 9-Octadecenoic acid (Z)-, methyl ester | 18.02 | 2700 | 000112-62-9 |
| 14-Octadecenoic acid, methyl ester | 18.04 | 940 | 056554-48-4 |
| 1-Eicosanol | 19.77 | 1300 | 000629-96-9 |
| Octadecanal | 20.29 | 1400 | 000638-66-4 |
| 1-Docosene | 20.57 | 3300 | 001599-67-3 |
| (Z)14-Tricosenyl formate | 21.16 | 12000 | 077899-10-6 |
| Perylene | 21.9 | 3300 | 198-55-0 |
| (Z)14-Tricosenyl formate | 22.2 | 9700 | 077899-10-6 |
| 16-Octadecenal | 23.59 | 4400 | 056554-87-1 |



*375 Paramount Drive, Suite 2, Raynham, Massachusetts 02767, (508) 822-9300, Fax (508) 822-3288, whale@whgrp.com*

# Form I
# Semi-Volatile Organics by GC/MS

Client: **Metcalf & Eddy**
Project: **DAS -Southwest properties, Woburn**
Case: **0209M** SDG: **D03603**
Client ID: **D03611** WB6(0-2)
Matrix: **Soil**

Lab Code: **MA00030**
ETR: **0211137**
Lab ID: **0211137-01**
Associated Blank: **SS1203B3**
Concentration Units: **µg/Kg**

| Date Collected | Date Received | Date Extracted | Date Analyzed | Percent Solid | Sample Amount (g) | Final Volume (ml) | Dilution Factor | Analyst |
|---|---|---|---|---|---|---|---|---|
| 11/25/02 | 11/27/02 | 12/03/02 | 12/18/02 | 87.8 | 20.22 | 2 | 1 | AJA |

| Parameter | Result | | Parameter | Result | |
|---|---|---|---|---|---|
| Benzaldehyde | 380 | J | Acenaphthene | 620 | |
| Phenol | 35 U J ~~560~~ | ~~U~~ | 2,4-Dinitrophenol | 560 | U J |
| 2-Chlorophenol | 560 | U | 4-Nitrophenol | 560 | U J |
| bis(2-Chloroethyl)ether | 560 | U | Dibenzofuran | 260 | J |
| 2-Methylphenol | 28 ~~560~~ | U J | 2,4-Dinitrotoluene | 560 | U |
| bis(2-Chloroisopropyl)ether | 560 | U | Diethylphthalate | 560 | U |
| Acetophenone | 560 | U | Fluorene | 570 | |
| 4-Methylphenol | 200 | J | 4-Chlorophenyl-phenylether | 560 | U |
| n-Nitroso-di-n-propylamine | 560 | U | 4-Nitroaniline | 560 | U J |
| Hexachloroethane | 560 | U J | 4,6-Dinitro-2-methylphenol | 560 | U J |
| Nitrobenzene | 560 | U | n-Nitrosodiphenylamine | 560 | U |
| Isophorone | 560 | U | 4-Bromophenyl-phenylether | 560 | U J |
| 2-Nitrophenol | 560 | U J | Hexachlorobenzene | 28 ~~560~~ | U |
| 2,4-Dimethylphenol | 560 | U J | Atrazine | 560 | U J |
| bis(2-Chloroethoxy)methane | 560 | U | Pentachlorophenol | 560 | U J |
| 2,4-Dichlorophenol | 560 | U | Phenanthrene | 4800 | |
| phthalene | 200 J EB ~~250~~ | ~~J~~ | Anthracene | 1400 | |
| Chloroaniline | 560 | U J | Carbazole | 510 | J |
| Hexachlorobutadiene | 560 | U | Di-n-butylphthalate | 150 | J |
| Caprolactam | 560 | U | Fluoranthene | 8400 | |
| 4-Chloro-3-methylphenol | 560 | U | Pyrene | 8100 | |
| 2-Methylnaphthalene | 130 | J | Butylbenzylphthalate | 1700 | |
| Hexachlorocyclopentadiene | 560 | U J | 3,3'-Dichlorobenzidine | ~~560~~ | ~~U~~ R |
| 2,4,6-Trichlorophenol | 560 | U J | Benz[a]anthracene | 4300 | |
| 2,4,5-Trichlorophenol | 560 | U J | Chrysene | 4500 | |
| Biphenyl | 560 | U | bis(2-Ethylhexyl)phthalate | 840 | |
| 2-Chloronaphthalene | 560 | U | Di-n-octylphthalate | 560 | U |
| 2-Nitroaniline | 560 | U J | Benzo[b]fluoranthene | 4400 | J |
| Dimethylphthalate | 560 | U | Benzo[k]fluoranthene | 4200 | |
| 2,6-Dinitrotoluene | 560 | U | Benzo[a]pyrene | 4800 | J |
| Acenaphthylene | 200 | J | Indeno[1,2,3-cd]pyrene | 1400 ~~1400~~ | ~~J~~ |
| 3-Nitroaniline | 560 | U J | Dibenz[a,h]anthracene | 590 ~~410~~ | ~~J J~~ |
| | | | Benzo[g,h,i]perylene | 1300 ~~1200~~ | ~~J~~ |

| Surrogate | % Recovery | Acceptance Range (%) |
|---|---|---|
| 2-Fluorophenol | 78 | 25-121 |
| Phenol-d5 | 83 | 24-113 |
| Nitrobenzene-d5 | 77 | 23-120 |
| 2-Fluorobiphenyl | 87 | 30-115 |
| 2,4,6-Tribromophenol | 97 | 19-122 |
| Terphenyl-d14 | 96 | 18-137 |

J - Estimated value, below quantitation limit.
U - The analyte was analyzed for but not detected at the sample specific level reported.

12/23/02 11:19

375 Paramount Drive, Suite 2, Raynham, Massachusetts 02767, (508) 822-9300, Fax (508) 822-3288, whale@whgrp.com

# Form I
## Semi-Volatile Tentatively Identified Compounds (TIC)

Client: **Metcalf & Eddy**
Project: **DAS -Southwest properties, Woburn**
Case: **0209M** SDG: **D03603**
Client ID: **D03611** WB6(0-2)
Matrix: **Soil**

Lab Code: **MA00030**
ETR: **0211137**
Lab ID: **0211137-01**
Associated Blank: **SS1203B3**
Concentration Units: **µg/Kg**

| Date Collected | Date Received | Date Extracted | Date Analyzed | Percent Solid | Sample Amount (g) | Final Volume (ml) | Dilution Factor | Analyst |
|---|---|---|---|---|---|---|---|---|
| 11/25/02 | 11/27/02 | 12/03/02 | 12/18/02 | 87.8 | 20.22 | 2 | 1 | AJA |

| Parameter | RT | Result | CAS Number |
|---|---|---|---|
| 2-Pentanone, 4-hydroxy-4-methyl- | 4.16 | 19000 | 000123-42-2 |
| Anthracene, 9-methyl- | 12.94 | 500 | 000779-02-2 |
| Anthracene, 2-methyl- | 12.97 | 750 | 000613-12-7 |
| 4H-Cyclopenta[def]phenanthrene | 13.11 | 1800 | 000203-64-5 |
| 2-Propenoic acid, 2-methyl-, 2-ethyl-2-[ | 13.37 | 570 | 003290-92-4 |
| 1,1'-Biphenyl, 2,2',4,6,6'-Pentachloro- | 14.13 | 830 | 056558-16-8 |
| Pyrene, 1-methyl- | 14.91 | 3300 | 002381-21-7 |

12/23/02 11:06

# Form I
# Semi-Volatile Organics by GC/MS

Client: **Metcalf & Eddy**
Project: **DAS -Southwest properties, Woburn**
Case: **0209M** SDG: **D03603**
Client ID: **D03613** WB-7(0-2)
Matrix: **Soil**

Lab Code: **MA00030**
ETR: **0211137**
Lab ID: **0211137-02**
Associated Blank: **SS1203B3**
Concentration Units: **µg/Kg**

| Date Collected | Date Received | Date Extracted | Date Analyzed | Percent Solid | Sample Amount (g) | Final Volume (ml) | Dilution Factor | Analyst |
|---|---|---|---|---|---|---|---|---|
| 11/25/02 | 11/27/02 | 12/03/02 | 12/17/02 | 80.4 | 20.30 | 2 | 2 | AJA |

| Parameter | Result | |
|---|---|---|
| Benzaldehyde | 440 | ~~J~~ J |
| Phenol | 39 UJ ~~1200~~ | ~~U~~ |
| 2-Chlorophenol | 1200 | U |
| bis(2-Chloroethyl)ether | 1200 | U |
| 2-Methylphenol | 31 UJ ~~1200~~ | ~~U~~ |
| bis(2-Chloroisopropyl)ether | 1200 | U |
| Acetophenone | 1200 | U |
| 4-Methylphenol | 1200 | U |
| n-Nitroso-di-n-propylamine | 1200 | U |
| Hexachloroethane | 1200 | U J |
| Nitrobenzene | 1200 | U |
| Isophorone | 1200 | U |
| 2-Nitrophenol | 1200 | U J |
| 2,4-Dimethylphenol | 1200 | U J |
| bis(2-Chloroethoxy)methane | 1200 | U |
| 2,4-Dichlorophenol | 1200 | U |
| Naphthalene | 930 JEB ~~1200~~ | ~~J~~ |
| 4-Chloroaniline | 1200 | U J |
| Hexachlorobutadiene | 1200 | U |
| Caprolactam | 1200 | U |
| 4-Chloro-3-methylphenol | 1200 | U |
| 2-Methylnaphthalene | 550 | J |
| Hexachlorocyclopentadiene | 1200 | U ~~J~~ J |
| 2,4,6-Trichlorophenol | 1200 | U J |
| 2,4,5-Trichlorophenol | 1200 | U J |
| Biphenyl | 1200 | U |
| 2-Chloronaphthalene | 1200 | U |
| 2-Nitroaniline | 1200 | U J |
| Dimethylphthalate | 1200 | U |
| 2,6-Dinitrotoluene | 1200 | U |
| Acenaphthylene | 1200 | U |
| 3-Nitroaniline | 1200 | U J |

| Parameter | Result | |
|---|---|---|
| Acenaphthene | 2000 | |
| 2,4-Dinitrophenol | 1200 | U J |
| 4-Nitrophenol | 1200 | U J |
| Dibenzofuran | 1200 | J |
| 2,4-Dinitrotoluene | 1200 | U |
| Diethylphthalate | 1200 | U |
| Fluorene | 2100 | |
| 4-Chlorophenyl-phenylether | 1200 | U |
| 4-Nitroaniline | 1200 | U J |
| 4,6-Dinitro-2-methylphenol | 1200 | U J |
| n-Nitrosodiphenylamine | 1200 | U |
| 4-Bromophenyl-phenylether | 1200 | U J |
| Hexachlorobenzene | 31 U ~~1200~~ | ~~U~~ |
| Atrazine | 1200 | U ~~J~~ J |
| Pentachlorophenol | 1200 | U J |
| Phenanthrene | 15000 | |
| Anthracene | 3900 | |
| Carbazole | 2300 | |
| Di-n-butylphthalate | 1200 | U |
| Fluoranthene | 16000 | |
| Pyrene | 15000 | |
| Butylbenzylphthalate | 1200 | U |
| 3,3'-Dichlorobenzidine | ~~1200~~ | ~~U~~ R |
| Benz[a]anthracene | 7200 | |
| Chrysene | 7200 | |
| bis(2-Ethylhexyl)phthalate | 1200 | J |
| Di-n-octylphthalate | 1200 | U |
| Benzo[b]fluoranthene | 6100 | J |
| Benzo[k]fluoranthene | 6800 | |
| Benzo[a]pyrene | 6500 | J |
| Indeno[1,2,3-cd]pyrene | 1900 ~~1900~~ | ~~J~~ |
| Dibenz[a,h]anthracene | 780 ~~690~~ | ~~J~~ J |
| Benzo[g,h,i]perylene | 1700 ~~1600~~ | ~~J~~ |

| Surrogate | % Recovery | Acceptance Range (%) |
|---|---|---|
| 2-Fluorophenol | 74 | 25-121 |
| Phenol-d5 | 80 | 24-113 |
| Nitrobenzene-d5 | 77 | 23-120 |
| 2-Fluorobiphenyl | 82 | 30-115 |
| 2,4,6-Tribromophenol | 79 | 19-122 |
| Terphenyl-d14 | 94 | 18-137 |

J - Estimated value, below quantitation limit.
U - The analyte was analyzed for but not detected at the sample specific level reported.

12/23/02 11:18

# Form I
## Semi-Volatile Tentatively Identified Compounds (TIC)

Client: **Metcalf & Eddy**
Project: **DAS -Southwest properties, Woburn**
Case: **0209M** SDG: **D03603**
Client ID: **D03613** WB-7(0-2)
Matrix: **Soil**

Lab Code: **MA00030**
ETR: **0211137**
Lab ID: **0211137-02**
Associated Blank: **SS1203B3**
Concentration Units: **µg/Kg**

| Date Collected | Date Received | Date Extracted | Date Analyzed | Percent Solid | Sample Amount (g) | Final Volume (ml) | Dilution Factor | Analyst |
|---|---|---|---|---|---|---|---|---|
| 11/25/02 | 11/27/02 | 12/03/02 | 12/17/02 | 80.4 | 20.30 | 2 | 2 | AJA |

| Parameter | RT | Result | CAS Number |
|---|---|---|---|
| 2-Pentanone, 4-hydroxy-4-methyl- | 4.19 | 24000 | 000123-42-2 |
| unknown | 7.27 | 2200 | |
| Dibenzothiophene | 12.1 | 760 | 132-65-0 |
| Anthracene, 2-methyl- | 12.96 | 1100 | 000613-12-7 |
| Phenanthrene, 4-methyl- | 13 | 1600 | 000832-64-4 |
| unknown | 13.13 | 3900 | |
| 2-Phenylnaphthalene | 13.37 | 980 | 035465-71-5 |
| 9,10-Anthracenedione | 13.42 | 1200 | 000084-65-1 |
| unknown | 13.73 | 1200 | |
| unknown | 14.07 | 24000 | |
| 11H-Benzo[b]fluorene | 14.78 | 1300 | 000243-17-4 |
| 11H-Benzo[b]fluorene | 14.86 | 840 | 000243-17-4 |
| Pyrene, 2-methyl- | 14.93 | 610 | 003442-78-2 |


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# Form I
## Semi-Volatile Organics by GC/MS

Client: **Metcalf & Eddy**
Project: **DAS -Southwest properties, Woburn**
Case: **0209M** SDG: **D03603**
Client ID: **D03614** WB-7(2-4)
Matrix: **Soil**

Lab Code: **MA00030**
ETR: **0211137**
Lab ID: **0211137-03**
Associated Blank: **SS1203B3**
Concentration Units: **µg/Kg**

| Date Collected | Date Received | Date Extracted | Date Analyzed | Percent Solid | Sample Amount (g) | Final Volume (ml) | Dilution Factor | Analyst |
|---|---|---|---|---|---|---|---|---|
| 11/25/02 | 11/27/02 | 12/03/02 | 12/17/02 | 91.6 | 20.29 | 2 | 4 | AJA |

| Parameter | Result | |
|---|---|---|
| Benzaldehyde | 2200 | U J |
| Phenol | **2400** | |
| 2-Chlorophenol | 2200 | U |
| bis(2-Chloroethyl)ether | 2200 | U |
| 2-Methylphenol | 54 UJ ~~2200~~ | ~~U~~ |
| bis(2-Chloroisopropyl)ether | 2200 | U |
| Acetophenone | 2200 | U |
| 4-Methylphenol | **2800** | |
| n-Nitroso-di-n-propylamine | 2200 | U |
| Hexachloroethane | 2200 | U J |
| Nitrobenzene | 2200 | U |
| Isophorone | 2200 | U |
| 2-Nitrophenol | 2200 | U J |
| 2,4-Dimethylphenol | **850** | ~~J~~ J |
| bis(2-Chloroethoxy)methane | 2200 | U |
| 2,4-Dichlorophenol | 2200 | U |
| Naphthalene | **5800** | |
| 4-Chloroaniline | 2200 | U J |
| Hexachlorobutadiene | 2200 | U |
| Caprolactam | 2200 | U |
| 4-Chloro-3-methylphenol | 2200 | U |
| 2-Methylnaphthalene | **10000** | |
| Hexachlorocyclopentadiene | 2200 | U J |
| 2,4,6-Trichlorophenol | **1400** | ~~J~~ J |
| 2,4,5-Trichlorophenol | **390** | ~~J~~ J |
| Biphenyl | **2900** | |
| 2-Chloronaphthalene | 2200 | U |
| 2-Nitroaniline | 2200 | U J |
| Dimethylphthalate | 2200 | U |
| 2,6-Dinitrotoluene | 2200 | U |
| Acenaphthylene | 2200 | U |
| 3-Nitroaniline | 2200 | U J |

| Parameter | Result | |
|---|---|---|
| Acenaphthene | **2400** | |
| 2,4-Dinitrophenol | 2200 | U J |
| 4-Nitrophenol | 2200 | U J |
| Dibenzofuran | 2200 | U |
| 2,4-Dinitrotoluene | 2200 | U |
| Diethylphthalate | 2200 | U |
| Fluorene | 2200 | U |
| 4-Chlorophenyl-phenylether | 2200 | U |
| 4-Nitroaniline | 2200 | U J |
| 4,6-Dinitro-2-methylphenol | 2200 | U J |
| n-Nitrosodiphenylamine | 2200 | U |
| 4-Bromophenyl-phenylether | 2200 | U J |
| Hexachlorobenzene | 54 UJ ~~2200~~ | ~~U~~ |
| Atrazine | 2200 | U J |
| Pentachlorophenol | 2200 | U J |
| Phenanthrene | **4700** | |
| Anthracene | 2200 | U |
| Carbazole | 2200 | U |
| Di-n-butylphthalate | 2200 | U |
| Fluoranthene | **2900** | |
| Pyrene | **4400** | |
| Butylbenzylphthalate | **3900** | |
| 3,3'-Dichlorobenzidine | ~~2200~~ | ~~U~~ R |
| Benz[a]anthracene | 930 J ~~970~~ | ~~J~~ |
| Chrysene | 1200 J ~~1600~~ | ~~J~~ |
| bis(2-Ethylhexyl)phthalate | 200,000 ~~210000~~ | ~~E~~ |
| Di-n-octylphthalate | 12000 | J |
| Benzo[b]fluoranthene | 870 J ~~1100~~ | ~~J~~ |
| Benzo[k]fluoranthene | 690 J ~~1200~~ | ~~J~~ |
| Benzo[a]pyrene | 780 J ~~810~~ | J |
| Indeno[1,2,3-cd]pyrene | 400 J ~~2200~~ | U |
| Dibenz[a,h]anthracene | 170 J ~~2200~~ | U |
| Benzo[g,h,i]perylene | 460 J ~~2200~~ | ~~U~~ |

| Surrogate | % Recovery | Acceptance Range (%) |
|---|---|---|
| 2-Fluorophenol | 38 | 25-121 |
| Phenol-d5 | 44 | 24-113 |
| Nitrobenzene-d5 | 39 | 23-120 |
| 2-Fluorobiphenyl | 49 | 30-115 |
| 2,4,6-Tribromophenol | 47 | 19-122 |
| Terphenyl-d14 | 59 | 18-137 |

E - Estimated value, exceeds the upper limit of calibration.
J - Estimated value, below quantitation limit.
U - The analyte was analyzed for but not detected at the sample specific level reported.


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# Form I
# Semi-Volatile Tentatively Identified Compounds (TIC)

Client: **Metcalf & Eddy**
Project: **DAS -Southwest properties, Woburn**
Case: **0209M** SDG: **D03603**
Client ID: **D03614** WB-7(2-4)
Matrix: **Soil**

Lab Code: **MA00030**
ETR: **0211137**
Lab ID: **0211137-03**
Associated Blank: **SS1203B3**
Concentration Units: **µg/Kg**

| Date Collected | Date Received | Date Extracted | Date Analyzed | Percent Solid | Sample Amount (g) | Final Volume (ml) | Dilution Factor | Analyst |
|---|---|---|---|---|---|---|---|---|
| 11/25/02 | 11/27/02 | 12/03/02 | 12/17/02 | 91.6 | 20.29 | 2 | 4 | AJA |

| Parameter | RT | Result | CAS Number |
|---|---|---|---|
| Toluene | 3.46 | 4500 | 108-88-3 |
| 2-Pentanone, 4-hydroxy-4-methyl- | 4.18 | 4900 | 000123-42-2 |
| Benzene, 1,2,3-trimethyl- | 5.81 | 5500 | 000526-73-8 |
| 1,2,4-Trimethylbenzene | 6.12 | 5100 | 95-63-6 |
| Benzene, 1-ethyl-3,5-dimethyl- | 7.01 | 3800 | 000934-74-7 |
| Cyclohexanemethanol, .alpha.,.alpha.,4-t | 7.27 | 11000 | 000498-81-7 |
| unknown | 7.37 | 6600 | |
| Benzene, 1,2,3-trichloro- | 7.96 | 8700 | 000087-61-6 |
| unknown | 8.06 | 5200 | |
| Naphthalene, 1-methyl- | 8.82 | 6200 | 000090-12-0 |

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# Form I
## Semi-Volatile Organics by GC/MS

Client: **Metcalf & Eddy**
Project: **DAS -Southwest properties, Woburn**
Case: **0209M** SDG: **D03603**
Client ID: **D03617** WB10 (0-2)
Matrix: **Soil**

Lab Code: **MA00030**
ETR: **0211137**
Lab ID: **0211137-04**
Associated Blank: **SS1203B3**
Concentration Units: **µg/Kg**

| Date Collected | Date Received | Date Extracted | Date Analyzed | Percent Solid | Sample Amount (g) | Final Volume (ml) | Dilution Factor | Analyst |
|---|---|---|---|---|---|---|---|---|
| 11/25/02 | 11/27/02 | 12/03/02 | 12/17/02 | 82.0 | 20.47 | 2 | 1 | AJA |

| Parameter | Result | | Parameter | Result | |
|---|---|---|---|---|---|
| Benzaldehyde | 200 | ~~J~~ | Acenaphthene | 2300 | |
| Phenol | 60 ~~600~~ | ~~U~~ | 2,4-Dinitrophenol | 600 | U J |
| 2-Chlorophenol | 600 | U | 4-Nitrophenol | 600 | U J |
| bis(2-Chloroethyl)ether | 600 | U | Dibenzofuran | 1100 | |
| 2-Methylphenol | 60 ~~600~~ | UJ | 2,4-Dinitrotoluene | 600 | U |
| bis(2-Chloroisopropyl)ether | 600 | U | Diethylphthalate | 600 | U |
| Acetophenone | 600 | U | Fluorene | 2200 | |
| 4-Methylphenol | 600 | U | 4-Chlorophenyl-phenylether | 600 | U |
| n-Nitroso-di-n-propylamine | 600 | U | 4-Nitroaniline | 600 | U J |
| Hexachloroethane | 600 | U J | 4,6-Dinitro-2-methylphenol | 600 | U J |
| Nitrobenzene | 600 | U | n-Nitrosodiphenylamine | 600 | U |
| Isophorone | 600 | U | 4-Bromophenyl-phenylether | 600 | U J |
| 2-Nitrophenol | 600 | U J | Hexachlorobenzene | 60 ~~600~~ | U |
| 2,4-Dimethylphenol | 600 | U J | Atrazine | 600 | U J |
| bis(2-Chloroethoxy)methane | 600 | U | Pentachlorophenol | 600 | U J |
| 2,4-Dichlorophenol | 600 | U | Phenanthrene | 19000 | |
| Naphthalene | 630 | | Anthracene | 6000 | |
| 4-Chloroaniline | 600 | U J | Carbazole | 2800 | |
| Hexachlorobutadiene | 600 | U | Di-n-butylphthalate | 410 | J |
| Caprolactam | 600 | U | Fluoranthene | 40,000 ~~35000~~ | ~~E~~ |
| 4-Chloro-3-methylphenol | 600 | U | Pyrene | 31,000 ~~38000~~ | ~~E~~ |
| 2-Methylnaphthalene | 410 | J | Butylbenzylphthalate | 1300 | |
| Hexachlorocyclopentadiene | 600 | U J | 3,3'-Dichlorobenzidine | ~~600~~ | ~~U~~ R |
| 2,4,6-Trichlorophenol | 600 | U J | Benz[a]anthracene | 18000 | |
| 2,4,5-Trichlorophenol | 600 | U J | Chrysene | 18000 | |
| Biphenyl | 130 | J | bis(2-Ethylhexyl)phthalate | 4800 | |
| 2-Chloronaphthalene | 600 | U | Di-n-octylphthalate | 600 | U J |
| 2-Nitroaniline | 600 | U J | Benzo[b]fluoranthene | 17,000 ~~24000~~ | ~~E~~ J |
| Dimethylphthalate | 600 | U | Benzo[k]fluoranthene | 18000 | J |
| 2,6-Dinitrotoluene | 600 | U | Benzo[a]pyrene | 18000 | J |
| Acenaphthylene | 200 | J | Indeno[1,2,3-cd]pyrene | 5200 ~~4000~~ | ~~J~~ |
| 3-Nitroaniline | 600 | U J | Dibenz[a,h]anthracene | 2100 ~~1300~~ | ~~J~~ |
| | | | Benzo[g,h,i]perylene | 4400 ~~3000~~ | ~~J~~ |

| Surrogate | % Recovery | Acceptance Range (%) |
|---|---|---|
| 2-Fluorophenol | 73 | 25-121 |
| Phenol-d5 | 77 | 24-113 |
| Nitrobenzene-d5 | 78 | 23-120 |
| 2-Fluorobiphenyl | 78 | 30-115 |
| 2,4,6-Tribromophenol | 88 | 19-122 |
| Terphenyl-d14 | 115 | 18-137 |

E - Estimated value, exceeds the upper limit of calibration.
J - Estimated value, below quantitation limit.
U - The analyte was analyzed for but not detected at the sample specific level reported.

12/23/02 11:18

# Form I
## Semi-Volatile Tentatively Identified Compounds (TIC)

Client: **Metcalf & Eddy**
Project: **DAS -Southwest properties, Woburn**
Case: **0209M** SDG: **D03603**
Client ID: **D03617** WB-10(0-2)
Matrix: **Soil**

Lab Code: **MA00030**
ETR: **0211137**
Lab ID: **0211137-04**
Associated Blank: **SS1203B3**
Concentration Units: **µg/Kg**

| Date Collected | Date Received | Date Extracted | Date Analyzed | Percent Solid | Sample Amount (g) | Final Volume (ml) | Dilution Factor | Analyst |
|---|---|---|---|---|---|---|---|---|
| 11/25/02 | 11/27/02 | 12/03/02 | 12/17/02 | 82.0 | 20.47 | 2 | 1 | AJA |

| Parameter | RT | Result | CAS Number |
|---|---|---|---|
| 2-Pentanone, 4-hydroxy-4-methyl- | 4.19 | 7600 | 000123-42-2 |
| Anthracene, 2-methyl- | 12.97 | 350 | 000613-12-7 |
| Phenanthrene, 2-methyl- | 13.01 | 490 | 002531-84-2 |
| unknown | 13.15 | 1200 | |
| 11H-Benzo[a]fluorene | 14.81 | 4800 | 000238-84-6 |

12/23/02 11:05

# Form I
## Semi-Volatile Organics by GC/MS

Client: **Metcalf & Eddy**
Project: **DAS -Southwest properties, Woburn**
Case: **0209M** SDG: **D03603**
Client ID: **D03618** WB-10 (2-4)
Matrix: **Soil**

Lab Code: **MA00030**
ETR: **0211137**
Lab ID: **0211137-05**
Associated Blank: **SS1203B3**
Concentration Units: **µg/Kg**

| Date Collected | Date Received | Date Extracted | Date Analyzed | Percent Solid | Sample Amount (g) | Final Volume (ml) | Dilution Factor | Analyst |
|---|---|---|---|---|---|---|---|---|
| 11/25/02 | 11/27/02 | 12/03/02 | 12/16/02 | 86.7 | 20.36 | 1 | 1 | AJA |

| Parameter | Result | |
|---|---|---|
| Benzaldehyde | 79 | ~~J~~ J |
| Phenol | 14 ~~280~~ | U |
| 2-Chlorophenol | 280 | U |
| bis(2-Chloroethyl)ether | 280 | U |
| 2-Methylphenol | 14 ~~280~~ | U J |
| bis(2-Chloroisopropyl)ether | 280 | U |
| Acetophenone | 280 | U |
| 4-Methylphenol | 280 | U |
| n-Nitroso-di-n-propylamine | 280 | U |
| Hexachloroethane | 280 | U J |
| Nitrobenzene | 280 | U |
| Isophorone | 280 | U |
| 2-Nitrophenol | 280 | U J |
| 2,4-Dimethylphenol | 280 | U J |
| bis(2-Chloroethoxy)methane | 280 | U |
| 2,4-Dichlorophenol | 280 | U |
| Naphthalene | 50 JEB ~~53~~ | ~~J~~ |
| 4-Chloroaniline | 280 | U J |
| Hexachlorobutadiene | 280 | U |
| Caprolactam | 280 | U |
| 4-Chloro-3-methylphenol | 280 | U |
| 2-Methylnaphthalene | 280 | U |
| Hexachlorocyclopentadiene | 280 | U J |
| 2,4,6-Trichlorophenol | 280 | U J |
| 2,4,5-Trichlorophenol | 280 | U J |
| Biphenyl | 280 | U |
| 2-Chloronaphthalene | 280 | U |
| 2-Nitroaniline | 280 | U J |
| Dimethylphthalate | 280 | U |
| 2,6-Dinitrotoluene | 280 | U |
| Acenaphthylene | 280 | U |
| 3-Nitroaniline | 280 | U J |

| Parameter | Result | |
|---|---|---|
| Acenaphthene | 220 | J |
| 2,4-Dinitrophenol | 280 | U J |
| 4-Nitrophenol | 280 | U J |
| Dibenzofuran | 110 | J |
| 2,4-Dinitrotoluene | 280 | U |
| Diethylphthalate | 280 | U |
| Fluorene | 290 | |
| 4-Chlorophenyl-phenylether | 280 | U |
| 4-Nitroaniline | 280 | U J |
| 4,6-Dinitro-2-methylphenol | 280 | U J |
| n-Nitrosodiphenylamine | 280 | U |
| 4-Bromophenyl-phenylether | 280 | U J |
| Hexachlorobenzene | 14 ~~280~~ | U |
| Atrazine | 280 | U J |
| Pentachlorophenol | 280 | U J |
| Phenanthrene | 2700 | |
| Anthracene | 830 | |
| Carbazole | 280 | J |
| Di-n-butylphthalate | 120 | J |
| Fluoranthene | 4600 | |
| Pyrene | 3800 | |
| Butylbenzylphthalate | 280 | U |
| 3,3'-Dichlorobenzidine | ~~280~~ | ~~U~~ R |
| Benz[a]anthracene | 1800 | |
| Chrysene | 1900 | |
| bis(2-Ethylhexyl)phthalate | 400 | |
| Di-n-octylphthalate | 280 | U |
| Benzo[b]fluoranthene | 1800 | J |
| Benzo[k]fluoranthene | 1800 | |
| Benzo[a]pyrene | 1800 | J |
| Indeno[1,2,3-cd]pyrene | 730 ~~710~~ | ~~J~~ |
| Dibenz[a,h]anthracene | 260 ~~190~~ | ~~J J~~ |
| Benzo[g,h,i]perylene | 640 ~~560~~ | ~~J~~ |

| Surrogate | % Recovery | Acceptance Range (%) |
|---|---|---|
| 2-Fluorophenol | 59 | 25-121 |
| Phenol-d5 | 62 | 24-113 |
| Nitrobenzene-d5 | 63 | 23-120 |
| 2-Fluorobiphenyl | 68 | 30-115 |
| 2,4,6-Tribromophenol | 60 | 19-122 |
| Terphenyl-d14 | 75 | 18-137 |

J - Estimated value, below quantitation limit.
U - The analyte was analyzed for but not detected at the sample specific level reported.

12/23/02 11:17

# Form I
# Semi-Volatile Tentatively Identified Compounds (TIC)

Client: **Metcalf & Eddy**
Project: **DAS -Southwest properties, Woburn**
Case: **0209M** SDG: **D03603**
Client ID: **D03618** WB10(24)
Matrix: **Soil**

Lab Code: **MA00030**
ETR: **0211137**
Lab ID: **0211137-05**
Associated Blank: **SS1203B3**
Concentration Units: **µg/Kg**

| Date Collected | Date Received | Date Extracted | Date Analyzed | Percent Solid | Sample Amount (g) | Final Volume (ml) | Dilution Factor | Analyst |
|---|---|---|---|---|---|---|---|---|
| 11/25/02 | 11/27/02 | 12/03/02 | 12/16/02 | 86.7 | 20.36 | 1 | 1 | AJA |

| Parameter | RT | Result | CAS Number |
|---|---|---|---|
| 3-Penten-2-one, 4-methyl- | 3.74 | **4900** | 000141-79-7 |
| 2-Pentanone, 4-hydroxy-4-methyl- | 4.29 | **44000** | 000123-42-2 |
| 1,1'-Biphenyl, 2,2',4,4',5-pentachloro- | 14.18 | **1400** | 038380-01-7 |

12/23/02 11:04

# Form I
## Semi-Volatile Organics by GC/MS

Client: **Metcalf & Eddy**
Project: **DAS -Southwest properties, Woburn**
Case: **0209M** SDG: **D03603**
Client ID: **D03620** WB13(0-2)
Matrix: **Soil**

Lab Code: **MA00030**
ETR: **0212021**
Lab ID: **0212021-05**
Associated Blank: **SS1213B2**
Concentration Units: **µg/Kg**

| Date Collected | Date Received | Date Extracted | Date Analyzed | Percent Solid | Sample Amount (g) | Final Volume (ml) | Dilution Factor | Analyst |
|---|---|---|---|---|---|---|---|---|
| 12/05/02 | 12/06/02 | 12/13/02 | 12/26/02 | 84.4 | 20.26 | 2 | 4 | AJA |

| Parameter | Result | |
|---|---|---|
| Benzaldehyde | 2300 | U J |
| Phenol | 53 ~~2300~~ | U |
| 2-Chlorophenol | 2300 | U |
| bis(2-Chloroethyl)ether | 2300 | U |
| 2-Methylphenol | 27 JEB ~~2300~~ | U |
| bis(2-Chloroisopropyl)ether | 2300 | U J |
| Acetophenone | 2300 | U |
| 4-Methylphenol | 2300 | U |
| n-Nitroso-di-n-propylamine | 2300 | U |
| Hexachloroethane | 2300 | U |
| Nitrobenzene | 2300 | U |
| Isophorone | 2300 | U |
| 2-Nitrophenol | 2300 | U |
| 2,4-Dimethylphenol | ~~2300~~ | ~~U~~ R |
| bis(2-Chloroethoxy)methane | 2300 | U J |
| 2,4-Dichlorophenol | 2300 | U J |
| Naphthalene | 1100 | J EB |
| 4-Chloroaniline | ~~2300~~ | ~~U~~ R |
| Hexachlorobutadiene | 2300 | U J |
| Caprolactam | 2300 | U |
| 4-Chloro-3-methylphenol | 2300 | U |
| 2-Methylnaphthalene | 590 | J |
| Hexachlorocyclopentadiene | 2300 | U J |
| 2,4,6-Trichlorophenol | 2300 | U |
| 2,4,5-Trichlorophenol | 2300 | U |
| Biphenyl | 2300 | U |
| 2-Chloronaphthalene | 2300 | U |
| 2-Nitroaniline | 2300 | U |
| Dimethylphthalate | 2300 | U |
| 2,6-Dinitrotoluene | 2300 | U |
| Acenaphthylene | 2300 | U |
| 3-Nitroaniline | 2300 | U |

| Parameter | Result | |
|---|---|---|
| Acenaphthene | 3200 | J |
| 2,4-Dinitrophenol | ~~2300~~ | ~~U~~ R |
| 4-Nitrophenol | 2300 | U J |
| Dibenzofuran | 1800 | J |
| 2,4-Dinitrotoluene | 2300 | U J |
| Diethylphthalate | 2300 | U J |
| Fluorene | 2900 | J |
| 4-Chlorophenyl-phenylether | 2300 | U J |
| 4-Nitroaniline | 2300 | U |
| 4,6-Dinitro-2-methylphenol | 2300 | U |
| n-Nitrosodiphenylamine | 2300 | U |
| 4-Bromophenyl-phenylether | 2300 | U |
| Hexachlorobenzene | 23 ~~2300~~ | U |
| Atrazine | 2300 | U J |
| Pentachlorophenol | ~~2300~~ | ~~U~~ R |
| Phenanthrene | 32000 | J |
| Anthracene | 6900 | J |
| Carbazole | 3500 | J |
| Di-n-butylphthalate | 2300 | U J |
| Fluoranthene | 40000 | J |
| Pyrene | 28000 | J |
| Butylbenzylphthalate | 2300 | U J |
| 3,3'-Dichlorobenzidine | ~~2300~~ | ~~U~~ R |
| Benz[a]anthracene | 15000 | J |
| Chrysene | 14000 | J |
| bis(2-Ethylhexyl)phthalate | 470 | J |
| Di-n-octylphthalate | 2300 | U J |
| Benzo[b]fluoranthene | 10000 | J |
| Benzo[k]fluoranthene | 9100 | |
| Benzo[a]pyrene | 11000 | |
| Indeno[1,2,3-cd]pyrene | 5800 | |
| Dibenz[a,h]anthracene | 1200 ~~1800~~ | J |
| Benzo[g,h,i]perylene | 5300 | J |

| Surrogate | % Recovery | Acceptance Range (%) |
|---|---|---|
| 2-Fluorophenol | 60 | 25-121 |
| Phenol-d5 | 72 | 24-113 |
| Nitrobenzene-d5 | 64 | 23-120 |
| 2-Fluorobiphenyl | 73 | 30-115 |
| 2,4,6-Tribromophenol | 80 | 19-122 |
| Terphenyl-d14 | 70 | 18-137 |

J - Estimated value, below quantitation limit.
U - The analyte was analyzed for but not detected at the sample specific level reported.

01/06/03 09:29

# Form I
# Semi-Volatile Tentatively Identified Compounds (TIC)

Client: **Metcalf & Eddy**
Project: **DAS -Southwest properties, Woburn**
Case: **0209M** SDG: **D03603**
Client ID: **D03620** WB13(0-2)
Matrix: **Soil**

Lab Code: **MA00030**
ETR: **0212021**
Lab ID: **0212021-05**
Associated Blank: **SS1213B2**
Concentration Units: **µg/Kg**

| Date Collected | Date Received | Date Extracted | Date Analyzed | Percent Solid | Sample Amount (g) | Final Volume (ml) | Dilution Factor | Analyst |
|---|---|---|---|---|---|---|---|---|
| 12/05/02 | 12/06/02 | 12/13/02 | 12/26/02 | 84.4 | 20.26 | 2 | 4 | AJA |

| Parameter | RT | Result | CAS Number |
|---|---|---|---|
| 2-Pentanone, 4-hydroxy-4-methyl- | 6.13 | 16000 | 000123-42-2 |
| Dibenzothiophene | 16.48 | 1600 | 132-65-0 |
| Anthracene, 2-methyl- | 17.29 | 2300 | 000613-12-7 |
| Phenanthrene, 2-methyl- | 17.32 | 2900 | 002531-84-2 |
| 4H-Cyclopenta[def]phenanthrene | 17.44 | 5500 | 000203-64-5 |
| 2-Phenylnaphthalene | 17.66 | 1700 | 035465-71-5 |
| 9,10-Anthracenedione | 17.71 | 2000 | 000084-65-1 |
| Cyclopenta(def)phenanthrenone | 18.13 | 1200 | 005737-13-3 |
| Pyrene, 1-methyl- | 18.79 | 1600 | 002381-21-7 |
| 11H-Benzo[b]fluorene | 18.93 | 2400 | 000243-17-4 |
| 11H-Benzo[b]fluorene | 19 | 1200 | 000243-17-4 |
| Pyrene, 1-methyl- | 19.06 | 1000 | 002381-21-7 |
| Benzo[b]naphtho[1,2-d]thiophene | 19.71 | 1200 | 000205-43-6 |
| Benzo[c]phenanthrene | 19.75 | 1000 | 000195-19-7 |
| Benzo[ghi]fluoranthene | 19.79 | 1300 | 000203-12-3 |
| 7H-Benz[de]anthracen-7-one | 19.83 | 1200 | 000082-05-3 |
| 3,4-Dihydrocyclopenta(cd)pyrene (acepyre | 20.18 | 1000 | 025732-74-5 |
| Perylene | 21.88 | 7700 | 198-55-0 |

01/06/03 09:29

# Form I
# Semi-Volatile Organics by GC/MS

Client: **Metcalf & Eddy**
Project: **DAS -Southwest properties, Woburn**
Case: **0209M** SDG: **D03603**
Client ID: **D03621 FD** MRE-12 (0-0.5)
Matrix: **Soil**

Lab Code: **MA00030**
ETR: **0212021**
Lab ID: **0212021-07**
Associated Blank: **SS1213B2**
Concentration Units: **µg/Kg**

| Date Collected | Date Received | Date Extracted | Date Analyzed | Percent Solid | Sample Amount (g) | Final Volume (ml) | Dilution Factor | Analyst |
|---|---|---|---|---|---|---|---|---|
| 12/04/02 | 12/06/02 | 12/13/02 | 01/01/03 | 31.6 | 20.24 | 1 | 1 | AJA |

| Parameter | Result | |
|---|---|---|
| Benzaldehyde | 720 | J |
| Phenol | 210 J EB ~~780~~ | ~~U~~ |
| 2-Chlorophenol | 780 | U J |
| bis(2-Chloroethyl)ether | 780 | U J |
| 2-Methylphenol | 210 ~~160~~ | J EB |
| bis(2-Chloroisopropyl)ether | 780 | U J |
| Acetophenone | 780 | U |
| 4-Methylphenol | 780 | U |
| n-Nitroso-di-n-propylamine | 780 | U |
| Hexachloroethane | 780 | U |
| Nitrobenzene | 780 | U |
| Isophorone | 780 | U |
| 2-Nitrophenol | 780 | U |
| 2,4-Dimethylphenol | ~~780~~ | ~~U~~ R |
| bis(2-Chloroethoxy)methane | 780 | U J |
| [illegible]-Dichlorophenol | 780 | U |
| [illegible]phthalene | 69 J EB ~~780~~ | ~~U~~ |
| 4-Chloroaniline | ~~780~~ | ~~U~~ R |
| Hexachlorobutadiene | 780 | U J |
| Caprolactam | 780 | U |
| 4-Chloro-3-methylphenol | 780 | U |
| 2-Methylnaphthalene | 780 | U |
| Hexachlorocyclopentadiene | 780 | U |
| 2,4,6-Trichlorophenol | 780 | U |
| 2,4,5-Trichlorophenol | 780 | U |
| Biphenyl | 780 | U |
| 2-Chloronaphthalene | 780 | U |
| 2-Nitroaniline | 780 | U |
| Dimethylphthalate | 780 | U |
| 2,6-Dinitrotoluene | 780 | U |
| Acenaphthylene | 780 | U |
| 3-Nitroaniline | 780 | U |

| Parameter | Result | |
|---|---|---|
| Acenaphthene | 780 | U |
| 2,4-Dinitrophenol | ~~780~~ | ~~U~~ R |
| 4-Nitrophenol | 780 | U J |
| Dibenzofuran | 780 | U |
| 2,4-Dinitrotoluene | 780 | U |
| Diethylphthalate | 780 | U |
| Fluorene | 780 | U |
| 4-Chlorophenyl-phenylether | 780 | U |
| 4-Nitroaniline | 780 | U |
| 4,6-Dinitro-2-methylphenol | 780 | U |
| n-Nitrosodiphenylamine | 780 | U |
| 4-Bromophenyl-phenylether | 780 | U |
| Hexachlorobenzene | 7.8 ~~780~~ | U |
| Atrazine | 780 | U J |
| Pentachlorophenol | ~~780~~ | ~~U~~ R |
| Phenanthrene | 1700 | J |
| Anthracene | 340 | J |
| Carbazole | 220 | J |
| Di-n-butylphthalate | 780 | U J |
| Fluoranthene | 2700 | J |
| Pyrene | 3500 | J |
| Butylbenzylphthalate | 780 | U J |
| 3,3'-Dichlorobenzidine | ~~780~~ | ~~U~~ R |
| Benz[a]anthracene | 1300 | J |
| Chrysene | 1500 | J |
| bis(2-Ethylhexyl)phthalate | 380 | J |
| Di-n-octylphthalate | 780 | U J |
| Benzo[b]fluoranthene | 1600 | J |
| Benzo[k]fluoranthene | 1400 | J |
| Benzo[a]pyrene | 1500 ~~1300~~ | J |
| Indeno[1,2,3-cd]pyrene | 570 J ~~560~~ | ~~J~~ |
| Dibenz[a,h]anthracene | 220 ~~160~~ | J |
| Benzo[g,h,i]perylene | 470 J ~~450~~ | ~~J~~ |

| Surrogate | % Recovery | Acceptance Range (%) |
|---|---|---|
| 2-Fluorophenol | 57 | 25-121 |
| Phenol-d5 | 46 | 24-113 |
| [illegible]-obenzene-d5 | 54 | 23-120 |
| [illegible]orobiphenyl | 48 | 30-115 |
| 2,4,6-Tribromophenol | 75 | 19-122 |
| Terphenyl-d14 | 78 | 18-137 |

J - Estimated value, below quantitation limit.
U - The analyte was analyzed for but not detected at the sample specific level reported.



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# Form I
## Semi-Volatile Tentatively Identified Compounds (TIC)

Client: **Metcalf & Eddy**
Project: **DAS -Southwest properties, Woburn**
Case: **0209M** SDG: **D03603**
Client ID: **D03621 FD** MRE-12(0-0.5)
Matrix: **Soil**

Lab Code: **MA00030**
ETR: **0212021**
Lab ID: **0212021-07**
Associated Blank: **SS1213B2**
Concentration Units: **µg/Kg**

| Date Collected | Date Received | Date Extracted | Date Analyzed | Percent Solid | Sample Amount (g) | Final Volume (ml) | Dilution Factor | Analyst |
|---|---|---|---|---|---|---|---|---|
| 12/04/02 | 12/06/02 | 12/13/02 | 01/01/03 | 31.6 | 20.24 | 1 | 1 | AJA |

| Parameter | RT | Result | CAS Number |
|---|---|---|---|
| unknown | 3.19 | 1100 | |
| unknown | 3.62 | 1100 | |
| unknown | 3.83 | 1300 | |
| unknown | 4.11 | 27000 | |
| unknown | 5.97 | 1000 | |
| Benzoic acid | 7.29 | 1000 | 65-85-0 |
| Benzeneacetic acid | 7.99 | 1000 | 000103-82-2 |
| unknown | 11.72 | 730 | |
| Pentadecanoic acid, methyl ester | 11.82 | 1100 | 007132-64-1 |
| Tetradecanoic acid, methyl ester | 11.88 | 800 | 000124-10-7 |
| 9-Hexadecenoic acid, methyl ester, (Z)- | 12.55 | 1300 | 001120-25-8 |
| 11-Hexadecenoic acid, methyl ester | 12.6 | 2000 | 055000-42-5 |
| Hexadecanoic acid, methyl ester | 12.65 | 2500 | 000112-39-0 |
| unknown | 12.9 | 1500 | |
| unknown | 13.49 | 760 | |
| 9,12-Octadecadienoic acid (Z,Z)-, methyl | 13.63 | 1400 | 000112-63-0 |
| 16-Octadecenoic acid, methyl ester | 13.66 | 1700 | 056554-49-5 |
| 12-Octadecenoic acid, methyl ester | 13.68 | 1100 | 056554-46-2 |
| 1-Docosene | 15.78 | 920 | 001599-67-3 |
| 17-Octadecenal | 16.62 | 1700 | 056554-87-1 |
| 1-Docosene | 17.23 | 990 | 001599-67-3 |
| 16-Octadecenal | 18.43 | 5600 | 056554-87-1 |
| 17-Octadecenal | 21.04 | 6300 | 056554-87-1 |
| 13-Octadecenal | 23.64 | 7100 | 056554-90-6 |

01/27/03 10:29

PESTICIDE ORGANIC ANALYTES DATA SHEET

Client Sample ID:

D03600

MR-11(0-0.5)

010037

Lab Name: SwRI
Lab Code: SwRI
Matrix : Soil
% Moisture : 35
Extraction (SEPF/Cont/Sonc) : SOXH
Concentrated Extract Volume : 2000 uL
Injection Volume : 1.00 uL
GPC Cleanup (Y/N) : Y

Client: METCALF & EDDY
Case #: DAS 0209M
Sample wt/vol : 0.04716 kg
Decanted (Y/N) : N
pH: NA
Dilution Factor : 5

Project: 03159.14.305
SDG: D03611
Lab Sample ID : 217185/DF5
SwRI ID : 217185/DF5
Date Analyzed: 1/3/2003
Date Received: 12/4/2002
Date Extracted: 12/05/02

| CAS NO. | | COMPOUND | CONCENTRATION UNITS ug/kg | Q |
|---|---|---|---|---|
| 12674-11-2 | ——— | Aroclor-1016 | 32.8 | U J ✓ |
| 11104-28-2 | ——— | Aroclor-1221 | 65.6 | U |
| 11141-16-5 | ——— | Aroclor-1232 | 32.8 | U |
| 53469-21-9 | ——— | Aroclor-1242 | 32.8 | U |
| 12672-29-6 | ——— | Aroclor-1248 | 32.8 | U |
| 11097-69-1 | ——— | Aroclor-1254 | ~~1840~~ 4240 | ~~E~~ J |
| 11096-82-5 | ——— | Aroclor-1260 | ~~1410~~ 1460 | ~~E~~ J |

DATA REPORTING QUALIFIERS

U - Indicates compound was analyzed for but not detected at the reported concentration.

E - This flag identifies compounds whose concentration exceed the calibration range.

- This flag identifies compounds whose %D exceed 25%.

D - Dilution

SOXH - Soxhlet

SEPF - Seperatory Funnel

PCB BY D081.1 ORGANIC ANALYTES DATA SHEET

Client Sample ID:

D03601

AB13(0-2)
010072

Lab Name: SwRI
Client: METCALF & EDDY
Project: 03159.14.305

Lab Code: SwRI
Case #: DAS 0209M
SDG: D03611

Matrix : Soil
Sample wt/vol : 0.03953 kg
Lab Sample ID : 217149

% Moisture : 23
Decanted (Y/N) : N
SwRI ID : 217149

Extraction (SEPF/Cont/Sonc) : SOXH
Date Analyzed: 12/26/2002

Concentrated Extract Volume : 2000 uL
Date Received: 12/3/2002

Injection Volume : 1.00 uL
pH: NA
Date Extracted: 12/5/2002

GPC Cleanup (Y/N) : Y
Dilution Factor : 1

| CAS NO. | | COMPOUND | CONCENTRATION UNITS ug/kg | Q |
|---|---|---|---|---|
| 12674-11-2 | ——— | Aroclor-1016 | 6.55 | U J ✓ |
| 11104-28-2 | ——— | Aroclor-1221 | 13.1 | U |
| 11141-16-5 | ——— | Aroclor-1232 | 6.55 | U |
| 53469-21-9 | ——— | Aroclor-1242 | 6.55 | U |
| 12672-29-6 | ——— | Aroclor-1248 | 6.55 | U |
| 11097-69-1 | ——— | Aroclor-1254 | 31.0 | J |
| 11096-82-5 | ——— | Aroclor-1260 | 21.3 | J |

DATA REPORTING QUALIFIERS

U - Indicates compound was analyzed for but not detected at the reported concentration.

This flag identifies compounds whose concentration exceed the calibration range.

This flag identifies compounds whose %D exceed 25%.

D - Dilution

SOXH - Soxhlet

SEPF - Seperatory Funnel

PESTICIDE ORGANIC ANALYTES DATA SHEET

Client Sample ID:

D03610

MR-12(0-0.5)

010098

Lab Name: SwRI
Lab Code: SwRI
Matrix : Soil
% Moisture : 34
Extraction (SEPF/Cont/Sonc) : SOXH
Concentrated Extract Volume : 2000 uL
Injection Volume : 1.00 uL
GPC Cleanup (Y/N) : Y

Client: METCALF & EDDY
Case #: DAS 0209M
Sample wt/vol : 0.04633 kg
Decanted (Y/N) : N
pH: NA
Dilution Factor : 1

Project: 03159.14.305
SDG: D03611
Lab Sample ID : 217246
SwRI ID : 217246
Date Analyzed: 1/3/2003
Date Received: 12/5/2002
Date Extracted: 12/12/02

| CAS NO. | | COMPOUND | CONCENTRATION UNITS ug/kg | Q |
|---|---|---|---|---|
| 12674-11-2 | ——— | Aroclor-1016 | 6.53 | U J ✓ |
| 11104-28-2 | ——— | Aroclor-1221 | 13.1 | U |
| 11141-16-5 | ——— | Aroclor-1232 | 6.53 | U |
| 53469-21-9 | ——— | Aroclor-1242 | 6.53 | U |
| 12672-29-6 | ——— | Aroclor-1248 | 6.53 | U |
| 11097-69-1 | ——— | Aroclor-1254 | ~~60.0~~ 284 | ~~DE~~ J |
| 11096-82-5 | ——— | Aroclor-1260 | ~~203~~ 282 | ~~E~~ J |

DATA REPORTING QUALIFIERS

U - Indicates compound was analyzed for but not detected at the reported concentration.

E - This flag identifies compounds whose concentration exceed the calibration range.

D - This flag identifies compounds whose %D exceed 25%.

D - Dilution

SOXH - Soxhlet

SEPF - Seperatory Funnel



03G1102A
version 12-30-02

PCB BY D081.1 ORGANIC ANALYTES DATA SHEET

Client Sample ID:

D03611

WB-6(0-2)
010137

Lab Name: SwRI
Lab Code: SwRI
Matrix : Soil
% Moisture : 17
Extraction (SEPF/Cont/Sonc) : SOXH
Concentrated Extract Volume : 2000 uL
Injection Volume : 1.00 uL
GPC Cleanup (Y/N) : Y

Client: METCALF & EDDY
Case #: DAS 0209M
Sample wt/vol : 0.03666 kg
Decanted (Y/N) : N
pH: NA
Dilution Factor : 10

Project: 03159.14.305
SDG: D03611
Lab Sample ID : 217011/DF10
SwRI ID : 217011/DF10
Date Analyzed: 12/23/2002
Date Received: 11/27/2002
Date Extracted: 12/5/2002

| CAS NO. | | COMPOUND | CONCENTRATION UNITS ug/kg | Q |
|---|---|---|---|---|
| 12674-11-2 | ——— | Aroclor-1016 | 65.4 | U J |
| 11104-28-2 | ——— | Aroclor-1221 | 131 | U |
| 11141-16-5 | ——— | Aroclor-1232 | 65.4 | U |
| 53469-21-9 | ——— | Aroclor-1242 | 65.4 | U |
| 12672-29-6 | ——— | Aroclor-1248 | 65.4 | U |
| 11097-69-1 | ——— | Aroclor-1254 | ~~2980~~ 3640 | ~~E~~ J |
| 11096-82-5 | ——— | Aroclor-1260 | ~~909~~ 1370 | ~~DE~~ J |

DATA REPORTING QUALIFIERS

U - Indicates compound was analyzed for but not detected at the reported concentration.

E - This flag identifies compounds whose concentration exceed the calibration range.

- This flag identifies compounds whose %D exceed 25%.

D - Dilution

SOXH - Soxhlet

SEPF - Seperatory Funnel



02G1120X
version 12-30-02

PCB BY D081.1 ORGANIC ANALYTES DATA SHEET

Client Sample ID:

D03613

WB-7(0-2)

010171

| | | |
|---|---|---|
| Lab Name: SwRI | Client: METCALF & EDDY | Project: 03159.14.305 |
| Lab Code: SwRI | Case #: DAS 0209M | SDG: D03611 |
| Matrix : Soil | Sample wt/vol : 0.03503 kg | Lab Sample ID : 217012/DF10 |
| % Moisture : 12 | Decanted (Y/N) : N | SwRI ID : 217012/DF10 |
| Extraction (SEPF/Cont/Sonc) : SOXH | | Date Analyzed: 12/23/2002 |
| Concentrated Extract Volume : 2000 uL | | Date Received: 11/27/2002 |
| Injection Volume : 1.00 uL | pH: NA | Date Extracted: 12/5/2002 |
| GPC Cleanup (Y/N) : Y | Dilution Factor : 10 | |

| CAS NO. | | COMPOUND | CONCENTRATION UNITS ug/kg | Q |
|---|---|---|---|---|
| 12674-11-2 | ——— | Aroclor-1016 | ~~108~~ 65.2 | ~~U~~ J |
| 11104-28-2 | ——— | Aroclor-1221 | 130 | U |
| 11141-16-5 | ——— | Aroclor-1232 | 65.2 | U |
| 53469-21-9 | ——— | Aroclor-1242 | ~~65.2~~ 143 | ~~U~~ J |
| 12672-29-6 | ——— | Aroclor-1248 | 65.2 | U |
| 11097-69-1 | ——— | Aroclor-1254 | ~~1020~~ 1900 | ~~PE~~ J |
| 11096-82-5 | ——— | Aroclor-1260 | ~~1640~~ 2000 | ~~E~~ J |

DATA REPORTING QUALIFIERS

U - Indicates compound was analyzed for but not detected at the reported concentration.

- This flag identifies compounds whose concentration exceed the calibration range.

- This flag identifies compounds whose %D exceed 25%.

D - Dilution

SOXH - Soxhlet

SEPF - Seperatory Funnel

PESTICIDE ORGANIC ANALYTES DATA SHEET

Client Sample ID:

D03617

WB-10 (0-2)

010239

Lab Name: SwRI
Lab Code: SwRI
Matrix : Soil
% Moisture : 15
Extraction (SEPF/Cont/Sonc) : SOXH
Concentrated Extract Volume : 2000 uL
Injection Volume : 1.00 uL
GPC Cleanup (Y/N) : Y

Client: METCALF & EDDY
Case #: DAS 0209M
Sample wt/vol : 0.03607 kg
Decanted (Y/N) : N
pH: NA
Dilution Factor : 10

Project: 03159.14.305
SDG: D03611
Lab Sample ID : 217014/DF10
SwRI ID : 217014/DF10
Date Analyzed: 1/3/2003
Date Received: 11/27/2002
Date Extracted: 12/05/02

| CAS NO. | | COMPOUND | CONCENTRATION UNITS ug/kg | Q |
|---|---|---|---|---|
| 12674-11-2 | ——— | Aroclor-1016 | 65.0 | U J |
| 11104-28-2 | ——— | Aroclor-1221 | 130 | U |
| 11141-16-5 | ——— | Aroclor-1232 | 65.0 | U |
| 53469-21-9 | ——— | Aroclor-1242 | 65.0 | U |
| 12672-29-6 | ——— | Aroclor-1248 | 65.0 | U |
| 11097-69-1 | ——— | Aroclor-1254 | ~~1090~~ 2720 | ~~E~~ J |
| 11096-82-5 | ——— | Aroclor-1260 | ~~1810~~ 2700 | ~~E~~ J |

DATA REPORTING QUALIFIERS

U - Indicates compound was analyzed for but not detected at the reported concentration.

This flag identifies compounds whose concentration exceed the calibration range.

This flag identifies compounds whose %D exceed 25%.

D - Dilution

SOXH - Soxhlet

SEPF - Seperatory Funnel

PESTICIDE ORGANIC ANALYTES DATA SHEET

Client Sample ID:

D03621

MRE-12(0-0.5)

010310

Lab Name: SwRI
Lab Code: SwRI
Matrix : Soil
% Moisture : 30
Extraction (SEPF/Cont/Sonc) : SOXH
Concentrated Extract Volume : 2000 uL
Injection Volume : 1.00 uL
GPC Cleanup (Y/N) : Y

Client: METCALF & EDDY
Case #: DAS 0209M
Sample wt/vol : 0.04323 kg
Decanted (Y/N) : N
pH: NA
Dilution Factor : 1

Project: 03159.14.305
SDG: D03611
Lab Sample ID : 217247
SwRI ID : 217247
Date Analyzed: 1/3/2003
Date Received: 12/5/2002
Date Extracted: 12/12/02

| CAS NO. | | COMPOUND | CONCENTRATION UNITS ug/kg | Q |
|---|---|---|---|---|
| 12674-11-2 | ------- | Aroclor-1016 | 6.61 | U J |
| 11104-28-2 | ------- | Aroclor-1221 | 13.2 | U |
| 11141-16-5 | ------- | Aroclor-1232 | 6.61 | U |
| 53469-21-9 | ------- | Aroclor-1242 | 6.61 | U |
| 12672-29-6 | ------- | Aroclor-1248 | 6.61 | U |
| 11097-69-1 | ------- | Aroclor-1254 | ~~272~~ 337 | ~~E~~ J |
| 11096-82-5 | ------- | Aroclor-1260 | ~~238~~ 367 | ~~E~~ J |

DATA REPORTING QUALIFIERS

U - Indicates compound was analyzed for but not detected at the reported concentration.
- This flag identifies compounds whose concentration exceed the calibration range.
P - This flag identifies compounds whose %D exceed 25%.
D - Dilution
SOXH - Soxhlet
SEPF - Seperatory Funnel

# Form I
# Total Metals

Client: **Metcalf & Eddy**
Project: **DAS -Southwest properties, Woburn**
Case: **0209M** SDG: **D03603**
Client ID: **D03600** MR-11(0-0.5)
Matrix: **Soil**
Percent Solid: **62.1**

Lab Code: **MA00030**
ETR: **0212008**
Lab ID: **0212008-06**
Concentration Units: **mg/Kg**
Date Collected: **12/03/02**
Date Received: **12/04/02**

| Parameter | Result | Qualifier | Detection Limit | Dilution | Date Analyzed | Date Prepared | Analytical Method | Analyst |
|---|---|---|---|---|---|---|---|---|
| Aluminum | 15000 | J E B | 17 | 100 | 01/16/03 | 12/19/02 | 6020A | LCP |
| Antimony | 1.1 | J N | 0.023 | 2 | 01/09/03 | 12/19/02 | 6020A | LMR |
| Arsenic | 7.2 | J E | 0.0040 | 2 | 01/06/03 | 12/19/02 | 6020A | LMR |
| Barium | 500 | | 0.24 | 200 | 01/15/03 | 12/19/02 | 6020A | LMR |
| Beryllium | 0.58 | J E | 0.0062 | 2 | 01/06/03 | 12/19/02 | 6020A | LMR |
| Cadmium | 1.1 | J E | 0.00097 | 2 | 01/06/03 | 12/19/02 | 6020A | LMR |
| Calcium | 4400 | J | 6.9 | 20 | 01/16/03 | 12/19/02 | 6020A | LCP |
| Chromium | 86 | J E | 0.10 | 20 | 01/16/03 | 12/19/02 | 6020A | LCP |
| Cobalt | 8.3 | J E | 0.0024 | 2 | 01/06/03 | 12/19/02 | 6020A | LMR |
| Copper | 43 | J ¤ | 0.74 | 20 | 01/16/03 | 12/19/02 | 6020A | LCP |
| Iron | 27000 | J ¤ | 47 | 100 | 01/16/03 | 12/19/02 | 6020A | LCP |
| Lead | 2600 | J | 10 | 1000 | 01/15/03 | 12/19/02 | 6020A | LMR |
| Magnesium | 5200 | J | 0.87 | 20 | 01/16/03 | 12/19/02 | 6020A | LCP |
| Manganese | 260 | J ¤ | 4.1 | 100 | 01/15/03 | 12/19/02 | 6020A | LMR |
| Mercury | 0.18 | | 0.0022 | 1 | 12/24/02 | 12/19/02 | 7471A | CJH |
| Nickel | 25 | J | 0.28 | 20 | 01/16/03 | 12/19/02 | 6020A | LCP |
| Potassium | 2900 | J E | 2.2 | 20 | 01/16/03 | 12/19/02 | 6020A | LCP |
| Selenium | 0.51 | J | 0.011 | 2 | 01/06/03 | 12/19/02 | 6020A | LMR |
| Silver | 0.17 | J NE | 0.0015 | 2 | 01/09/03 | 12/19/02 | 6020A | LMR |
| Sodium | 180 | E | 1.7 | 2 | 01/14/03 | 01/08/03 | 6020A | LMR |
| Thallium | 0.19 | J | 0.0092 | 2 | 01/06/03 | 12/19/02 | 6020A | LMR |
| Vanadium | 36 | J | 0.16 | 20 | 01/16/03 | 12/19/02 | 6020A | LCP |
| Zinc | 490 | J | 17 | 100 | 01/15/03 | 12/19/02 | 6020A | LMR |

J - Below CRDL, Project DL, or RL but greater than or = MDL.
E - Estimated due to Interference.
N - Spike recovery outside control limits.
¤ - Duplicate outside control limits.

01/27/03 18:53

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# Form I
# Total Metals

Client: Metcalf & Eddy
Project: DAS -Southwest properties, Woburn
Case: 0209M SDG: D03603
Client ID: D03603 AB14 (0-2)
Matrix: Soil
Percent Solid: 89.8

Lab Code: MA00030
ETR: 0211137
Lab ID: 0211137-11
Concentration Units: mg/Kg
Date Collected: 11/26/02
Date Received: 11/27/02

| Parameter | Result | Qualifier | Detection Limit | Dilution | Date Analyzed | Date Prepared | Analytical Method | Analyst |
|---|---|---|---|---|---|---|---|---|
| Aluminum | 13000 J EB | | 16 | 100 | 01/17/03 | 12/19/02 | 6020A | LCP |
| Antimony | 1.8 J | ~~N~~ | 0.022 | 2 | 01/09/03 | 12/19/02 | 6020A | LMR |
| Arsenic | 6.6 J | ~~NE~~ | 0.0036 | 2 | 01/06/03 | 12/19/02 | 6020A | LMR |
| Barium | 140 J | | 0.11 | 100 | 01/15/03 | 12/19/02 | 6020A | LMR |
| Beryllium | 0.42 J | ~~E~~ | 0.0055 | 2 | 01/06/03 | 12/19/02 | 6020A | LMR |
| Cadmium | 2.9 J | ~~NE~~ | 0.00087 | 2 | 01/06/03 | 12/19/02 | 6020A | LMR |
| Calcium | 10000 J | | 31 | 100 | 01/16/03 | 12/19/02 | 6020A | LCP |
| Chromium | 31 J | ~~E~~ | 0.046 | 10 | 01/16/03 | 12/19/02 | 6020A | LCP |
| Cobalt | 12 J | ~~E~~ | 0.011 | 10 | 01/16/03 | 12/19/02 | 6020A | LCP |
| Copper | 160 J | ~~E~~ | 3.3 | 100 | 01/16/03 | 12/19/02 | 6020A | LCP |
| Iron | 43000 J | ~~E~~ | 42 | 100 | 01/16/03 | 12/19/02 | 6020A | LCP |
| Lead | 1600 J | | 9.2 | 1000 | 01/15/03 | 12/19/02 | 6020A | LMR |
| Magnesium | 5900 J | | 3.9 | 100 | 01/17/03 | 12/19/02 | 6020A | LCP |
| Manganese | 330 J | ~~E~~ | 3.6 | 100 | 01/15/03 | 12/19/02 | 6020A | LMR |
| Mercury | 0.061 J | | 0.0015 | 1 | 12/24/02 | 12/19/02 | 7471A | CJH |
| Nickel | 180 J | | 1.2 | 100 | 01/16/03 | 12/19/02 | 6020A | LCP |
| Potassium | 540 J | ~~E~~ | 0.19 | 2 | 01/17/03 | 12/19/02 | 6020A | LCP |
| Selenium | 0.19 J | ~~E~~ | 0.010 | 2 | 01/06/03 | 12/19/02 | 6020A | LMR |
| Silver | 0.28 J | ~~NE~~ | 0.0015 | 2 | 01/09/03 | 12/19/02 | 6020A | LMR |
| Sodium | 110 | ~~E~~ | 1.2 | 2 | 01/14/03 | 01/08/03 | 6020A | LMR |
| Thallium | 0.058 UL | ~~E~~ | 0.0083 | 2 | 01/06/03 | 12/19/02 | 6020A | LMR |
| Vanadium | 31 J | | 0.074 | 10 | 01/16/03 | 12/19/02 | 6020A | LCP |
| Zinc | 910 J | | 30 | 200 | 01/15/03 | 12/19/02 | 6020A | LMR |

J - Below CRDL, Project DL, or RL but greater than or = MDL.
E - Estimated due to Interference.
N - Spike recovery outside control limits.
Duplicate outside control limits.

1782

02/20/03 14:48

# Form I
# Total Metals

Client: **Metcalf & Eddy**
Project: **DAS -Southwest properties, Woburn**
Case: **0209M** SDG: **D03603**
Client ID: **D03604** AB15(0-2)
Matrix: **Soil**
Percent Solid: **89.9**

Lab Code: **MA00030**
ETR: **0211137**
Lab ID: **0211137-10**
Concentration Units: **mg/Kg**
Date Collected: **11/26/02**
Date Received: **11/27/02**

| Parameter | Result | Qualifier | Detection Limit | Dilution | Date Analyzed | Date Prepared | Analytical Method | Analyst |
|---|---|---|---|---|---|---|---|---|
| Aluminum | 10000 | J E B | 16 | 100 | 01/17/03 | 12/19/02 | 6020A | LCP |
| Antimony | 0.20 | U J ~~N~~ | 0.022 | 2 | 01/09/03 | 12/19/02 | 6020A | LMR |
| Arsenic | 2.1 | J ~~E~~ | 0.0036 | 2 | 01/06/03 | 12/19/02 | 6020A | LMR |
| Barium | 48 | J | 0.021 | 20 | 01/15/03 | 12/19/02 | 6020A | LMR |
| Beryllium | 0.38 | J ~~E~~ | 0.0055 | 2 | 01/06/03 | 12/19/02 | 6020A | LMR |
| Cadmium | 0.27 | J ~~E~~ | 0.00087 | 2 | 01/06/03 | 12/19/02 | 6020A | LMR |
| Calcium | 5900 | J | 31 | 100 | 01/16/03 | 12/19/02 | 6020A | LCP |
| Chromium | 5.5 | J ~~E~~ | 0.0092 | 2 | 01/06/03 | 12/19/02 | 6020A | LMR |
| Cobalt | 9.0 | J ~~E~~ | 0.0021 | 2 | 01/06/03 | 12/19/02 | 6020A | LMR |
| Copper | 17 | J ~~E~~ | 0.33 | 10 | 01/16/03 | 12/19/02 | 6020A | LCP |
| Iron | 23000 | J ~~E~~ | 42 | 100 | 01/16/03 | 12/19/02 | 6020A | LCP |
| Lead | 60 | J | 0.18 | 20 | 01/15/03 | 12/19/02 | 6020A | LMR |
| Magnesium | 5200 | J | 3.9 | 100 | 01/17/03 | 12/19/02 | 6020A | LCP |
| Manganese | 230 | J ~~E~~ | 3.6 | 100 | 01/15/03 | 12/19/02 | 6020A | LMR |
| Mercury | 0.030 | J | 0.0014 | 1 | 12/24/02 | 12/19/02 | 7471A | CJH |
| Nickel | 6.8 | J | 0.025 | 2 | 01/06/03 | 12/19/02 | 6020A | LMR |
| Potassium | 1000 | J ~~E~~ | 0.97 | 10 | 01/17/03 | 12/19/02 | 6020A | LCP |
| Selenium | 0.085 | U J ~~N~~ | 0.010 | 2 | 01/06/03 | 12/19/02 | 6020A | LMR |
| Silver | 0.051 | J ~~E~~ | 0.0014 | 2 | 01/09/03 | 12/19/02 | 6020A | LMR |
| Sodium | 70 | ~~E~~ | 0.98 | 2 | 01/14/03 | 01/08/03 | 6020A | LMR |
| Thallium | 0.040 | U ~~N~~ | 0.0083 | 2 | 01/06/03 | 12/19/02 | 6020A | LMR |
| Vanadium | 23 | J | 0.074 | 10 | 01/16/03 | 12/19/02 | 6020A | LCP |
| Zinc | 170 | J | 15 | 100 | 01/15/03 | 12/19/02 | 6020A | LMR |

J - Below CRDL, Project DL, or RL but greater than or = MDL.
E - Estimated due to Interference.
N - Spike recovery outside control limits.
¤ - Duplicate outside control limits.

01/27/03 18:19

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# Form I
# Total Metals

Client: **Metcalf & Eddy**
Project: **DAS -Southwest properties, Woburn**
Case: **0209M** SDG: **D03603**
Client ID: **D03605 FD** AB-15 (4-4.5)
Matrix: **Soil**
Percent Solid: **42.5**

Lab Code: **MA00030**
ETR: **0212008**
Lab ID: **0212008-07**
Concentration Units: **mg/Kg**
Date Collected: **12/02/02**
Date Received: **12/04/02**

| Parameter | Result | Qualifier | Detection Limit | Dilution | Date Analyzed | Date Prepared | Analytical Method | Analyst |
|---|---|---|---|---|---|---|---|---|
| Aluminum | 8600 | J EB ¤ | 6.8 | 20 | 01/16/03 | 12/19/02 | 6020A | LCP |
| Antimony | 1.2 | UJ ~~NE~~ | 0.046 | 2 | 01/09/03 | 12/19/02 | 6020A | LMR |
| Arsenic | 3.6 | J ~~E~~ | 0.0078 | 2 | 01/06/03 | 12/19/02 | 6020A | LMR |
| Barium | 130 | J ~~E~~ | 0.046 | 20 | 01/14/03 | 12/19/02 | 6020A | LCP |
| Beryllium | 3.1 | J ~~E~~ | 0.012 | 2 | 01/06/03 | 12/19/02 | 6020A | LMR |
| Cadmium | 0.23 | J ~~E~~ | 0.0019 | 2 | 01/06/03 | 12/19/02 | 6020A | LMR |
| Calcium | 21000 | J | 21 | 20 | 01/27/03 | 01/08/03 | 6020A | LMR |
| Chromium | 9.7 | J | 0.020 | 2 | 01/06/03 | 12/19/02 | 6020A | LMR |
| Cobalt | 2.0 | J ~~E~~ | 0.0046 | 2 | 01/06/03 | 12/19/02 | 6020A | LMR |
| Copper | 7.4 | J | 0.14 | 2 | 01/06/03 | 12/19/02 | 6020A | LMR |
| Iron | 4900 | J ~~E~~ | 29 | 20 | 01/27/03 | 01/08/03 | 6020A | LMR |
| Lead | 13 | J ~~E~~ | 0.040 | 2 | 01/06/03 | 12/19/02 | 6020A | LMR |
| Magnesium | 2000 | J | 1.7 | 20 | 01/16/03 | 12/19/02 | 6020A | LCP |
| Manganese | 92 | J | 0.79 | 10 | 01/14/03 | 12/19/02 | 6020A | LCP |
| Mercury | 0.041 | J ¤ | 0.0030 | 1 | 12/24/02 | 12/19/02 | 7471A | CJH |
| Nickel | 4.5 | J ~~N~~ | 0.054 | 2 | 01/06/03 | 12/19/02 | 6020A | LMR |
| Potassium | 480 | J ~~N~~ | 4.2 | 20 | 01/16/03 | 12/19/02 | 6020A | LCP |
| Selenium | 3.2 | | 0.022 | 2 | 01/06/03 | 12/19/02 | 6020A | LMR |
| Silver | 0.25 | J ~~N~~ | 0.0028 | 2 | 01/21/03 | 01/21/03 | 6020A | LCP |
| Sodium | 1100 | J ~~E~~ | 2.5 | 2 | 01/14/03 | 01/08/03 | 6020A | LMR |
| Thallium | 0.040 | U ~~J~~ | 0.018 | 2 | 01/06/03 | 12/19/02 | 6020A | LMR |
| Vanadium | 9.6 | J ~~J~~ | 0.032 | 2 | 01/06/03 | 12/19/02 | 6020A | LMR |
| Zinc | 18 | J | 0.66 | 2 | 01/06/03 | 12/19/02 | 6020A | LMR |

J - Below CRDL, Project DL, or RL but greater than or = MDL.
E - Estimated due to Interference.
N - Spike recovery outside control limits.
¤ - Duplicate outside control limits.

01/27/03 18:27

# Form I
# Total Metals

Client: Metcalf & Eddy
Project: DAS -Southwest properties, Woburn
Case: 0209M SDG: D03603
Client ID: D03606 AB-16 (0-2)
Matrix: Soil
Percent Solid: 92.0

Lab Code: MA00030
ETR: 0211137
Lab ID: 0211137-09
Concentration Units: mg/Kg
Date Collected: 11/26/02
Date Received: 11/27/02

| Parameter | Result | Qualifier | Detection Limit | Dilution | Date Analyzed | Date Prepared | Analytical Method | Analyst |
|---|---|---|---|---|---|---|---|---|
| Aluminum | 13000 | J EB | 15 | 100 | 01/17/03 | 12/19/02 | 6020A | LCP |
| Antimony | 0.21 | UJ N | 0.021 | 2 | 01/09/03 | 12/19/02 | 6020A | LMR |
| Arsenic | 2.7 | J E | 0.0034 | 2 | 01/06/03 | 12/19/02 | 6020A | LMR |
| Barium | 63 | J | 0.020 | 20 | 01/15/03 | 12/19/02 | 6020A | LMR |
| Beryllium | 0.27 | J E | 0.0052 | 2 | 01/06/03 | 12/19/02 | 6020A | LMR |
| Cadmium | 1.1 | J E | 0.00082 | 2 | 01/06/03 | 12/19/02 | 6020A | LMR |
| Calcium | 7800 | J | 29 | 100 | 01/16/03 | 12/19/02 | 6020A | LCP |
| Chromium | 8.2 | J E | 0.0086 | 2 | 01/06/03 | 12/19/02 | 6020A | LMR |
| Cobalt | 17 | J E | 0.020 | 20 | 01/16/03 | 12/19/02 | 6020A | LCP |
| Copper | 40 | J E | 0.62 | 20 | 01/16/03 | 12/19/02 | 6020A | LCP |
| Iron | 40000 | J E | 40 | 100 | 01/16/03 | 12/19/02 | 6020A | LCP |
| Lead | 69 | J | 0.17 | 20 | 01/15/03 | 12/19/02 | 6020A | LMR |
| Magnesium | 9200 | J | 3.7 | 100 | 01/17/03 | 12/19/02 | 6020A | LCP |
| Manganese | 290 | J E | 3.4 | 100 | 01/15/03 | 12/19/02 | 6020A | LMR |
| Mercury | 0.0076 | J | 0.0014 | 1 | 12/24/02 | 12/19/02 | 7471A | CJH |
| Nickel | 18 | J | 0.23 | 20 | 01/16/03 | 12/19/02 | 6020A | LCP |
| Potassium | 1500 | J E | 0.91 | 10 | 01/17/03 | 12/19/02 | 6020A | LCP |
| Selenium | 0.021 | UJ | 0.0095 | 2 | 01/06/03 | 12/19/02 | 6020A | LMR |
| Silver | 0.11 | J NE | 0.0014 | 2 | 01/09/03 | 12/19/02 | 6020A | LMR |
| Sodium | 84 | E | 0.94 | 2 | 01/14/03 | 01/08/03 | 6020A | LMR |
| Thallium | 0.037 | U | 0.0078 | 2 | 01/06/03 | 12/19/02 | 6020A | LMR |
| Vanadium | 39 | J | 0.14 | 20 | 01/16/03 | 12/19/02 | 6020A | LCP |
| Zinc | 190 | J | 14 | 100 | 01/15/03 | 12/19/02 | 6020A | LMR |

J - Below CRDL, Project DL, or RL but greater than or = MDL.
E - Estimated due to Interference.
N - Spike recovery outside control limits.
¤ - Duplicate outside control limits.

01/27/03 18:29

# Form I
# Total Metals

Client: **Metcalf & Eddy**
Project: **DAS -Southwest properties, Woburn**
Case: **0209M** SDG: **D03603**
Client ID: **D03609** MR-11 (0.75-1.75)
Matrix: **Soil**
Percent Solid: **55.5**

Lab Code: **MA00030**
ETR: **0212021**
Lab ID: **0212021-01**
Concentration Units: **mg/Kg**
Date Collected: **12/04/02**
Date Received: **12/06/02**

| Parameter | Result | Qualifier | Detection Limit | Dilution | Date Analyzed | Date Prepared | Analytical Method | Analyst |
|---|---|---|---|---|---|---|---|---|
| Aluminum | 7000 | J EB | 4.4 | 20 | 01/18/03 | 12/19/02 | 6020A | LMR |
| Antimony | 3.0 | J | 0.031 | 2 | 01/09/03 | 12/19/02 | 6020A | LMR |
| Arsenic | 3.8 | J | 0.0050 | 2 | 01/06/03 | 12/19/02 | 6020A | LMR |
| Barium | 2600 | J | 1.5 | 1000 | 01/14/03 | 12/19/02 | 6020A | LCP |
| Beryllium | 0.32 | J | 0.0077 | 2 | 01/06/03 | 12/19/02 | 6020A | LMR |
| Cadmium | 3.4 | J | 0.0012 | 2 | 01/06/03 | 12/19/02 | 6020A | LMR |
| Calcium | 6700 | J | 12 | 20 | 01/27/03 | 01/08/03 | 6020A | LMR |
| Chromium | 190 | J | 0.64 | 100 | 01/14/03 | 12/19/02 | 6020A | LCP |
| Cobalt | 1.0 | J | 0.0030 | 2 | 01/06/03 | 12/19/02 | 6020A | LMR |
| Copper | 48 | J | 0.46 | 10 | 01/14/03 | 12/19/02 | 6020A | LCP |
| Iron | 2400 | J | 17 | 20 | 01/27/03 | 01/08/03 | 6020A | LMR |
| Lead | 12000 | J | 64 | 5000 | 01/14/03 | 12/19/02 | 6020A | LCP |
| Magnesium | 520 | J | 0.11 | 2 | 01/16/03 | 12/19/02 | 6020A | LCP |
| Manganese | 79 | J | 1.0 | 20 | 01/14/03 | 12/19/02 | 6020A | LCP |
| Mercury | 0.63 | J | 0.0024 | 1 | 12/24/02 | 12/19/02 | 7471A | CJH |
| Nickel | 6.5 | J | 0.035 | 2 | 01/06/03 | 12/19/02 | 6020A | LMR |
| Potassium | 760 | J | 0.27 | 2 | 01/16/03 | 12/19/02 | 6020A | LCP |
| Selenium | 0.97 | | 0.014 | 2 | 01/06/03 | 12/19/02 | 6020A | LMR |
| Silver | 0.30 | J | 0.0017 | 2 | 01/21/03 | 01/21/03 | 6020A | LCP |
| Sodium | 280 | | 1.4 | 2 | 01/14/03 | 01/08/03 | 6020A | LMR |
| Thallium | 0.11 | U | 0.012 | 2 | 01/06/03 | 12/19/02 | 6020A | LMR |
| Vanadium | 15 | J | 0.10 | 10 | 01/14/03 | 12/19/02 | 6020A | LCP |
| Zinc | 1200 | J | 210 | 1000 | 01/14/03 | 12/19/02 | 6020A | LCP |

J - Below CRDL, Project DL, or RL but greater than or = MDL.
E - Estimated due to Interference.
N - Spike recovery outside control limits.
¤ - Duplicate outside control limits.

01/27/03 18:31

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# Form I
# Total Metals

Client: **Metcalf & Eddy**
Project: **DAS -Southwest properties, Woburn**
Case: **0209M** SDG: **D03603**
Client ID: **D03610 FD** MR-10 (0-0.5)
Matrix: **Soil**
Percent Solid: **34.2**

Lab Code: **MA00030**
ETR: **0212021**
Lab ID: **0212021-06**
Concentration Units: **mg/Kg**
Date Collected: **12/04/02**
Date Received: **12/06/02**

| Parameter | Result | Qualifier | Detection Limit | Dilution | Date Analyzed | Date Prepared | Analytical Method | Analyst |
|---|---|---|---|---|---|---|---|---|
| Aluminum | 23000 | J EB | 8.3 | 20 | 01/16/03 | 12/19/02 | 6020A | LCP |
| Antimony | 3.0 | J | 0.058 | 2 | 01/09/03 | 12/19/02 | 6020A | LMR |
| Arsenic | 7.8 | J | 0.0095 | 2 | 01/06/03 | 12/19/02 | 6020A | LMR |
| Barium | 300 | J | 0.28 | 100 | 01/14/03 | 12/19/02 | 6020A | LCP |
| Beryllium | 1.0 | J | 0.015 | 2 | 01/06/03 | 12/19/02 | 6020A | LMR |
| Cadmium | 4.8 | J | 0.0023 | 2 | 01/06/03 | 12/19/02 | 6020A | LMR |
| Calcium | 18000 | J | 27 | 20 | 01/27/03 | 01/08/03 | 6020A | LMR |
| Chromium | 88 | J | 0.12 | 10 | 01/14/03 | 12/19/02 | 6020A | LCP |
| Cobalt | 9.4 | J | 0.0056 | 2 | 01/06/03 | 12/19/02 | 6020A | LMR |
| Copper | 190 | J | 1.8 | 20 | 01/16/03 | 12/19/02 | 6020A | LCP |
| Iron | 19000 | J | 92 | 50 | 01/27/03 | 01/08/03 | 6020A | LMR |
| Lead | 340 | J | 2.4 | 100 | 01/14/03 | 12/19/02 | 6020A | LCP |
| Magnesium | 7000 | J | 2.1 | 20 | 01/16/03 | 12/19/02 | 6020A | LCP |
| Manganese | 360 | J | 9.6 | 100 | 01/14/03 | 12/19/02 | 6020A | LCP |
| Mercury | 0.27 | J | 0.0040 | 1 | 12/24/02 | 12/19/02 | 7471A | CJH |
| Nickel | 42 | J | 0.33 | 10 | 01/14/03 | 12/19/02 | 6020A | LCP |
| Potassium | 6200 | J | 5.1 | 20 | 01/16/03 | 12/19/02 | 6020A | LCP |
| Selenium | 0.35 | J | 0.027 | 2 | 01/06/03 | 12/19/02 | 6020A | LMR |
| Silver | 0.35 | J | 0.0034 | 2 | 01/21/03 | 01/21/03 | 6020A | LCP |
| Sodium | 870 | | 3.2 | 2 | 01/14/03 | 01/08/03 | 6020A | LMR |
| Thallium | 0.35 | U | 0.022 | 2 | 01/06/03 | 12/19/02 | 6020A | LMR |
| Vanadium | 67 | J | 0.19 | 10 | 01/14/03 | 12/19/02 | 6020A | LCP |
| Zinc | 1000 | J | 80 | 200 | 01/16/03 | 12/19/02 | 6020A | LCP |

J - Below CRDL, Project DL, or RL but greater than or = MDL.
E - Estimated due to Interference.
N - Spike recovery outside control limits.
¤ - Duplicate outside control limits.

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# Form I
# Total Metals

Client: **Metcalf & Eddy**
Project: **DAS -Southwest properties, Woburn**
Case: **0209M** SDG: **D03603**
Client ID: **D03611** WB-6 (0-2)
Matrix: **Soil**
Percent Solid: **87.8**

Lab Code: **MA00030**
ETR: **0211137**
Lab ID: **0211137-01**
Concentration Units: **mg/Kg**
Date Collected: **11/25/02**
Date Received: **11/27/02**

| Parameter | Result | Qualifier | Detection Limit | Dilution | Date Analyzed | Date Prepared | Analytical Method | Analyst |
|---|---|---|---|---|---|---|---|---|
| Aluminum | 7800 | J EB | 17 | 100 | 01/17/03 | 12/19/02 | 6020A | LCP |
| Antimony | 0.42 | UJ N | 0.022 | 2 | 01/09/03 | 12/19/02 | 6020A | LMR |
| Arsenic | 6.4 | J ¤E | 0.0038 | 2 | 01/06/03 | 12/19/02 | 6020A | LMR |
| Barium | 70 | J | 0.022 | 20 | 01/15/03 | 12/19/02 | 6020A | LMR |
| Beryllium | 0.36 | J B | 0.0058 | 2 | 01/06/03 | 12/19/02 | 6020A | LMR |
| Cadmium | 1.1 | J ¤E | 0.00092 | 2 | 01/06/03 | 12/19/02 | 6020A | LMR |
| Calcium | 15000 | J | 33 | 100 | 01/16/03 | 12/19/02 | 6020A | LCP |
| Chromium | 42 | J E | 0.049 | 10 | 01/16/03 | 12/19/02 | 6020A | LCP |
| Cobalt | 6.2 | J E | 0.0022 | 2 | 01/06/03 | 12/19/02 | 6020A | LMR |
| Copper | 110 | J E | 3.5 | 100 | 01/16/03 | 12/19/02 | 6020A | LCP |
| Iron | 27000 | J E | 45 | 100 | 01/16/03 | 12/19/02 | 6020A | LCP |
| Lead | 290 | J | 0.97 | 100 | 01/15/03 | 12/19/02 | 6020A | LMR |
| Magnesium | 4500 | J | 0.41 | 10 | 01/17/03 | 12/19/02 | 6020A | LCP |
| Manganese | 290 | J E | 3.8 | 100 | 01/15/03 | 12/19/02 | 6020A | LMR |
| Mercury | 1.1 | J | 0.0078 | 5 | 12/24/02 | 12/19/02 | 7471A | CJH |
| Nickel | 30 | J | 0.13 | 10 | 01/16/03 | 12/19/02 | 6020A | LCP |
| Potassium | 1300 | J E | 1.0 | 10 | 01/17/03 | 12/19/02 | 6020A | LCP |
| Selenium | 0.011 | UJ U | 0.011 | 2 | 01/06/03 | 12/19/02 | 6020A | LMR |
| Silver | 0.56 | J ¤NE | 0.0014 | 2 | 01/09/03 | 12/19/02 | 6020A | LMR |
| Sodium | 170 | E | 1.1 | 2 | 01/14/03 | 01/08/03 | 6020A | LMR |
| Thallium | 0.083 | U | 0.0088 | 2 | 01/06/03 | 12/19/02 | 6020A | LMR |
| Vanadium | 27 | J | 0.078 | 10 | 01/16/03 | 12/19/02 | 6020A | LCP |
| Zinc | 240 | J | 16 | 100 | 01/15/03 | 12/19/02 | 6020A | LMR |

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U - The analyte was analyzed for but not detected at the sample specific level reported.
¤ - Duplicate outside control limits.

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# Form I
# Total Metals

Client: **Metcalf & Eddy**
Project: **DAS -Southwest properties, Woburn**
Case: **0209M** SDG: **D03603**
Client ID: **D03613** WB-7(0-2)
Matrix: **Soil**
Percent Solid: **80.4**

Lab Code: **MA00030**
ETR: **0211137**
Lab ID: **0211137-02**
Concentration Units: **mg/Kg**
Date Collected: **11/25/02**
Date Received: **11/27/02**

| Parameter | Result | Qualifier | Detection Limit | Dilution | Date Analyzed | Date Prepared | Analytical Method | Analyst |
|---|---|---|---|---|---|---|---|---|
| Aluminum | 6400 J EB | | 19 | 100 | 01/17/03 | 12/19/02 | 6020A | LCP |
| Antimony | 0.29 UJ | ~~DN~~ | 0.024 | 2 | 01/09/03 | 12/19/02 | 6020A | LMR |
| Arsenic | 5.9 J | ~~E~~ | 0.0044 | 2 | 01/06/03 | 12/19/02 | 6020A | LMR |
| Barium | 180 J | | 0.13 | 100 | 01/15/03 | 12/19/02 | 6020A | LMR |
| Beryllium | 0.40 J | ~~E~~ | 0.0067 | 2 | 01/06/03 | 12/19/02 | 6020A | LMR |
| Cadmium | 0.70 J | ~~E~~ | 0.0011 | 2 | 01/06/03 | 12/19/02 | 6020A | LMR |
| Calcium | 37000 J | | 38 | 100 | 01/16/03 | 12/19/02 | 6020A | LCP |
| Chromium | 25 J | ~~E~~ | 0.056 | 10 | 01/16/03 | 12/19/02 | 6020A | LCP |
| Cobalt | 4.6 J | ~~E~~ | 0.0026 | 2 | 01/06/03 | 12/19/02 | 6020A | LMR |
| Copper | 35 J | ~~E~~ | 0.40 | 10 | 01/16/03 | 12/19/02 | 6020A | LCP |
| Iron | 14000 J | ~~E~~ | 52 | 100 | 01/16/03 | 12/19/02 | 6020A | LCP |
| Lead | 240 J | | 1.1 | 100 | 01/15/03 | 12/19/02 | 6020A | LMR |
| Magnesium | 5100 J | | 4.8 | 100 | 01/17/03 | 12/19/02 | 6020A | LCP |
| Manganese | 330 J | ~~E~~ | 4.4 | 100 | 01/15/03 | 12/19/02 | 6020A | LMR |
| Mercury | 0.21 J | | 0.0017 | 1 | 12/24/02 | 12/19/02 | 7471A | CJH |
| Nickel | 17 J | | 0.15 | 10 | 01/16/03 | 12/19/02 | 6020A | LCP |
| Potassium | 900 J | ~~E~~ | 0.24 | 2 | 01/17/03 | 12/19/02 | 6020A | LCP |
| Selenium | 0.012 UJ | ~~U~~ | 0.012 | 2 | 01/06/03 | 12/19/02 | 6020A | LMR |
| Silver | 0.19 J | ~~DNE~~ | 0.0016 | 2 | 01/09/03 | 12/19/02 | 6020A | LMR |
| Sodium | 350 | ~~E~~ | 0.97 | 2 | 01/14/03 | 01/08/03 | 6020A | LMR |
| Thallium | 0.065 UL | ~~E~~ | 0.010 | 2 | 01/06/03 | 12/19/02 | 6020A | LMR |
| Vanadium | 23 J | | 0.090 | 10 | 01/16/03 | 12/19/02 | 6020A | LCP |
| Zinc | 350 J | | 18 | 100 | 01/15/03 | 12/19/02 | 6020A | LMR |

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The analyte was analyzed for but not detected at the sample specific level reported.
Duplicate outside control limits.

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# Form I
# Total Metals

Client: Metcalf & Eddy
Project: DAS -Southwest properties, Woburn
Case: 0209M SDG: D03603
Client ID: D03615 WB8(0-2)
Matrix: Soil
Percent Solid: 61.5

Lab Code: MA00030
ETR: 0211137
Lab ID: 0211137-12
Concentration Units: mg/Kg
Date Collected: 11/26/02
Date Received: 11/27/02

| Parameter | Result | Qualifier | Detection Limit | Dilution | Date Analyzed | Date Prepared | Analytical Method | Analyst |
|---|---|---|---|---|---|---|---|---|
| Aluminum | 9200 J EB | | 22 | 100 | 01/17/03 | 12/19/02 | 6020A | LCP |
| Antimony | 1.3 UJ | N | 0.030 | 2 | 01/09/03 | 12/19/02 | 6020A | LMR |
| Arsenic | 7.0 J | E | 0.0050 | 2 | 01/06/03 | 12/19/02 | 6020A | LMR |
| Barium | 39 J | | 0.015 | 10 | 01/15/03 | 12/19/02 | 6020A | LMR |
| Beryllium | 0.29 J | E | 0.0076 | 2 | 01/06/03 | 12/19/02 | 6020A | LMR |
| Cadmium | 0.70 J | E | 0.0012 | 2 | 01/06/03 | 12/19/02 | 6020A | LMR |
| Calcium | 2600 J | | 4.3 | 10 | 01/16/03 | 12/19/02 | 6020A | LCP |
| Chromium | 210 J | E | 0.64 | 100 | 01/16/03 | 12/19/02 | 6020A | LCP |
| Cobalt | 1.9 J | E | 0.0029 | 2 | 01/06/03 | 12/19/02 | 6020A | LMR |
| Copper | 24 J | | 0.46 | 10 | 01/16/03 | 12/19/02 | 6020A | LCP |
| Iron | 18000 J | | 58 | 100 | 01/16/03 | 12/19/02 | 6020A | LCP |
| Lead | 62 J | | 0.13 | 10 | 01/15/03 | 12/19/02 | 6020A | LMR |
| Magnesium | 620 J | | 0.11 | 2 | 01/17/03 | 12/19/02 | 6020A | LCP |
| Manganese | 130 J | | 2.5 | 50 | 01/16/03 | 12/19/02 | 6020A | LCP |
| Mercury | 0.098 J | | 0.0021 | 1 | 12/24/02 | 12/19/02 | 7471A | CJH |
| Nickel | 8.3 J | | 0.034 | 2 | 01/06/03 | 12/19/02 | 6020A | LMR |
| tassium | 300 J | E | 0.27 | 2 | 01/17/03 | 12/19/02 | 6020A | LCP |
| Selenium | 0.84 | J | 0.014 | 2 | 01/06/03 | 12/19/02 | 6020A | LMR |
| Silver | 0.070 J | DNR | 0.0020 | 2 | 01/09/03 | 12/19/02 | 6020A | LMR |
| Sodium | 97 | E | 1.4 | 2 | 01/14/03 | 01/08/03 | 6020A | LMR |
| Thallium | 0.099 UL | J | 0.011 | 2 | 01/06/03 | 12/19/02 | 6020A | LMR |
| Vanadium | 15 J | | 0.10 | 10 | 01/16/03 | 12/19/02 | 6020A | LCP |
| Zinc | 86 J | | 10 | 50 | 01/16/03 | 12/19/02 | 6020A | LCP |

J - Below CRDL, Project DL, or RL but greater than or = MDL.
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N - Spike recovery outside control limits.
~ - Duplicate outside control limits.

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# Form I
# Total Metals

Client: **Metcalf & Eddy**
Project: **DAS -Southwest properties, Woburn**
Case: **0209M** SDG: **D03603**
Client ID: **D03616** WB 9(0-0.5)
Matrix: **Soil**
Percent Solid: **62.7**

Lab Code: **MA00030**
ETR: **0212008**
Lab ID: **0212008-05**
Concentration Units: **mg/Kg**
Date Collected: **12/03/02**
Date Received: **12/04/02**

| Parameter | Result | Qualifier | Detection Limit | Dilution | Date Analyzed | Date Prepared | Analytical Method | Analyst |
|---|---|---|---|---|---|---|---|---|
| Aluminum | 5500 | J, EB | 4.2 | 20 | 01/16/03 | 12/19/02 | 6020A | LCP |
| Antimony | 0.35 | UJ | 0.030 | 2 | 01/09/03 | 12/19/02 | 6020A | LMR |
| Arsenic | 12 | J | 0.0048 | 2 | 01/06/03 | 12/19/02 | 6020A | LMR |
| Barium | 46 | J | 0.014 | 10 | 01/15/03 | 12/19/02 | 6020A | LMR |
| Beryllium | 0.24 | J | 0.0074 | 2 | 01/06/03 | 12/19/02 | 6020A | LMR |
| Cadmium | 0.70 | J | 0.0012 | 2 | 01/06/03 | 12/19/02 | 6020A | LMR |
| Calcium | 2200 | J | 8.3 | 20 | 01/16/03 | 12/19/02 | 6020A | LCP |
| Chromium | 380 | J | 0.62 | 100 | 01/16/03 | 12/19/02 | 6020A | LCP |
| Cobalt | 2.4 | J | 0.0028 | 2 | 01/06/03 | 12/19/02 | 6020A | LMR |
| Copper | 19 | J | 0.45 | 10 | 01/16/03 | 12/19/02 | 6020A | LCP |
| Iron | 15000 | J | 57 | 100 | 01/16/03 | 12/19/02 | 6020A | LCP |
| Lead | 120 | J | 1.2 | 100 | 01/15/03 | 12/19/02 | 6020A | LMR |
| Magnesium | 420 | J | 0.11 | 2 | 01/16/03 | 12/19/02 | 6020A | LCP |
| Manganese | 150 | J | 4.9 | 100 | 01/15/03 | 12/19/02 | 6020A | LMR |
| Mercury | 0.20 | J | 0.0019 | 1 | 12/24/02 | 12/19/02 | 7471A | CJH |
| Nickel | 8.4 | J | 0.033 | 2 | 01/06/03 | 12/19/02 | 6020A | LMR |
| Potassium | 180 | J | 0.26 | 2 | 01/16/03 | 12/19/02 | 6020A | LCP |
| nium | 0.99 | | 0.014 | 2 | 01/06/03 | 12/19/02 | 6020A | LMR |
| er | 0.16 | J | 0.0020 | 2 | 01/09/03 | 12/19/02 | 6020A | LMR |
| Sodium | 85 | | 1.6 | 2 | 01/14/03 | 01/08/03 | 6020A | LMR |
| Thallium | 0.072 | U | 0.011 | 2 | 01/06/03 | 12/19/02 | 6020A | LMR |
| Vanadium | 11 | J | 0.020 | 2 | 01/06/03 | 12/19/02 | 6020A | LMR |
| Zinc | 140 | J | 20 | 100 | 01/15/03 | 12/19/02 | 6020A | LMR |

J - Below CRDL, Project DL, or RL but greater than or = MDL.
E - Estimated due to Interference.
N - Spike recovery outside control limits.
¤ - Duplicate outside control limits.

01/27/03 18:55

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# Form I
# Total Metals

Client: **Metcalf & Eddy**
Project: **DAS -Southwest properties, Woburn**
Case: **0209M** SDG: **D03603**
Client ID: **D03617** WB-10 (0-2)
Matrix: **Soil**
Percent Solid: **82.0**

Lab Code: **MA00030**
ETR: **0211137**
Lab ID: **0211137-04**
Concentration Units: **mg/Kg**
Date Collected: **11/25/02**
Date Received: **11/27/02**

| Parameter | Result | Qualifier | Detection Limit | Dilution | Date Analyzed | Date Prepared | Analytical Method | Analyst |
|---|---|---|---|---|---|---|---|---|
| Aluminum | 9000 | J, EB | 16 | 100 | 01/17/03 | 12/19/02 | 6020A | LCP |
| Antimony | 0.36 | UJ N | 0.024 | 2 | 01/09/03 | 12/19/02 | 6020A | LMR |
| Arsenic | 5.6 | J E | 0.0037 | 2 | 01/06/03 | 12/19/02 | 6020A | LMR |
| Barium | 160 | J | 0.11 | 100 | 01/15/03 | 12/19/02 | 6020A | LMR |
| Beryllium | 0.36 | J E | 0.0057 | 2 | 01/06/03 | 12/19/02 | 6020A | LMR |
| Cadmium | 1.0 | J E | 0.00090 | 2 | 01/06/03 | 12/19/02 | 6020A | LMR |
| Calcium | 30000 | J | 32 | 100 | 01/16/03 | 12/19/02 | 6020A | LCP |
| Chromium | 55 | J E | 0.095 | 20 | 01/16/03 | 12/19/02 | 6020A | LCP |
| Cobalt | 6.2 | J E | 0.0022 | 2 | 01/06/03 | 12/19/02 | 6020A | LMR |
| Copper | 53 | J E | 0.68 | 20 | 01/16/03 | 12/19/02 | 6020A | LCP |
| Iron | 21000 | J E | 43 | 100 | 01/16/03 | 12/19/02 | 6020A | LCP |
| Lead | 250 | J | 0.95 | 100 | 01/15/03 | 12/19/02 | 6020A | LMR |
| Magnesium | 5700 | J | 4.0 | 100 | 01/17/03 | 12/19/02 | 6020A | LCP |
| Manganese | 270 | J E | 3.7 | 100 | 01/15/03 | 12/19/02 | 6020A | LMR |
| Mercury | 0.80 | J | 0.0034 | 2 | 12/24/02 | 12/19/02 | 7471A | CJH |
| Nickel | 18 | J E | 0.26 | 20 | 01/16/03 | 12/19/02 | 6020A | LCP |
| Potassium | 1800 | J E | 0.99 | 10 | 01/17/03 | 12/19/02 | 6020A | LCP |
| Selenium | 0.010 | UJ U | 0.010 | 2 | 01/06/03 | 12/19/02 | 6020A | LMR |
| Silver | 0.35 | J NE | 0.0016 | 2 | 01/09/03 | 12/19/02 | 6020A | LMR |
| Sodium | 190 | E | 1.3 | 2 | 01/14/03 | 01/08/03 | 6020A | LMR |
| Thallium | 0.091 | U J | 0.0085 | 2 | 01/06/03 | 12/19/02 | 6020A | LMR |
| Vanadium | 29 | J | 0.15 | 20 | 01/16/03 | 12/19/02 | 6020A | LCP |
| Zinc | 280 | J | 16 | 100 | 01/15/03 | 12/19/02 | 6020A | LMR |

J - Below CRDL, Project DL, or RL but greater than or = MDL.
E - Estimated due to Interference.
N - Spike recovery outside control limits.
U - The analyte was analyzed for but not detected at the sample specific level reported.
* - Duplicate outside control limits.

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# Form I
# Total Metals

Client: **Metcalf & Eddy**
Project: **DAS -Southwest properties, Woburn**
Case: **0209M** SDG: **D03603**
Client ID: **D03620** WB-13 (0-2)
Matrix: **Soil**
Percent Solid: **84.4**

Lab Code: **MA00030**
ETR: **0212021**
Lab ID: **0212021-05**
Concentration Units: **mg/Kg**
Date Collected: **12/05/02**
Date Received: **12/06/02**

| Parameter | Result | Qualifier | Detection Limit | Dilution | Date Analyzed | Date Prepared | Analytical Method | Analyst |
|---|---|---|---|---|---|---|---|---|
| Aluminum | 12000 | J EB | 16 | 100 | 01/16/03 | 12/19/02 | 6020A | LCP |
| Antimony | 0.24 | U J | 0.021 | 2 | 01/09/03 | 12/19/02 | 6020A | LMR |
| Arsenic | 4.0 | J | 0.0037 | 2 | 01/06/03 | 12/19/02 | 6020A | LMR |
| Barium | 100 | J | 0.11 | 100 | 01/14/03 | 12/19/02 | 6020A | LCP |
| Beryllium | 0.55 | J | 0.0057 | 2 | 01/06/03 | 12/19/02 | 6020A | LMR |
| Cadmium | 0.38 | J | 0.00090 | 2 | 01/06/03 | 12/19/02 | 6020A | LMR |
| Calcium | 34000 | J | 56 | 100 | 01/27/03 | 01/08/03 | 6020A | LMR |
| Chromium | 21 | J | 0.047 | 10 | 01/14/03 | 12/19/02 | 6020A | LCP |
| Cobalt | 4.7 | J | 0.0022 | 2 | 01/06/03 | 12/19/02 | 6020A | LMR |
| Copper | 25 | J | 0.34 | 10 | 01/16/03 | 12/19/02 | 6020A | LCP |
| Iron | 10000 | J | 77 | 100 | 01/27/03 | 01/08/03 | 6020A | LMR |
| Lead | 240 | J | 0.95 | 100 | 01/14/03 | 12/19/02 | 6020A | LCP |
| Magnesium | 6000 | J | 4.0 | 100 | 01/16/03 | 12/19/02 | 6020A | LCP |
| Manganese | 370 | J | 3.7 | 100 | 01/14/03 | 12/19/02 | 6020A | LCP |
| Mercury | 0.094 | J | 0.0015 | 1 | 12/24/02 | 12/19/02 | 7471A | CJH |
| Nickel | 14 | J | 0.13 | 10 | 01/14/03 | 12/19/02 | 6020A | LCP |
| Potassium | 1700 | J | 1.0 | 10 | 01/16/03 | 12/19/02 | 6020A | LCP |
| Selenium | 0.010 | U J | 0.010 | 2 | 01/06/03 | 12/19/02 | 6020A | LMR |
| Silver | 0.069 | J | 0.0014 | 2 | 01/21/03 | 01/21/03 | 6020A | LCP |
| Sodium | 190 | | 1.3 | 2 | 01/14/03 | 01/08/03 | 6020A | LMR |
| Thallium | 0.083 | U | 0.0085 | 2 | 01/06/03 | 12/19/02 | 6020A | LMR |
| Vanadium | 29 | J | 0.076 | 10 | 01/14/03 | 12/19/02 | 6020A | LCP |
| Zinc | 200 | J | 16 | 100 | 01/14/03 | 12/19/02 | 6020A | LCP |

J - Below CRDL, Project DL, or RL but greater than or = MDL.
E - Estimated due to Interference.
N - Spike recovery outside control limits.
U - The analyte was analyzed for but not detected at the sample specific level reported.
¤ - Duplicate outside control limits.

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# Form I
# Total Metals

Client: **Metcalf & Eddy**
Project: **DAS -Southwest properties, Woburn**
Case: **0209M** SDG: **D03603**
Client ID: **D03621 FD** MRE-12(0-0.5)
Matrix: **Soil**
Percent Solid: **31.6**

Lab Code: **MA00030**
ETR: **0212021**
Lab ID: **0212021-07**
Concentration Units: **mg/Kg**
Date Collected: **12/04/02**
Date Received: **12/06/02**

| Parameter | Result | Qualifier | Detection Limit | Dilution | Date Analyzed | Date Prepared | Analytical Method | Analyst |
|---|---|---|---|---|---|---|---|---|
| Aluminum | 24000 | J EB ¤ | 8.9 | 20 | 01/16/03 | 12/19/02 | 6020A | LCP |
| Antimony | 2.3 | UJ ME | 0.062 | 2 | 01/09/03 | 12/19/02 | 6020A | LMR |
| Arsenic | 7.1 | J ¤E | 0.010 | 2 | 01/06/03 | 12/19/02 | 6020A | LMR |
| Barium | 370 | J E¤ | 0.30 | 100 | 01/14/03 | 12/19/02 | 6020A | LCP |
| Beryllium | 1.0 | J ¤E | 0.016 | 2 | 01/06/03 | 12/19/02 | 6020A | LMR |
| Cadmium | 4.2 | J E | 0.0025 | 2 | 01/06/03 | 12/19/02 | 6020A | LMR |
| Calcium | 28000 | J | 22 | 20 | 01/27/03 | 01/08/03 | 6020A | LMR |
| Chromium | 93 | J | 0.26 | 20 | 01/16/03 | 12/19/02 | 6020A | LCP |
| Cobalt | 8.9 | J E | 0.0060 | 2 | 01/06/03 | 12/19/02 | 6020A | LMR |
| Copper | 130 | J | 1.9 | 20 | 01/16/03 | 12/19/02 | 6020A | LCP |
| Iron | 18000 | J E | 30 | 20 | 01/27/03 | 01/08/03 | 6020A | LMR |
| Lead | 400 | J E¤ | 2.6 | 100 | 01/14/03 | 12/19/02 | 6020A | LCP |
| Magnesium | 7100 | J | 2.2 | 20 | 01/16/03 | 12/19/02 | 6020A | LCP |
| Manganese | 400 | J | 10 | 100 | 01/14/03 | 12/19/02 | 6020A | LCP |
| Mercury | 0.37 | J | 0.0042 | 1 | 12/24/02 | 12/19/02 | 7471A | CJH |
| Nickel | 41 | J N | 0.35 | 10 | 01/14/03 | 12/19/02 | 6020A | LCP |
| Potassium | 6600 | J N | 5.5 | 20 | 01/16/03 | 12/19/02 | 6020A | LCP |
| Selenium | 0.32 | UJ | 0.029 | 2 | 01/06/03 | 12/19/02 | 6020A | LMR |
| Silver | 0.29 | J N | 0.0046 | 2 | 01/21/03 | 01/21/03 | 6020A | LCP |
| Sodium | 890 | E | 2.6 | 2 | 01/14/03 | 01/08/03 | 6020A | LMR |
| Thallium | 0.37 | UJ | 0.024 | 2 | 01/06/03 | 12/19/02 | 6020A | LMR |
| Vanadium | 68 | J | 0.21 | 10 | 01/14/03 | 12/19/02 | 6020A | LCP |
| Zinc | 850 | J | 86 | 200 | 01/16/03 | 12/19/02 | 6020A | LCP |

J - Below CRDL, Project DL, or RL but greater than or = MDL.
E - Estimated due to Interference.
N - Spike recovery outside control limits.
¤ - Duplicate outside control limits.

01/27/03

# Inorganics

Client: **Metcalf & Eddy**
Project: **DAS -Southwest properties, Woburn**
Case: **0209M** SDG: **D03603**
Client ID: **D03600** MR-11 (0-0.5)
Matrix: **Soil**
Percent Solid: **62.1**

Lab Code: **MA00030**
ETR: **0212008**
Lab ID: **0212008-06**
Date Collected: **12/03/02**
Date Received: **12/04/02**

| Parameter | Result | Qualifier | Reporting Limit | Dilution | Date Analyzed | Unit | Analytical Method | Analyst |
|---|---|---|---|---|---|---|---|---|
| Cyanide, Total | **0.30** | | 0.11 | 1 | 12/05/02 | mg/Kg | 9014 | DEB |

12/17/02 13:35

# Inorganics

Client: **Metcalf & Eddy**
Project: **DAS -Southwest properties, Woburn**
Case: **0209M** SDG: **D03603**
Client ID: **D03605 FD** AB-15(4-4.5)
Matrix: **Soil**
Percent Solid: **42.5**

Lab Code: **MA00030**
ETR: **0212008**
Lab ID: **0212008-07**
Date Collected: **12/02/02**
Date Received: **12/04/02**

| Parameter | Result | Qualifier | Reporting Limit | Dilution | Date Analyzed | Unit | Analytical Method | Analyst |
|---|---|---|---|---|---|---|---|---|
| Cyanide, Total | 0.19 J | | 0.19 | 1 | 12/14/02 | mg/Kg | 9014 | DEB |



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# Inorganics

Client: **Metcalf & Eddy**
Project: **DAS -Southwest properties, Woburn**
Case: **0209M** SDG: **D03603**
Client ID: **D03606** AB 16(0-2)
Matrix: **Soil**
Percent Solid: **92.0**

Lab Code: **MA00030**
ETR: **0211137**
Lab ID: **0211137-09**
Date Collected: **11/26/02**
Date Received: **11/27/02**

| Parameter | Result | Qualifier | Reporting Limit | Dilution | Date Analyzed | Unit | Analytical Method | Analyst |
|---|---|---|---|---|---|---|---|---|
| Cyanide, Total | 0.077 | U | 0.077 | 1 | 12/05/02 | mg/Kg | 9014 | DEB |

U - The analyte was analyzed for but not detected at the sample specific level reported.



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# Inorganics

Client: **Metcalf & Eddy**
Project: **DAS -Southwest properties, Woburn**
Case: **0209M** SDG: **D03603**
Client ID: **D03608** MR-10 (3-5)
Matrix: **Soil**
Percent Solid: **92.4**

Lab Code: **MA00030**
ETR: **0212008**
Lab ID: **0212008-03**
Date Collected: **12/02/02**
Date Received: **12/04/02**

| Parameter | Result | Qualifier | Reporting Limit | Dilution | Date Analyzed | Unit | Analytical Method | Analyst |
|---|---|---|---|---|---|---|---|---|
| Cyanide, Total | 0.077 | U | 0.077 | 1 | 12/05/02 | mg/Kg | 9014 | DEB |

U - The analyte was analyzed for but not detected at the sample specific level reported.



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# Inorganics

Client: **Metcalf & Eddy**
Project: **DAS -Southwest properties, Woburn**
Case: **0209M** SDG: **D03603**
Client ID: **D03610 FD** MR-12(0-0.5)
Matrix: **Soil**
Percent Solid: **34.2**

Lab Code: **MA00030**
ETR: **0212021**
Lab ID: **0212021-06**
Date Collected: **12/04/02**
Date Received: **12/06/02**

| Parameter | Result | Qualifier | Reporting Limit | Dilution | Date Analyzed | Unit | Analytical Method | Analyst |
|---|---|---|---|---|---|---|---|---|
| Cyanide, Total | **0.95** | | 0.23 | 1 | 12/14/02 | mg/Kg | 9014 | DEB |

12/17/02 13:36

# Inorganics

Client: **Metcalf & Eddy**
Project: **DAS -Southwest properties, Woburn**
Case: **0209M** SDG: **D03603**
Client ID: **D03613** WB-7(0-2)
Matrix: **Soil**
Percent Solid: **80.4**

Lab Code: **MA00030**
ETR: **0211137**
Lab ID: **0211137-02**
Date Collected: **11/25/02**
Date Received: **11/27/02**

| Parameter | Result | Qualifier | Reporting Limit | Dilution | Date Analyzed | Unit | Analytical Method | Analyst |
|---|---|---|---|---|---|---|---|---|
| Cyanide, Total | **0.30** | | 0.095 | 1 | 12/05/02 | mg/Kg | 9014 | DEB |

12/06/02 09:29

# Inorganics

Client: **Metcalf & Eddy**
Project: **DAS -Southwest properties, Woburn**
Case: **0209M** SDG: **D03603**
Client ID: **D03611** WB-6 (0-2)
Matrix: **Soil**
Percent Solid: **87.8**

Lab Code: **MA00030**
ETR: **0211137**
Lab ID: **0211137-01**
Date Collected: **11/25/02**
Date Received: **11/27/02**

| Parameter | Result | Qualifier | Reporting Limit | Dilution | Date Analyzed | Unit | Analytical Method | Analyst |
|---|---|---|---|---|---|---|---|---|
| Cyanide, Total | **0.19** | | 0.082 | 1 | 12/05/02 | mg/Kg | 9014 | DEB |

12/06/02 09:29

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# Inorganics

Client: **Metcalf & Eddy**
Project: **DAS -Southwest properties, Woburn**
Case: **0209M** SDG: **D03603**
Client ID: **D03617** WB-10 (0-2)
Matrix: **Soil**
Percent Solid: **82.0**

Lab Code: **MA00030**
ETR: **0211137**
Lab ID: **0211137-04**
Date Collected: **11/25/02**
Date Received: **11/27/02**

| Parameter | Result | Qualifier | Reporting Limit | Dilution | Date Analyzed | Unit | Analytical Method | Analyst |
|---|---|---|---|---|---|---|---|---|
| Cyanide, Total | **0.12** | | 0.086 | 1 | 12/05/02 | mg/Kg | 9014 | DEB |

12/06/02 09:29

# Inorganics

Client: **Metcalf & Eddy**
Project: **DAS -Southwest properties, Woburn**
Case: **0209M** SDG: **D03603**
Client ID: **D03620** WB-13 (0-2)
Matrix: **Soil**
Percent Solid: **84.4**

Lab Code: **MA00030**
ETR: **0212021**
Lab ID: **0212021-05**
Date Collected: **12/05/02**
Date Received: **12/06/02**

| Parameter | Result | Qualifier | Reporting Limit | Dilution | Date Analyzed | Unit | Analytical Method | Analyst |
|---|---|---|---|---|---|---|---|---|
| Cyanide, Total | **0.64** | | 0.097 | 1 | 12/14/02 | mg/Kg | 9014 | DEB |



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# Inorganics

Client: **Metcalf & Eddy**
Project: **DAS -Southwest properties, Woburn**
Case: **0209M** SDG: **D03603**
Client ID: **D03621 FD** MRE-12(0-0.5)
Matrix: **Soil**
Percent Solid: **31.6**

Lab Code: **MA00030**
ETR: **0212021**
Lab ID: **0212021-07**
Date Collected: **12/04/02**
Date Received: **12/06/02**

| Parameter | Result | Qualifier | Reporting Limit | Dilution | Date Analyzed | Unit | Analytical Method | Analyst |
|---|---|---|---|---|---|---|---|---|
| Cyanide, Total | **0.67** | | 0.25 | 1 | 12/14/02 | mg/Kg | 9014 | DEB |

12/17/02 13:36 49

# Inorganics

Client: **Metcalf & Eddy**
Project: **DAS -Southwest properties, Woburn**
Case: **0209M** SDG: **D03603**
Client ID: **D03604** AB15(0-2)
Matrix: **Soil**
Percent Solid: **89.9**

Lab Code: **MA00030**
ETR: **0211137**
Lab ID: **0211137-10**
Date Collected: **11/26/02**
Date Received: **11/27/02**

| Parameter | Result | Qualifier | Reporting Limit | Dilution | Date Analyzed | Unit | Analytical Method | Analyst |
|---|---|---|---|---|---|---|---|---|
| Cyanide, Total | 0.082 | U | 0.082 | 1 | 12/05/02 | mg/Kg | 9014 | DEB |

U - The analyte was analyzed for but not detected at the sample specific level reported.

12/06/02 09:29

# Inorganics

Client: **Metcalf & Eddy**
Project: **DAS -Southwest properties, Woburn**
Case: **0209M** SDG: **D03603**
Client ID: **D03603** AB-1410-2)
Matrix: **Soil**
Percent Solid: **89.8**

Lab Code: **MA00030**
ETR: **0211137**
Lab ID: **0211137-11**
Date Collected: **11/26/02**
Date Received: **11/27/02**

| Parameter | Result | Qualifier | Reporting Limit | Dilution | Date Analyzed | Unit | Analytical Method | Analyst |
|---|---|---|---|---|---|---|---|---|
| Cyanide, Total | 0.080 | U | 0.080 | 1 | 12/05/02 | mg/Kg | 9014 | DEB |

U - The analyte was analyzed for but not detected at the sample specific level reported.

12/06/02 09:29

# Inorganics

Client: **Metcalf & Eddy**
Project: **DAS -Southwest properties, Woburn**
Case: **0209M** SDG: **D03603**
Client ID: **D03615** WB8(0-2)
Matrix: **Soil**
Percent Solid: **61.5**

Lab Code: **MA00030**
ETR: **0211137**
Lab ID: **0211137-12**
Date Collected: **11/26/02**
Date Received: **11/27/02**

| Parameter | Result | Qualifier | Reporting Limit | Dilution | Date Analyzed | Unit | Analytical Method | Analyst |
|---|---|---|---|---|---|---|---|---|
| Cyanide, Total | **0.30** | | 0.12 | 1 | 12/05/02 | mg/Kg | 9014 | DEB |

12/06/02 09:29

1PCB-A
PCB SAMPLE DATA SUMMARY
HIGH RESOLUTION

EPA SAMPLE No.

D03613

Lab Name: PSC ANALYTICAL Contract: 68-W6-0042

Lab Code: PASCAN Case No.: 0209M T.O. No.: SDG No.: D03613 WD-7(0-2)

Matrix: (soil/water/ash/tissue/oil) SOIL Lab Sample ID: 079286X20

Sample wt/vol.: 9.988 (g/L) G Lab File ID: 29JAN_MET2101

Water Sample Prep.: NA (SEPF/SPE) Date Received: 11/27/02

Concentrated Extract Vol.: 100 (µL) Date Extracted: 12/2/2002

Injection Vol.: 1.0 (µL) % Solids/Lipids: 100.0 Date Analyzed: 1/29/2003

GC Column: SPB OCTYL 30M ID: 0.25 (mm) Dilution Factor: 20.0

CONCENTRATION UNITS: (ng/L or ng/g) NG/G

| TARGET ANALYTE | SELECTED IONS | PEAK RT | ION RATIO # | CONCENTRATION | Q | EMPC/EDL |
|---|---|---|---|---|---|---|
| PCB 81 | 292/290 | 24.950 | 0.67 | 0.095 | Y | |
| PCB 77 | 292/290 | 25.533 | 0.73 | 1.44 | Y | |
| PCB 123 | 326/328 | 27.067 | 1.39 | 0.939 | Y | |
| PCB 118 | 326/328 | 27.450 | 1.52 | 50.6 | Y | |
| PCB 114 | 326/328 | 27.967 | 1.60 | 0.992 | Y | |
| PCB 105 | 326/328 | 28.550 | 1.47 | 17.5 | Y | |
| PCB 126 | 326/328 | | | | U Y | 0.252 |
| PCB 167 | 360/362 | 33.117 | 1.16 | 6.07 | Y | |
| PCB 156/157 | 360/362 | 34.250 | 1.19 | 19.8 | ~~X~~ Y | |
| PCB 169 | 360/362 | | | | U Y | 0.76 |
| PCB 193/180 | 394/396 | 35.633 | 1.06 | 632 | ~~P~~ Y | |
| PCB 170 | 394/396 | 36.917 | 1.04 | 230 | Y | |
| PCB 189 | 394/396 | 40.117 | 1.09 | 5.71 | Y | |

NOTE: Concentrations, Estimated Maximum Possible Concentrations (EMPCs), and Estimated Detection Levels (EDLs) for solid samples are calculated on a dry weight basis (except tissues, which are reported on a wet weight basis with % Lipids).

# - Column to be used to flag values outside QC limits with asterisk (*)

**Q Flags**

X = Analyte Not Detected due to Incorrect Isotope Ratio

Y = May be some contribution due to co-eluting isomers

CB TEQ Calculations for HRMS

EPA ID #: D03613 WB-7(0-2)

PSC ID #: 079286x20

Analyte: PCB

Units: ng/g

| Congener | TEF Humans/mammals | TEF Fish | TEF Birds | Concentration | TEQ Humans/mammals | TEQ Fish | TEQ Birds |
|---|---|---|---|---|---|---|---|
| PCB 77 | 0.0001 | 0.0001 | 0.05 | 1.44 | 0.0001440 | 0.000144000 | 0.0720000 |
| PCB 81 | 0.0001 | 0.0005 | 0.1 | 0.095 | 0.0000095 | 0.000047500 | 0.0095000 |
| PCB 105 | 0.0001 | <0.000005 | 0.0001 | 17.5 | 0.0017500 | <0.000087500 | 0.0017500 |
| PCB 114 | 0.0005 | <0.000005 | 0.0001 | 0.992 | 0.0004960 | <0.000004960 | 0.0000992 |
| PCB 118 | 0.0001 | <0.000005 | 0.00001 | 50.6 | 0.0050600 | <0.000253 | 0.0005060 |
| PCB 123 | 0.0001 | <0.000005 | 0.00001 | 0.939 | 0.0000939 | <0.000004695 | 0.0000094 |
| PCB 126 | 0.1 | 0.005 | 0.1 | | 0.0000000 | 0.000000000 | 0.0000000 |
| PCB 156/157 | 0.0005 | <0.000005 | 0.0001 | 19.8 | 0.0099000 | <0.000099000 | 0.0019800 |
| PCB 167 | 0.00001 | <0.000005 | 0.00001 | 6.07 | 0.0000607 | <0.000030350 | 0.0000607 |
| PCB 169 | 0.01 | 0.00005 | 0.001 | | 0.0000000 | 0.000000000 | 0.0000000 |
| PCB 170 (1994 WHO factor) | 0.0001 | - | - | 230 | 0.0230000 | - | - |
| PCB 193/180 (1994 WHO factor) | 0.00001 | - | - | 632 | 0.0063200 | - | - |
| PCB 189 | 0.0001 | <0.000005 | 0.00001 | 5.7 | 0.0005700 | <0.000028500 | 0.0000570 |
| **Including 170, 193/180** | | | | | **0.04740410** | **NA** | **NA** |
| **Not including 170, 193/180** | | | | | **0.01808410** J | | **0.08596229** J |

Repost

PSC Analytical Services

1PCB-A
PCB SAMPLE DATA SUMMARY
HIGH RESOLUTION

EPA SAMPLE No.

D03617

Lab Name: PSC ANALYTICAL Contract: 68-W6-0042

Lab Code: PASCAN Case No.: 0209M T.O. No.: SDG No.: D03613 WB-10(0-2)

Matrix: (soil/water/ash/tissue/oil) SOIL Lab Sample ID: 079287X20

Sample wt/vol.: 9.635 (g/L) G Lab File ID: 29JAN_MET21109

Water Sample Prep.: NA (SEPF/SPE) Date Received: 11/27/02

Concentrated Extract Vol.: 100 (µL) Date Extracted: 12/2/2002

Injection Vol.: 1.0 (µL) % Solids/Lipids: 100.0 Date Analyzed: 1/29/2003

GC Column: SPB OCTYL 30M ID: 0.25 (mm) Dilution Factor: 20.0

CONCENTRATION UNITS: (ng/L or ng/g) NG/G

| TARGET ANALYTE | SELECTED IONS | PEAK RT | ION RATIO # | CONCENTRATION | Q | EMPC/EDL |
|---|---|---|---|---|---|---|
| PCB 81 | 292/290 | | | | U J | 0.447 |
| PCB 77 | 292/290 | 25.533 | 0.68 | 2.92 | J | |
| PCB 123 | 326/328 | 27.083 | 1.61 | 3.76 | J | |
| PCB 118 | 326/328 | 27.467 | 1.50 | 190 | J | |
| PCB 114 | 326/328 | 27.967 | 1.59 | 4.02 | J | |
| PCB 105 | 326/328 | 28.550 | 1.50 | 82.7 | J | |
| PCB 126 | 326/328 | | | | U J | 0.255 |
| PCB 167 | 360/362 | 33.133 | 1.20 | 11 | J | |
| PCB 156/157 | 360/362 | 34.267 | 1.25 | 30.8 | ~~X~~ J | |
| PCB 169 | 360/362 | | | | U J | 0.321 |
| PCB 193/180 | 394/396 | 35.633 | 1.03 | 252 | ~~DY~~ J | |
| PCB 170 | 394/396 | 36.933 | 1.02 | 98.8 | J | |
| PCB 189 | 394/396 | 40.133 | 1.02 | 2.33 | J | |

NOTE: Concentrations, Estimated Maximum Possible Concentrations (EMPCs), and Estimated Detection Levels (EDLs) for solid samples are calculated on a dry weight basis (except tissues, which are reported on a wet weight basis with % Lipids).

# - Column to be used to flag values outside QC limits with asterisk (*)

**Q Flags**

X = Analyte Not Detected due to Incorrect Isotope Ratio

Y = May be some contribution due to co-eluting isomers

EPA ID #: D03617 WB-10 (0-2)

PSC ID #: 079287x20

Analyte: PCB

Units: ng/g

| Congener | TEF Humans/mammals | TEF Fish | TEF Birds | Concentration | TEQ Humans/mammals | TEQ Fish | TEQ Birds |
|---|---|---|---|---|---|---|---|
| PCB 77 | 0.0001 | 0.0001 | 0.05 | 2.92 | 0.0002920 | 0.000292000 | 0.1460000 |
| PCB 81 | 0.0001 | 0.0005 | 0.1 | | 0.0000000 | 0.000000000 | 0.0000000 |
| PCB 105 | 0.0001 | <0.000005 | 0.0001 | 82.7 | 0.0082700 | <0.0004135 | 0.0082700 |
| PCB 114 | 0.0005 | <0.000005 | 0.0001 | 4.02 | 0.0020100 | <0.0000201 | 0.0004020 |
| PCB 118 | 0.0001 | <0.000005 | 0.00001 | 190 | 0.0190000 | <0.00095 | 0.0019000 |
| PCB 123 | 0.0001 | <0.000005 | 0.00001 | 3.76 | 0.0003760 | <0.0000188 | 0.0000376 |
| PCB 126 | 0.1 | 0.005 | 0.1 | | 0.0000000 | 0.000000000 | 0.0000000 |
| PCB 156/157 | 0.0005 | <0.000005 | 0.0001 | 30.8 | 0.0154000 | <0.000154 | 0.0030800 |
| PCB 167 | 0.00001 | <0.000005 | 0.00001 | 11 | 0.0001100 | <0.000055 | 0.0001100 |
| PCB 169 | 0.01 | 0.00005 | 0.001 | | 0.0000000 | 0.000000000 | 0.0000000 |
| PCB 170 (1994 WHO factor) | 0.0001 | - | - | 98.8 | 0.0098800 | - | - |
| PCB 193/180 (1994 WHO factor) | 0.00001 | - | - | 252 | 0.0025200 | - | - |
| PCB 189 | 0.0001 | <0.000005 | 0.00001 | 2.33 | 0.0002330 | <0.00001165 | 0.0000233 |
| **Including 170, 193/180** | | | | | **0.05809100** | **NA** | **NA** |
| **Not including 170, 193/180** | | | | Report | **0.04569100** J | | **0.15982290** J |

1PCB-A
PCB SAMPLE DATA SUMMARY
HIGH RESOLUTION

EPA SAMPLE No.

D03601

Lab Name: PSC ANALYTICAL Contract: 68-W6-0042

Lab Code: PASCAN Case No.: 0209M T.O. No.: SDG No.: D03613

AB-13(0-2)

Matrix: (soil/water/ash/tissue/oil) SOIL Lab Sample ID: 81335

Sample wt/vol.: 12.543 (g/mL) G Lab File ID: 29JAN_MET061

Water Sample Prep.: NA (SEPF/SPE) Date Received: 12/5/2002

Concentrated Extract Vol.: 100 (µL) Date Extracted: 12/11/02

Injection Vol.: 1.0 (µL) % Solids/Lipids: 78.1 Date Analyzed: 1/29/2003

GC Column: SPB OCTYL 30M ID: 0.25 (mm) Dilution Factor: 1.0

CONCENTRATION UNITS: (ng/L or ng/g) NG/G

| TARGET ANALYTE | SELECTED IONS | PEAK RT | ION RATIO # | CONCENTRATION | Q | EMPC/EDL |
|---|---|---|---|---|---|---|
| PCB 81 | 292/290 | | | | U J | 0.0143 |
| PCB 77 | 292/290 | 25.717 | 0.66 | 0.023 | J | |
| PCB 123 | 326/328 | 27.283 | 1.37 | 0.0544 | J | |
| PCB 118 | 326/328 | 27.683 | 1.44 | 1.21 | ~~P~~ J | |
| PCB 114 | 326/328 | | | | U J | 0.0282 |
| PCB 105 | 326/328 | 28.767 | 1.44 | 0.638 | J | |
| PCB 126 | 326/328 | | | | U J | 0.0287 |
| PCB 167 | 360/362 | 33.400 | 1.16 | 0.239 | J | |
| PCB 156/157 | 360/362 | 34.533 | 1.17 | 0.56 | ~~X~~ J | |
| PCB 169 | 360/362 | | | | U J | 0.0171 |
| PCB 193/180 | 394/396 | 35.917 | 1.04 | 1.75 | ~~PY~~ J | |
| PCB 170 | 394/396 | 37.200 | 1.04 | 1.16 | ~~P~~ J | |
| PCB 189 | 394/396 | 40.450 | 1.03 | 0.0312 | J | |
| | | | | | | |

NOTE: Concentrations, Estimated Maximum Possible Concentrations (EMPCs), and Estimated Detection Levels (EDLs) for solid samples are calculated on a dry weight basis (except tissues, which are reported on a wet weight basis with % Lipids).

# - Column to be used to flag values outside QC limits with asterisk (*)

**Q Flags**

X = Analyte Not Detected due to Incorrect Isotope Ratio

Y = May be some contribution due to co-eluting isomers

EPA ID #: D03601 AB-13(0-2)

PSC ID #: 81335

Analyte: PCB
Units: ng/g

| Congener | TEF Humans/mammals | TEF Fish | TEF Birds | Concentration | TEQ Humans/mammals | TEQ Fish | TEQ Birds |
|---|---|---|---|---|---|---|---|
| PCB 77 | 0.0001 | 0.0001 | 0.05 | 0.023 | 0.0000023 | 0.000002300 | 0.0011500 |
| PCB 81 | 0.0001 | 0.0005 | 0.1 | | 0.0000000 | 0.000000000 | 0.0000000 |
| PCB 105 | 0.0001 | <0.000005 | 0.0001 | 0.638 | 0.0000638 | <0.00000319 | 0.0000638 |
| PCB 114 | 0.0005 | <0.000005 | 0.0001 | | 0.0000000 | 0.000000000 | 0.0000000 |
| PCB 118 | 0.0001 | <0.000005 | 0.00001 | 1.21 | 0.0001210 | <0.00000605 | 0.0000121 |
| PCB 123 | 0.0001 | <0.000005 | 0.00001 | 0.0544 | 0.0000054 | <0.000000272 | 0.0000005 |
| PCB 126 | 0.1 | 0.005 | 0.1 | | 0.0000000 | 0.000000000 | 0.0000000 |
| PCB 156/157 | 0.0005 | <0.000005 | 0.0001 | 0.56 | 0.0002800 | <0.0000028 | 0.0000560 |
| PCB 167 | 0.00001 | <0.000005 | 0.00001 | 0.239 | 0.0000024 | <0.000001195 | 0.0000024 |
| PCB 169 | 0.01 | 0.00005 | 0.001 | | 0.0000000 | 0.000000000 | 0.0000000 |
| PCB 170 (1994 WHO factor) | 0.0001 | - | - | 1.16 | 0.0001160 | - | - |
| PCB 193/180 (1994 WHO factor) | 0.00001 | - | - | 1.75 | 0.0000175 | - | - |
| PCB 189 | 0.0001 | <0.000005 | 0.00001 | 0.0312 | 0.0000031 | <0.000000156 | 0.0000003 |
| Including 170, 193/180 | | | | | 0.00061155 | NA | NA |
| Not including 170, 193/180 | | | | | 0.00047805 | | 0.00128515 |

** Report

1PCB-A
PCB SAMPLE DATA SUMMARY
HIGH RESOLUTION

EPA SAMPLE No.

D03602

Lab Name: PSC ANALYTICAL Contract: 68-W6-0042

Lab Code: PASCAN Case No.: 0209M T.O. No.: SDG No.: D03613 AB-13(5-7)

Matrix: (soil/water/ash/tissue/oil) SOIL Lab Sample ID: 81336

Sample wt/vol.: 13.4601 (g/mL) G Lab File ID: 29JAN_MET071

Water Sample Prep.: NA (SEPF/SPE) Date Received: 12/5/2002

Concentrated Extract Vol.: 100 (µL) Date Extracted: 12/11/02

Injection Vol.: 1.0 (µL) % Solids/Lipids: 74.8 Date Analyzed: 1/29/2003

GC Column: SPB OCTYL 30M ID: 0.25 (mm) Dilution Factor: 1.0

CONCENTRATION UNITS: (ng/L or ng/g) NG/G

| TARGET ANALYTE | SELECTED IONS | PEAK RT | ION RATIO # | CONCENTRATION | Q | EMPC/EDL |
|---|---|---|---|---|---|---|
| PCB 81 | 292/290 | | | | U 5 | 0.0185 |
| PCB 77 | 292/290 | 25.583 | 0.74 | 0.224 | 5 | |
| PCB 123 | 326/328 | 27.250 | 1.53 | 0.121 | 5 | |
| PCB 118 | 326/328 | 27.550 | 1.47 | 8.75 | ~~B~~ 5 | |
| PCB 114 | 326/328 | 28.033 | 1.43 | 0.14 | 5 | |
| PCB 105 | 326/328 | 28.600 | 1.39 | 3.1 | 5 | |
| PCB 126 | 326/328 | 31.583 | 1.38 | 0.0548 | 5 | |
| PCB 167 | 360/362 | 33.183 | 1.08 | 0.587 | 5 | |
| PCB 156/157 | 360/362 | 34.333 | 1.10 | 1.73 | ~~Y~~ 5 | |
| PCB 169 | 360/362 | | | | U 5 | ~~0.00838~~ 0.00993 |
| PCB 193/180 | 394/396 | 35.700 | 1.04 | 6.52 | ~~BY~~ 5 | |
| PCB 170 | 394/396 | 36.983 | 1.03 | 3.73 | ~~B~~ 5 | |
| PCB 189 | 394/396 | 40.183 | 1.06 | 0.111 | 5 | |
| | | | | | | |

NOTE: Concentrations, Estimated Maximum Possible Concentrations (EMPCs), and Estimated Detection Levels (EDLs) for solid samples are calculated on a dry weight basis (except tissues, which are reported on a wet weight basis with % Lipids).

# - Column to be used to flag values outside QC limits with asterisk (*)

**Q Flags**

X = Analyte Not Detected due to Incorrect Isotope Ratio

Y = May be some contribution due to co-eluting isomers

EPA ID #: D03602 AB-13(5-7)

PSC ID #: 81336

Analyte: PCB
Units: ng/g

| Congener | TEF Humans/mammals | TEF Fish | TEF Birds | Concentration | TEQ Humans/mammals | TEQ Fish | TEQ Birds |
|---|---|---|---|---|---|---|---|
| PCB 77 | 0.0001 | 0.0001 | 0.05 | 0.224 | 0.0000224 | 0.000022400 | 0.0112000 |
| PCB 81 | 0.0001 | 0.0005 | 0.1 | | 0.0000000 | 0.000000000 | 0.0000000 |
| PCB 105 | 0.0001 | <0.000005 | 0.0001 | 3.1 | 0.0003100 | <0.0000155 | 0.0003100 |
| PCB 114 | 0.0005 | <0.000005 | 0.0001 | 0.14 | 0.0000700 | <0.0000007 | 0.0000140 |
| PCB 118 | 0.0001 | <0.000005 | 0.00001 | 8.75 | 0.0008750 | <0.00004375 | 0.0000875 |
| PCB 123 | 0.0001 | <0.000005 | 0.00001 | 0.121 | 0.0000121 | <0.000000605 | 0.0000012 |
| PCB 126 | 0.1 | 0.005 | 0.1 | 0.0548 | 0.0054800 | 0.000274000 | 0.0054800 |
| PCB 156/157 | 0.0005 | <0.000005 | 0.0001 | 1.73 | 0.0008650 | <0.00000865 | 0.0001730 |
| PCB 167 | 0.00001 | <0.000005 | 0.00001 | 0.587 | 0.0000059 | <0.000002935 | 0.0000059 |
| PCB 169 | 0.01 | 0.00005 | 0.001 | | 0.0000000 | 0.000000000 | 0.0000000 |
| PCB 170 (1994 WHO factor) | 0.0001 | - | - | 3.73 | 0.0003730 | - | - |
| PCB 193/180 (1994 WHO factor) | 0.00001 | - | - | 6.52 | 0.0000652 | - | - |
| PCB 189 | 0.0001 | <0.000005 | 0.00001 | 0.111 | 0.0000111 | <0.000000555 | 0.0000011 |
| **Including 170, 193/180** | | | | | **0.00808967** | **NA** | **NA** |
| **Not including 170, 193/180** | | | | | **0.00765147** | | **0.01727269** |

Report

1PCB-A
PCB SAMPLE DATA SUMMARY
HIGH RESOLUTION

EPA SAMPLE No.

D03609

Lab Name: PSC ANALYTICAL Contract: 68-W6-0042

Lab Code: PASCAN Case No.: 0209M T.O. No.: SDG No.: D03613 HR-11(0.75-1.75)

Matrix: (soil/water/ash/tissue/oil) SOIL Lab Sample ID: 81337x10

Sample wt/vol.: 2.4366 (g/L) G Lab File ID: 10FEB_MET091

Water Sample Prep.: NA (SEPF/SPE) Date Received: 12/5/2002

Concentrated Extract Vol.: 100 (µL) Date Extracted: 2/3/2003

Injection Vol.: 1.0 (µL) % Solids/Lipids: 56.6 Date Analyzed: 2/10/2003

GC Column: SPB OCTYL 30M ID: 0.25 (mm) Dilution Factor: 10.0

CONCENTRATION UNITS: (ng/L or ng/g) NG/G

| TARGET ANALYTE | SELECTED IONS | PEAK RT | ION RATIO # | CONCENTRATION | Q | EMPC/EDL |
|---|---|---|---|---|---|---|
| PCB 81 | 292/290 | | | | U | 1.01 |
| PCB 77 | 292/290 | 25.450 | 0.81 | 17 | | |
| PCB 123 | 326/328 | 26.983 | 1.60 | 11.3 | | |
| PCB 118 | 326/328 | 27.383 | 1.61 | 594 | | |
| PCB 114 | 326/328 | 27.883 | 1.65 | 13 | | |
| PCB 105 | 326/328 | 28.467 | 1.61 | 253 | | |
| PCB 126 | 326/328 | | | | U | 2.58 |
| PCB 167 | 360/362 | 33.067 | 1.31 | 32 | | |
| PCB 156/157 | 360/362 | 34.217 | 1.30 | 105 | X | |
| PCB 169 | 360/362 | | | | U | 0.96 |
| PCB 193/180 | 394/396 | 35.583 | 1.04 | 216 | X | |
| PCB 170 | 394/396 | 36.867 | 1.02 | 105 | | |
| PCB 189 | 394/396 | 40.117 | 1.19 | 4.04 | | |
| | | | | | | |

NOTE: Concentrations, Estimated Maximum Possible Concentrations (EMPCs), and Estimated Detection Levels (EDLs) for solid samples are calculated on a dry weight basis (except tissues, which are reported on a wet weight basis with % Lipids).

# - Column to be used to flag values outside QC limits with asterisk (*)

**Q Flags**

X = Analyte Not Detected due to Incorrect Isotope Ratio

Y = May be some contribution due to co-eluting isomers

EPA ID #: D03609 MR-11 (@ 75-1.75)

PSC ID #: 81337x10

Analyte: PCB

Units: ng/g

| Congener | TEF Humans/mammals | TEF Fish | TEF Birds | Concentration | TEQ Humans/mammals | TEQ Fish | TEQ Birds |
|---|---|---|---|---|---|---|---|
| PCB 77 | 0.0001 | 0.0001 | 0.05 | 17 | 0.0017000 | 0.001700000 | 0.8500000 |
| PCB 81 | 0.0001 | 0.0005 | 0.1 | | 0.0000000 | 0.000000000 | 0.0000000 |
| PCB 105 | 0.0001 | <0.000005 | 0.0001 | 253 | 0.0253000 | <0.001265 | 0.0253000 |
| PCB 114 | 0.0005 | <0.000005 | 0.0001 | 13 | 0.0065000 | <0.000065 | 0.0013000 |
| PCB 118 | 0.0001 | <0.000005 | 0.00001 | 594 | 0.0594000 | <0.00297 | 0.0059400 |
| PCB 123 | 0.0001 | <0.000005 | 0.00001 | 11.3 | 0.0011300 | <0.0000565 | 0.0001130 |
| PCB 126 | 0.1 | 0.005 | 0.1 | | 0.0000000 | 0.000000000 | 0.0000000 |
| PCB 156/157 | 0.0005 | <0.000005 | 0.0001 | 105 | 0.0525000 | <0.000525 | 0.0105000 |
| PCB 167 | 0.00001 | <0.000005 | 0.00001 | 32 | 0.0003200 | <0.00016 | 0.0003200 |
| PCB 169 | 0.01 | 0.00005 | 0.001 | | 0.0000000 | 0.000000000 | 0.0000000 |
| PCB 170 (1994 WHO factor) | 0.0001 | - | - | 105 | 0.0105000 | - | - |
| PCB 193/180 (1994 WHO factor) | 0.00001 | - | - | 216 | 0.0021600 | - | - |
| PCB 189 | 0.0001 | <0.000005 | 0.00001 | 4.04 | 0.0004040 | <0.0000202 | 0.0000404 |
| **Including 170, 193/180** | | | | | **0.15991400** | **NA** | **NA** |
| **Not including 170, 193/180** | | | | | **0.14725400** | | **0.89351340** |

Data Report

1PCB-A
PCB SAMPLE DATA SUMMARY
HIGH RESOLUTION

EPA SAMPLE No.

D03600

Lab Name: PSC ANALYTICAL Contract: 68-W6-0042

Lab Code: PASCAN Case No.: 0209M T.O. No.: SDG No.: D03613 MR-11 (0-0.5)

Matrix: (soil/water/ash/tissue/oil) SOIL Lab Sample ID: 80856

Sample wt/vol.: 2.6281 (g/L) G Lab File ID: 07MAR_MET2111

Water Sample Prep.: NA (SEPF/SPE) Date Received: 12/4/2002

Concentrated Extract Vol.: 100 (µL) Date Extracted: 2/20/2003

Injection Vol.: 1.0 (µL) % Solids/Lipids: 56.3 Date Analyzed: 3/8/2003

GC Column: SPB OCTYL 30M ID: 0.25 (mm) Dilution Factor: 1.0

CONCENTRATION UNITS: (ng/L or ng/g) NG/G

| TARGET ANALYTE | SELECTED IONS | PEAK RT | ION RATIO # | CONCENTRATION | Q | EMPC/EDL |
|---|---|---|---|---|---|---|
| PCB 81 | 292/290 | | | | U | ~~0.558~~ 0.676 |
| PCB 77 | 292/290 | 25.050 | 0.88 | 4.34 | | |
| PCB 123 | 326/328 | 26.550 | 1.62 | 3.08 | | |
| PCB 118 | 326/328 | 26.933 | 1.55 | 148 | | |
| PCB 114 | 326/328 | 27.417 | 1.67 | 2.28 | | |
| PCB 105 | 326/328 | 28.000 | 1.59 | 52.8 | | |
| PCB 126 | 326/328 | 30.800 | 1.59 | 0.849 | | |
| PCB 167 | 360/362 | 32.500 | 1.19 | 8.32 | | |
| PCB 156/157 | 360/362 | 33.633 | 1.27 | 23 | ~~X~~ | |
| PCB 169 | 360/362 | | | | U | ~~0.504~~ 0.676 |
| PCB 193/180 | 394/396 | 34.983 | 1.03 | 64.1 | ~~X~~Y | |
| CB 170 | 394/396 | 36.283 | 1.06 | 35.6 | | |
| CB 189 | 394/396 | 39.467 | 1.16 | 1.36 | | |

NOTE: Concentrations, Estimated Maximum Possible Concentrations (EMPCs), and Estimated Detection Levels (EDLs) for solid samples are calculated on a dry weight basis (except tissues, which are reported on a wet weight basis with % Lipids).

# Column to be used to flag values outside QC limits with asterisk*

**Q Flags**

X = Analyte Not Detected due to Incorrect Isotope Ratio

Y = May be some contribution due to co-eluting isomers

FORM I-HR PCB-A 21/01/2003 ea

EPA ID #: D03600 MR-11 (0-0.5)

PSC ID #: 80856

Analyte: PCB

Units: ng/g

| Congener | TEF Humans/mammals | TEF Fish | TEF Birds | Concentration | TEQ Humans/mammals | TEQ Fish | TEQ Birds |
|---|---|---|---|---|---|---|---|
| PCB 77 | 0.0001 | 0.0001 | 0.05 | 4.34 | 0.0004340 | 0.000434000 | 0.2170000 |
| PCB 81 | 0.0001 | 0.0005 | 0.1 | | 0.0000000 | 0.000000000 | 0.0000000 |
| PCB 105 | 0.0001 | <0.000005 | 0.0001 | 52.8 | 0.0052800 | <0.000264 | 0.0052800 |
| PCB 114 | 0.0005 | <0.000005 | 0.0001 | 2.28 | 0.0011400 | <0.0000114 | 0.0002280 |
| PCB 118 | 0.0001 | <0.000005 | 0.00001 | 148 | 0.0148000 | <0.00074 | 0.0014800 |
| PCB 123 | 0.0001 | <0.000005 | 0.00001 | 3.08 | 0.0003080 | <0.0000154 | 0.0000308 |
| PCB 126 | 0.1 | 0.005 | 0.1 | 0.849 | 0.0849000 | 0.004245000 | 0.0849000 |
| PCB 156/157 | 0.0005 | <0.000005 | 0.0001 | 23 | 0.0115000 | <0.000115 | 0.0023000 |
| PCB 167 | 0.00001 | <0.000005 | 0.00001 | 8.32 | 0.0000832 | <0.0000416 | 0.0000832 |
| PCB 169 | 0.01 | 0.00005 | 0.001 | | 0.0000000 | 0.000000000 | 0.0000000 |
| PCB 170 (1994 WHO factor) | 0.0001 | - | - | 35.6 | 0.0035600 | - | - |
| PCB 193/180 (1994 WHO factor) | 0.00001 | - | - | 64.1 | 0.0006410 | - | - |
| PCB 189 | 0.0001 | <0.000005 | 0.00001 | 1.36 | 0.0001360 | <0.0000068 | 0.0000136 |
| **Including 170, 193/180** | | | | | **0.12278220** | **NA** | **NA** |
| **Not including 170, 193/180** | | | | | **0.11858120** | | **0.31131560** |

Report ##

1PCB-A
PCB SAMPLE DATA SUMMARY
HIGH RESOLUTION

EPA SAMPLE No.

D03610

Lab Name: PSC ANALYTICAL Contract: 68-W6-0042

Lab Code: PASCAN Case No.: 0209M T.O. No.: SDG No.: D03613 MR-12 (0-0.5)

Matrix: (soil/water/ash/tissue/oil) SOIL Lab Sample ID: 81339

Sample wt/vol.: 5.5369 (g/L) G Lab File ID: 07MAR_MET2081

Water Sample Prep.: NA (SEPF/SPE) Date Received: 12/5/2002

Concentrated Extract Vol.: 100 (µL) Date Extracted: 3/4/2003

Injection Vol.: 1.0 (µL) % Solids/Lipids: 69.8 Date Analyzed: 3/8/2003

GC Column: SPB OCTYL 30M ID: 0.25 (mm) Dilution Factor: 1.0

CONCENTRATION UNITS: (ng/L or ng/g) NG/G

| TARGET ANALYTE | SELECTED IONS | PEAK RT | ION RATIO # | CONCENTRATION | Q | EMPC/EDL |
|---|---|---|---|---|---|---|
| PCB 81 | 292/290 | | | | U | 0.0608 |
| PCB 77 | 292/290 | 25.033 | 0.77 | 1.79 | | |
| PCB 123 | 326/328 | 26.650 | 1.70 | 0.649 | | |
| PCB 118 | 326/328 | 26.917 | 1.58 | 26.5 | ~~B~~ | |
| PCB 114 | 326/328 | 27.400 | 1.65 | 0.332 | | |
| PCB 105 | 326/328 | 27.983 | 1.55 | 9.52 | | |
| PCB 126 | 326/328 | 30.800 | 1.61 | 0.294 | | |
| PCB 167 | 360/362 | 32.500 | 1.27 | 2.64 | | |
| PCB 156/157 | 360/362 | 33.633 | 1.22 | 5.13 | ~~Y~~ | |
| PCB 169 | 360/362 | | | | U | 0.131 |
| PCB 193/180 | 394/396 | 34.983 | 1.04 | 30.8 | ~~BY~~ | |
| PCB 170 | 394/396 | 36.283 | 1.08 | 15.8 | ~~B~~ | |
| PCB 189 | 394/396 | 39.450 | 1.08 | 0.565 | | |
| | | | | | | |

NOTE: Concentrations, Estimated Maximum Possible Concentrations (EMPCs), and Estimated Detection Levels (EDLs) for solid samples are calculated on a dry weight basis (except tissues, which are reported on a wet weight basis with % Lipids).

# - Column to be used to flag values outside QC limits with asterisk

**Q Flags**

X = Analyte Not Detected due to Incorrect Isotope Ratio

Y = May be some contribution due to co-eluting isomers

EPA ID #: D03610_freeze-dried MR-12(0-0.5)

PSC ID #: 81339

Analyte: PCB

Units: ng/g

| Congener | TEF Humans/mammals | TEF Fish | TEF Birds | Concentration | TEQ Humans/mammals | TEQ Fish | TEQ Birds |
|---|---|---|---|---|---|---|---|
| PCB 77 | 0.0001 | 0.0001 | 0.05 | 1.79 | 0.0001790 | 0.000179000 | 0.0895000 |
| PCB 81 | 0.0001 | 0.0005 | 0.1 | | 0.0000000 | 0.000000000 | 0.0000000 |
| PCB 105 | 0.0001 | <0.000005 | 0.0001 | 9.52 | 0.0009520 | <0.0000476 | 0.0009520 |
| PCB 114 | 0.0005 | <0.000005 | 0.0001 | 0.332 | 0.0001660 | <0.00000166 | 0.0000332 |
| PCB 118 | 0.0001 | <0.000005 | 0.00001 | 26.5 | 0.0026500 | <0.0001325 | 0.0002650 |
| PCB 123 | 0.0001 | <0.000005 | 0.00001 | 0.649 | 0.0000649 | <0.000003245 | 0.0000065 |
| PCB 126 | 0.1 | 0.005 | 0.1 | 0.294 | 0.0294000 | 0.001470000 | 0.0294000 |
| PCB 156/157 | 0.0005 | <0.000005 | 0.0001 | 5.13 | 0.0025650 | <0.00002565 | 0.0005130 |
| PCB 167 | 0.00001 | <0.000005 | 0.00001 | 2.64 | 0.0000264 | <0.0000132 | 0.0000264 |
| PCB 169 | 0.01 | 0.00005 | 0.001 | | 0.0000000 | 0.000000000 | 0.0000000 |
| PCB 170 (1994 WHO factor) | 0.0001 | - | - | 15.8 | 0.0015800 | - | - |
| PCB 193/180 (1994 WHO factor) | 0.00001 | - | - | 30.8 | 0.0003080 | - | - |
| PCB 189 | 0.0001 | <0.000005 | 0.00001 | 0.565 | 0.0000565 | <0.000002825 | 0.0000057 |
| Including 170, 193/180 | | | | | 0.03794780 | NA | NA |
| Not including 170, 193/180 | | | | | 0.03605980 | | 0.12070174 |

Report #

1PCB-A
PCB SAMPLE DATA SUMMARY
HIGH RESOLUTION

EPA SAMPLE No.

D03621

Lab Name: PSC ANALYTICAL Contract: 68-W6-0042

Lab Code: PASCAN Case No.: 0209M T.O. No.: SDG No.: D03613 HRE-12(0-05)

Matrix: (soil/water/ash/tissue/oil) SOIL Lab Sample ID: 81340

Sample wt/vol.: 5.8284 (g/L) G Lab File ID: 07MAR_MET2091

Water Sample Prep.: NA (SEPF/SPE) Date Received: 12/5/2002

Concentrated Extract Vol.: 100 (µL) Date Extracted: 3/4/2003

Injection Vol.: 1.0 (µL) % Solids/Lipids: 73.7 Date Analyzed: 3/8/2003

GC Column: SPB OCTYL 30M ID: 0.25 (mm) Dilution Factor: 1.0

CONCENTRATION UNITS: (ng/L or ng/g) NG/G

| TARGET ANALYTE | SELECTED IONS | PEAK RT | ION RATIO # | CONCENTRATION | Q | EMPC/EDL |
|---|---|---|---|---|---|---|
| PCB 81 | 292/290 | | | | U | 0.0795 |
| PCB 77 | 292/290 | 25.033 | 0.76 | 2.10 | | |
| PCB 123 | 326/328 | 26.533 | 1.67 | 0.789 | | |
| PCB 118 | 326/328 | 26.933 | 1.54 | 34.6 | ~~Y~~ | |
| PCB 114 | 326/328 | NotFnd | 1.66 | 0.326 | | |
| PCB 105 | 326/328 | 28.000 | 1.55 | 12.0 | | |
| PCB 126 | 326/328 | 30.783 | 1.53 | 0.333 | | |
| PCB 167 | 360/362 | 32.500 | 1.22 | 3.26 | | |
| PCB 156/157 | 360/362 | 33.650 | 1.25 | 6.42 | ~~X~~ | |
| PCB 169 | 360/362 | | | | U | 0.283 |
| PCB 193/180 | 394/396 | 34.983 | 1.03 | 35.4 | ~~BY~~ | |
| PCB 170 | 394/396 | 36.267 | 1.08 | 18.2 | ~~B~~ | |
| PCB 189 | 394/396 | 39.467 | 1.10 | 0.669 | | |

NOTE: Concentrations, Estimated Maximum Possible Concentrations (EMPCs), and Estimated Detection Levels (EDLs) for solid samples are calculated on a dry weight basis (except tissues, which are reported on a wet weight basis with % Lipids).

# - Column to be used to flag values outside QC limits with asterisk

**Q Flags**

X = Analyte Not Detected due to Incorrect Isotope Ratio

Y = May be some contribution due to co-eluting isomers

EPA ID #: D03621_freeze-dried MRE-12(0-0.5)

PSC ID #: 81340

Analyte: PCB

Units: ng/g

| Congener | TEF Humans/mammals | TEF Fish | TEF Birds | Concentration | TEQ Humans/mammals | TEQ Fish | TEQ Birds |
|---|---|---|---|---|---|---|---|
| PCB 77 | 0.0001 | 0.0001 | 0.05 | 2.1 | 0.0002100 | 0.000210000 | 0.1050000 |
| PCB 81 | 0.0001 | 0.0005 | 0.1 | | 0.0000000 | 0.000000000 | 0.0000000 |
| PCB 105 | 0.0001 | <0.000005 | 0.0001 | 12 | 0.0012000 | <0.00006 | 0.0012000 |
| PCB 114 | 0.0005 | <0.000005 | 0.0001 | 0.326 | 0.0001630 | <0.00000163 | 0.0000326 |
| PCB 118 | 0.0001 | <0.000005 | 0.00001 | 34.6 | 0.0034600 | <0.000173 | 0.0003460 |
| PCB 123 | 0.0001 | <0.000005 | 0.00001 | 0.789 | 0.0000789 | <0.000003945 | 0.0000079 |
| PCB 126 | 0.1 | 0.005 | 0.1 | 0.333 | 0.0333000 | 0.001665000 | 0.0333000 |
| PCB 156/157 | 0.0005 | <0.000005 | 0.0001 | 6.42 | 0.0032100 | <0.0000321 | 0.0006420 |
| PCB 167 | 0.00001 | <0.000005 | 0.00001 | 3.26 | 0.0000326 | <0.0000163 | 0.0000326 |
| PCB 169 | 0.01 | 0.00005 | 0.001 | | 0.0000000 | 0.000000000 | 0.0000000 |
| PCB 170 (1994 WHO factor) | 0.0001 | - | - | 18.2 | 0.0018200 | - | - |
| PCB 193/180 (1994 WHO factor) | 0.00001 | - | - | 35.4 | 0.0003540 | - | - |
| PCB 189 | 0.0001 | <0.000005 | 0.00001 | 0.669 | 0.0000669 | <0.000003345 | 0.0000067 |

| | | | |
|---|---|---|---|
| **Including 170, 193/180** | **0.04389540** | **NA** | **NA** |
| **Not including 170, 193/180** | **0.04172140** | | **0.14056778** |

Report ##

METCALF & EDDY
INORGANIC ANALYSIS DATA SHEET

011532

Lab Name: Southwest Research Institute Lab Code: SwRI Contract: 01.03159.14.306

Case# 0209M WO# 23513 SDG No.: D03611

Matrix: Soil Date Received: 12/04/02

Field Sample ID# D03600 MR-11 (0-0.5) Lab Sample ID# 217185

% Solids 59.2%

| ANALYTE | CONC. | C | Units | METHOD | Q | Date Analyzed |
|---|---|---|---|---|---|---|
| pH | 6.81 | | S.U. | 9045C | | 12/05/02 |
| ORP | -168 | | mV | D1498-93 | | 12/05/02 |
| Sulfide | 16.2 | U | mg/Kg | 9030B | | 12/10/02 |
| Cr(VI) pH = 8 | 1.99 | U | mg/Kg | SW846 7199 | N | 12/13/02 |
| Cr(VI) pH = 9 | 1.97 | U | mg/Kg | SW846 7199 | N | 12/13/02 |
| Cr(VI) pH = 10 | 1.99 | U | mg/Kg | SW846 7199 | N | 12/13/02 |
| Cr(VI) pH = 11 | 2.00 | U | mg/Kg | SW846 7199 | N | 12/13/02 |
| Cr(VI) pH > 12 | 1.99 | U | mg/Kg | SW846 7199 | N | 12/13/02 |

COMMENTS:

FORM I - IN

METCALF & EDDY
INORGANIC ANALYSIS DATA SHEET

011534

Lab Name: Southwest Research Institute Lab Code: SwRI Contract: 01.03159.14.306

Case# 0209M WO# 23513 SDG No.: D03611

Matrix: Soil Date Received: 12/05/02

Field Sample ID# D03610 MR-12(0-0.5) Lab Sample ID# 217246

% Solids 22.0%

| ANALYTE | CONC. | C | Units | METHOD | Q | Date Analyzed |
|---|---|---|---|---|---|---|
| pH | 6.99 | | S.U. | 9045C | | 12/06/02 |
| ORP | -134 | | mV | D1498-93 | | 12/05/02 |
| Sulfide | 85.8 | | mg/Kg | 9030B | | 12/10/02 |
| Cr(VI) pH = 8 | 2.00 | U | mg/Kg | SW846 7199 | N | 12/13/02 |
| Cr(VI) pH = 9 | 2.00 | U | mg/Kg | SW846 7199 | N | 12/13/02 |
| Cr(VI) pH = 10 | 2.00 | U | mg/Kg | SW846 7199 | N | 12/13/02 |
| Cr(VI) pH = 11 | 2.00 | U | mg/Kg | SW846 7199 | N | 12/13/02 |
| Cr(VI) pH > 12 | 2.00 | U | mg/Kg | SW846 7199 | N | 12/13/02 |

COMMENTS:

FORM I - IN

METCALF & EDDY
INORGANIC ANALYSIS DATA SHEET

**011535**

Lab Name: Southwest Research Institute  Lab Code: SwRI  Contract: 01.03159.14.306

Case# 0209M  WO# 23513  SDG No.: D03611

Matrix: Soil  Date Received: 12/05/02

Field Sample ID# D03621 MRE-12(0-0.5)  Lab Sample ID# 217247

% Solids 20.0%

| ANALYTE | CONC. | C | Units | METHOD | Q | Date Analyzed |
|---|---|---|---|---|---|---|
| pH | 6.94 | | S.U. | 9045C | | 12/06/02 |
| ORP | -147 | | mV | D1498-93 | | 12/05/02 |
| Sulfide | 86.3 | | mg/Kg | 9030B | | 12/10/02 |
| Cr(VI) pH = 8 | 2.00 | UJ | mg/Kg | SW846 7199 | N | 12/14/02 |
| Cr(VI) pH = 9 | 2.00 | UJ | mg/Kg | SW846 7199 | N | 12/14/02 |
| Cr(VI) pH = 10 | 2.00 | UJ | mg/Kg | SW846 7199 | N | 12/14/02 |
| Cr(VI) pH = 11 | 2.00 | UJ | mg/Kg | SW846 7199 | N | 12/14/02 |
| Cr(VI) pH > 12 | 2.00 | UJ | mg/Kg | SW846 7199 | N | 12/14/02 |

COMMENTS:

FORM I - IN

# APPENDIX B

# QUALIFIED FORM Is FOR ADDITIONAL COVERAGE SAMPLES COLLECTED BY TRC

# Form I
## Semi-Volatile Organics by GC/MS

Client: **Metcalf & Eddy**
Project: **DAS -Southwest properties, Woburn**
Case: **0209M** SDG: **D03582**
Client ID: **D03577** AB-655
Matrix: **Water**

Lab Code: **MA00030**
ETR: **0212074**
Lab ID: **0212074-02**
Associated Blank: **SW1220B2**
Concentration Units: **µg/L**

| Date Collected | Date Received | Date Extracted | Date Analyzed | Sample Amount (ml) | Final Volume (ml) | Dilution Factor | Analyst |
|---|---|---|---|---|---|---|---|
| 12/16/02 | 12/18/02 | 12/20/02 | 01/01/03 | 900 | 1 | 1 | AJA |

| Parameter | Result | Parameter | Result |
|---|---|---|---|
| Benzaldehyde | 11 U J | Acenaphthene | 11 U |
| Phenol | 11 U J | 2,4-Dinitrophenol | ~~11 UJ~~ R |
| 2-Chlorophenol | 11 U | 4-Nitrophenol | 11 U J |
| bis(2-Chloroethyl)ether | 11 U | Dibenzofuran | 11 U |
| 2-Methylphenol | 11 U J | 2,4-Dinitrotoluene | 11 U |
| bis(2-Chloroisopropyl)ether | 11 U | Diethylphthalate | 11 U |
| Acetophenone | 11 U | Fluorene | 11 U |
| 4-Methylphenol | 11 U J | 4-Chlorophenyl-phenylether | 11 U |
| n-Nitroso-di-n-propylamine | 11 U | 4-Nitroaniline | 11 U |
| Hexachloroethane | 11 U | 4,6-Dinitro-2-methylphenol | 11 U J |
| Nitrobenzene | 11 U | n-Nitrosodiphenylamine | 11 U |
| Isophorone | 11 U | 4-Bromophenyl-phenylether | 11 U J |
| 2-Nitrophenol | 11 U | Hexachlorobenzene | 11 U |
| 2,4-Dimethylphenol | 11 U J | Atrazine | 11 U J |
| bis(2-Chloroethoxy)methane | 11 U | Pentachlorophenol | ~~11 UJ~~ R |
| 2,4-Dichlorophenol | 11 U J | Phenanthrene | 11 U |
| ›phthalene | 0.0114 J ~~11 U~~ | Anthracene | 11 U |
| ›hloroaniline | 11 U J | Carbazole | 11 U |
| Hexachlorobutadiene | 11 U | Di-n-butylphthalate | 11 U |
| Caprolactam | 11 U J | Fluoranthene | 11 U |
| 4-Chloro-3-methylphenol | 11 U J | Pyrene | 11 U |
| 2-Methylnaphthalene | 11 U | Butylbenzylphthalate | 11 U |
| Hexachlorocyclopentadiene | 11 U J | 3,3'-Dichlorobenzidine | 11 U |
| 2,4,6-Trichlorophenol | 11 U J | Benz[a]anthracene | 0.014 ~~11 U~~ |
| 2,4,5-Trichlorophenol | 11 U | Chrysene | 0.015 ~~11 U~~ |
| Biphenyl | 11 U | bis(2-Ethylhexyl)phthalate | 11 U |
| 2-Chloronaphthalene | 11 U | Di-n-octylphthalate | 11 U |
| 2-Nitroaniline | 11 U | Benzo[b]fluoranthene | 0.015 ~~11 UJ~~ |
| Dimethylphthalate | 11 U | Benzo[k]fluoranthene | 0.014 J ~~11 U~~ |
| 2,6-Dinitrotoluene | 11 U | Benzo[a]pyrene | 0.011 ~~11 U~~ |
| Acenaphthylene | 11 U | Indeno[1,2,3-cd]pyrene | 0.014 ~~11 UJ~~ |
| 3-Nitroaniline | 11 U | Dibenz[a,h]anthracene | 0.013 ~~11 UJ~~ |
| | | Benzo[g,h,i]perylene | 11 U J |

| Surrogate | % Recovery | Acceptance Range (%) |
|---|---|---|
| 2-Fluorophenol | 31 | 21-100 |
| Phenol-d5 | 20 | 10-94 |
| Nitrobenzene-d5 | 53 | 35-114 |
| 2-Fluorobiphenyl | 52 | 43-116 |
| -Tribromophenol | 62 | 10-123 |
| ›henyl-d14 | 66 | 33-141 |

U - The analyte was analyzed for but not detected at the sample specific level reported.

01/07/03 16:03

# Form I
## Semi-Volatile Tentatively Identified Compounds (TIC)

Client: **Metcalf & Eddy**
Project: **DAS -Southwest properties, Woburn**
Case: **0209M** SDG: **D03582**
Client ID: **D03577** AB-655
Matrix: **Water**

Lab Code: **MA00030**
ETR: **0212074**
Lab ID: **0212074-02**
Associated Blank: **SW1220B2**
Concentration Units: **µg/L**

| Date Collected | Date Received | Date Extracted | Date Analyzed | Sample Amount (ml) | Final Volume (ml) | Dilution Factor | Analyst |
|---|---|---|---|---|---|---|---|
| 12/16/02 | 12/18/02 | 12/20/02 | 01/01/03 | 900 | 1 | 1 | AJA |

| Parameter | RT | Result | CAS Number |
|---|---|---|---|
| unknown | 18.37 | 5 | |

01/07/03 16:14

# Form I
## Semi-Volatile Organics by GC/MS

Client: **Metcalf & Eddy**
Project: **DAS -Southwest properties, Woburn**
Case: **0209M** SDG: **D03582**
Client ID: **D03580** MW-65
Matrix: **Water**

Lab Code: **MA00030**
ETR: **0212074**
Lab ID: **0212074-03**
Associated Blank: **SW1220B2**
Concentration Units: **µg/L**

| Date Collected | Date Received | Date Extracted | Date Analyzed | Sample Amount (ml) | Final Volume (ml) | Dilution Factor | Analyst |
|---|---|---|---|---|---|---|---|
| 12/16/02 | 12/18/02 | 12/20/02 | 01/01/03 | 970 | 1 | 1 | AJA |

| Parameter | Result | | Parameter | Result | |
|---|---|---|---|---|---|
| Benzaldehyde | 10 | U J | Acenaphthene | 10 | U |
| Phenol | 10 | U J | 2,4-Dinitrophenol | ~~10~~ | ~~U~~ R |
| 2-Chlorophenol | 10 | U | 4-Nitrophenol | 10 | U J |
| bis(2-Chloroethyl)ether | 10 | U | Dibenzofuran | 10 | U |
| 2-Methylphenol | 1.4 | J | 2,4-Dinitrotoluene | 10 | U |
| bis(2-Chloroisopropyl)ether | 10 | U | Diethylphthalate | 4.0 | J |
| Acetophenone | 1.2 | J | Fluorene | 10 | U |
| 4-Methylphenol | 1.8 | J | 4-Chlorophenyl-phenylether | 10 | U |
| n-Nitroso-di-n-propylamine | 10 | U | 4-Nitroaniline | 10 | U |
| Hexachloroethane | 10 | U | 4,6-Dinitro-2-methylphenol | 10 | U J |
| Nitrobenzene | 10 | U | n-Nitrosodiphenylamine | 10 | U |
| Isophorone | 10 | U | 4-Bromophenyl-phenylether | 10 | U J |
| 2-Nitrophenol | 10 | U | Hexachlorobenzene | 10 | U |
| 2,4-Dimethylphenol | 5.5 | J | Atrazine | 10 | U J |
| bis(2-Chloroethoxy)methane | 10 | U | Pentachlorophenol | ~~10~~ | ~~U~~ R |
| 2,4-Dichlorophenol | 2.4 | J | Phenanthrene | 10 | U |
| Naphthalene | 2.4 J | ~~3.1 J~~ | Anthracene | 10 | U |
| Chloroaniline | 10 | U J | Carbazole | 10 | U |
| Hexachlorobutadiene | 10 | U | Di-n-butylphthalate | 10 | U |
| Caprolactam | 10 | U J | Fluoranthene | 10 | U |
| 4-Chloro-3-methylphenol | 10 | U J | Pyrene | 10 | U |
| 2-Methylnaphthalene | 10 | U | Butylbenzylphthalate | 10 | U |
| Hexachlorocyclopentadiene | 10 | U J | 3,3'-Dichlorobenzidine | 10 | U |
| 2,4,6-Trichlorophenol | 10 | U J | Benz[a]anthracene | 0.048 | ~~10~~ ~~U~~ |
| 2,4,5-Trichlorophenol | 1.8 | J | Chrysene | 0.027 | ~~10~~ ~~U~~ |
| Biphenyl | 7.0 | J | bis(2-Ethylhexyl)phthalate | 10 | U |
| 2-Chloronaphthalene | 10 | U | Di-n-octylphthalate | 10 | U |
| 2-Nitroaniline | 10 | U | Benzo[b]fluoranthene | 0.011 | ~~10~~ ~~U~~ |
| Dimethylphthalate | 10 | U | Benzo[k]fluoranthene | 0.013 J | ~~10~~ ~~U~~ |
| 2,6-Dinitrotoluene | 10 | U | Benzo[a]pyrene | 0.015 | ~~10~~ ~~U~~ |
| Acenaphthylene | 10 | U | Indeno[1,2,3-cd]pyrene | 0.0072 J | ~~10~~ ~~U~~ |
| 3-Nitroaniline | 10 | U | Dibenz[a,h]anthracene | 0.0057 J | ~~10~~ ~~U~~ |
| | | | Benzo[g,h,i]perylene | 10 | U J |

| Surrogate | % Recovery | Acceptance Range (%) |
|---|---|---|
| 2-Fluorophenol | 42 | 21-100 |
| Phenol-d5 | 28 | 10-94 |
| Nitrobenzene-d5 | 70 | 35-114 |
| 2-Fluorobiphenyl | 73 | 43-116 |
| 2,4,6-Tribromophenol | 89 | 10-123 |
| Terphenyl-d14 | 102 | 33-141 |

J - Estimated value, below quantitation limit.
U - The analyte was analyzed for but not detected at the sample specific level reported.

01/14/03 11:55

# Form I
## Semi-Volatile Tentatively Identified Compounds (TIC)

Client: **Metcalf & Eddy**
Project: **DAS -Southwest properties, Woburn**
Case: **0209M** SDG: **D03582**
Client ID: **D03580** MW-6S
Matrix: **Water**

Lab Code: **MA00030**
ETR: **0212074**
Lab ID: **0212074-03**
Associated Blank: **SW1220B2**
Concentration Units: **µg/L**

| Date Collected | Date Received | Date Extracted | Date Analyzed | Sample Amount (ml) | Final Volume (ml) | Dilution Factor | Analyst |
|---|---|---|---|---|---|---|---|
| 12/16/02 | 12/18/02 | 12/20/02 | 01/01/03 | 970 | 1 | 1 | AJA |

| Parameter | RT | Result | CAS Number |
|---|---|---|---|
| Benzene, chloro- | 4.17 | 4 | 000108-90-7 |
| Indane | 6.16 | 11 | 000496-11-7 |
| Benzene, 1,2,4-trichloro- | 7.51 | 8 | 000120-82-1 |
| Diphenyl ether | 9.35 | 8 | 000101-84-8 |
| Phenol, 3,4-dichloro- | 9.42 | 5 | 000095-77-2 |
| Phenol, 4-(1,1,3,3-tetramethylbutyl)- | 10.83 | 29 | 000140-66-9 |
| unknown | 11.25 | 90 | |
| unknown | 11.47 | 5 | |

01/08/03 11:31

# Form I
# Semi-Volatile Organics by GC/MS

Client: **Metcalf & Eddy**
Project: **DAS -Southwest properties, Woburn**
Case: **0209M** SDG: **D03582**
Client ID: **D03581** MW-18S
Matrix: **Water**

Lab Code: **MA00030**
ETR: **0212083**
Lab ID: **0212083-01**
Associated Blank: **SW1223B1**
Concentration Units: **µg/L**

| Date Collected | Date Received | Date Extracted | Date Analyzed | Sample Amount (ml) | Final Volume (ml) | Dilution Factor | Analyst |
|---|---|---|---|---|---|---|---|
| 12/18/02 | 12/19/02 | 12/23/02 | 01/01/03 | 970 | 1 | 1 | AJA |

| Parameter | Result | | Parameter | Result | |
|---|---|---|---|---|---|
| Benzaldehyde | 10 | U J | Acenaphthene | 10 | U |
| Phenol | 10 | U J | 2,4-Dinitrophenol | ~~10~~ | ~~U~~ R |
| 2-Chlorophenol | 10 | U J | 4-Nitrophenol | 10 | U J |
| bis(2-Chloroethyl)ether | 10 | U | Dibenzofuran | 10 | U |
| 2-Methylphenol | 10 | U J | 2,4-Dinitrotoluene | 10 | U |
| bis(2-Chloroisopropyl)ether | 10 | U | Diethylphthalate | 10 | U |
| Acetophenone | 10 | U | Fluorene | 10 | U |
| 4-Methylphenol | 10 | U J | 4-Chlorophenyl-phenylether | 10 | U |
| n-Nitroso-di-n-propylamine | 10 | U | 4-Nitroaniline | 10 | U |
| Hexachloroethane | 10 | U J | 4,6-Dinitro-2-methylphenol | 10 | U J |
| Nitrobenzene | 10 | U | n-Nitrosodiphenylamine | 10 | U |
| Isophorone | 10 | U | 4-Bromophenyl-phenylether | 10 | U J |
| 2-Nitrophenol | 10 | U J | Hexachlorobenzene | 10 | U |
| 2,4-Dimethylphenol | 10 | U J | Atrazine | 10 | U J |
| bis(2-Chloroethoxy)methane | 10 | U | Pentachlorophenol | ~~10~~ | ~~U~~ R |
| 2,4-Dichlorophenol | 10 | U J | Phenanthrene | 10 | U |
| [illegible]phthalene | 0.110 J | ~~10~~ ~~U~~ | Anthracene | 10 | U |
| [illegible]loroaniline | 10 | U J | Carbazole | 10 | U |
| Hexachlorobutadiene | 10 | U | Di-n-butylphthalate | 10 | U J |
| Caprolactam | 10 | U J | Fluoranthene | 10 | U |
| 4-Chloro-3-methylphenol | 10 | U J | Pyrene | 10 | U |
| 2-Methylnaphthalene | 10 | U J | Butylbenzylphthalate | 10 | U |
| Hexachlorocyclopentadiene | 10 | U J | 3,3'-Dichlorobenzidine | 10 | U |
| 2,4,6-Trichlorophenol | 10 | U J | Benz[a]anthracene | 0.010 U | ~~10~~ ~~U~~ |
| 2,4,5-Trichlorophenol | 10 | U J | Chrysene | 0.010 U | ~~10~~ ~~U~~ |
| Biphenyl | 10 | U | bis(2-Ethylhexyl)phthalate | 10 | U |
| 2-Chloronaphthalene | 10 | U | Di-n-octylphthalate | 10 | U |
| 2-Nitroaniline | 10 | U | Benzo[b]fluoranthene | 0.010 U | ~~10~~ ~~U~~ |
| Dimethylphthalate | 10 | U | Benzo[k]fluoranthene | 0.0067 J | ~~10~~ ~~U~~ |
| 2,6-Dinitrotoluene | 10 | U | Benzo[a]pyrene | 0.010 U | ~~10~~ ~~U~~ |
| Acenaphthylene | 10 | U | Indeno[1,2,3-cd]pyrene | 0.0072 J | ~~10~~ ~~U~~ |
| 3-Nitroaniline | 10 | U J | Dibenz[a,h]anthracene | 0.0060 J | ~~10~~ ~~U~~ |
| | | | Benzo[g,h,i]perylene | 10 | U |

| Surrogate | % Recovery | Acceptance Range (%) |
|---|---|---|
| 2-Fluorophenol | 45 | 21-100 |
| Phenol-d5 | 25 | 10-94 |
| Nitrobenzene-d5 | 79 | 35-114 |
| 2-Fluorobiphenyl | 74 | 43-116 |
| [illegible]-Tribromophenol | 86 | 10-123 |
| [illegible]henyl-d14 | 85 | 33-141 |

U - The analyte was analyzed for but not detected at the sample specific level reported.

01/07/03 16:04



375 Paramount Drive, Suite 2, Raynham, Massachusetts 02767, (508) 822-9300, Fax (508) 822-3288, whale@whgrp.com

# Form I
# Semi-Volatile Tentatively Identified Compounds (TIC)

Client: **Metcalf & Eddy**
Project: **DAS -Southwest properties, Woburn**
Case: **0209M** SDG: **D03582**
Client ID: **D03581** MW-18S
Matrix: **Water**

Lab Code: **MA00030**
ETR: **0212083**
Lab ID: **0212083-01**
Associated Blank: **SW1223B1**
Concentration Units: **µg/L**

| Date Collected | Date Received | Date Extracted | Date Analyzed | Sample Amount (ml) | Final Volume (ml) | Dilution Factor | Analyst |
|---|---|---|---|---|---|---|---|
| 12/18/02 | 12/19/02 | 12/23/02 | 01/01/03 | 970 | 1 | 1 | AJA |

| Parameter | RT | Result | CAS Number |
|---|---|---|---|
| Cyclohexanamine, N,N-dimethyl- | 5.55 | 8 | 000098-94-2 |
| Cyclohexanamine, N,N-dimethyl- | 5.6 | 6 | 000098-94-2 |

01/07/03 16:16

# Form I
## Semi-Volatile Organics by GC/MS

Client: **Metcalf & Eddy**
Project: **DAS -Southwest properties, Woburn**
Case: **0209M** SDG: **D03582**
Client ID: **D03582** MW-4S
Matrix: **Water**

Lab Code: **MA00030**
ETR: **0212060**
Lab ID: **0212060-01**
Associated Blank: **SW1220B2**
Concentration Units: **µg/L**

| Date Collected | Date Received | Date Extracted | Date Analyzed | Sample Amount (ml) | Final Volume (ml) | Dilution Factor | Analyst |
|---|---|---|---|---|---|---|---|
| 12/13/02 | 12/14/02 | 12/20/02 | 01/01/03 | 1000 | 1 | 1 | AJA |

| Parameter | Result | Parameter | Result |
|---|---|---|---|
| Benzaldehyde | 10 U J | Acenaphthene | 10 U |
| Phenol | 10 U J | 2,4-Dinitrophenol | ~~10 U~~ R |
| 2-Chlorophenol | 10 U | 4-Nitrophenol | 10 U J |
| bis(2-Chloroethyl)ether | 10 U | Dibenzofuran | 10 U |
| 2-Methylphenol | 10 U J | 2,4-Dinitrotoluene | 10 U |
| bis(2-Chloroisopropyl)ether | 10 U | Diethylphthalate | 10 U |
| Acetophenone | 10 U | Fluorene | 10 U |
| 4-Methylphenol | 10 U J | 4-Chlorophenyl-phenylether | 10 U |
| n-Nitroso-di-n-propylamine | 10 U | 4-Nitroaniline | 10 U |
| Hexachloroethane | 10 U | 4,6-Dinitro-2-methylphenol | 10 U J |
| Nitrobenzene | 10 U | n-Nitrosodiphenylamine | 10 U |
| Isophorone | 10 U | 4-Bromophenyl-phenylether | 10 U J |
| 2-Nitrophenol | 10 U | Hexachlorobenzene | 10 U |
| 2,4-Dimethylphenol | 10 U J | Atrazine | 10 U J |
| bis(2-Chloroethoxy)methane | 10 U | Pentachlorophenol | ~~10 U~~ R |
| 2,4-Dichlorophenol | 10 U J | Phenanthrene | 10 U |
| Naphthalene | 0.0104 J ~~10 U~~ | Anthracene | 10 U |
| 4-Chloroaniline | 10 U J | Carbazole | 10 U |
| Hexachlorobutadiene | 10 U | Di-n-butylphthalate | 10 U |
| Caprolactam | 10 U J | Fluoranthene | 10 U |
| 4-Chloro-3-methylphenol | 10 U J | Pyrene | 10 U |
| 2-Methylnaphthalene | 10 U | Butylbenzylphthalate | 10 U |
| Hexachlorocyclopentadiene | 10 U J | 3,3'-Dichlorobenzidine | 10 U |
| 2,4,6-Trichlorophenol | 10 U J | Benz[a]anthracene | 0.0080 J ~~10 U~~ |
| 2,4,5-Trichlorophenol | 10 U | Chrysene | 0.010 U ~~10 U~~ |
| Biphenyl | 10 U | bis(2-Ethylhexyl)phthalate | 10 U |
| 2-Chloronaphthalene | 10 U | Di-n-octylphthalate | 10 U |
| 2-Nitroaniline | 10 U | Benzo[b]fluoranthene | 0.0053 J ~~10 U~~ |
| Dimethylphthalate | 10 U | Benzo[k]fluoranthene | 0.0074 J ~~10 U~~ |
| 2,6-Dinitrotoluene | 10 U | Benzo[a]pyrene | 0.010 U ~~10 U~~ |
| Acenaphthylene | 10 U | Indeno[1,2,3-cd]pyrene | 0.0068 J ~~10 U~~ |
| 3-Nitroaniline | 10 U | Dibenz[a,h]anthracene | 0.0058 J ~~10 U~~ |
| | | Benzo[g,h,i]perylene | 10 U J |

| Surrogate | % Recovery | Acceptance Range (%) |
|---|---|---|
| 2-Fluorophenol | 44 | 21-100 |
| Phenol-d5 | 28 | 10-94 |
| Nitrobenzene-d5 | 75 | 35-114 |
| 2-Fluorobiphenyl | 75 | 43-116 |
| 2,4,6-Tribromophenol | 86 | 10-123 |
| Terphenyl-d14 | 81 | 33-141 |

U - The analyte was analyzed for but not detected at the sample specific level reported.

01/07/03 16:01

# Form I
## Semi-Volatile Tentatively Identified Compounds (TIC)

Client: **Metcalf & Eddy**
Project: **DAS -Southwest properties, Woburn**
Case: **0209M** SDG: **D03582**
Client ID: **D03582** MW-4S
Matrix: **Water**

Lab Code: **MA00030**
ETR: **0212060**
Lab ID: **0212060-01**
Associated Blank: **SW1220B2**
Concentration Units: **µg/L**

| Date Collected | Date Received | Date Extracted | Date Analyzed | Sample Amount (ml) | Final Volume (ml) | Dilution Factor | Analyst |
|---|---|---|---|---|---|---|---|
| 12/13/02 | 12/14/02 | 12/20/02 | 01/01/03 | 1000 | 1 | 1 | AJA |

| Parameter | RT | Result | CAS Number |
|---|---|---|---|
| No TICS were detected in this sample. | | | |

01/07/03 16:13

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# Form I
## Semi-Volatile Organics by GC/MS

Client: **Metcalf & Eddy**
Project: **DAS -Southwest properties, Woburn**
Case: **0209M** SDG: **D03582**
Client ID: **D03583** WB-1R
Matrix: **Water**

Lab Code: **MA00030**
ETR: **0212074**
Lab ID: **0212074-01**
Associated Blank: **SW1220B2**
Concentration Units: **µg/L**

| Date Collected | Date Received | Date Extracted | Date Analyzed | Sample Amount (ml) | Final Volume (ml) | Dilution Factor | Analyst |
|---|---|---|---|---|---|---|---|
| 12/16/02 | 12/18/02 | 12/20/02 | 01/01/03 | 1000 | 1 | 1 | AJA |

| Parameter | Result | Parameter | Result |
|---|---|---|---|
| Benzaldehyde | 10 U J | Acenaphthene | 10 U |
| Phenol | 10 U J | 2,4-Dinitrophenol | ~~10 U~~ R |
| 2-Chlorophenol | 10 U | 4-Nitrophenol | 10 U J |
| bis(2-Chloroethyl)ether | 10 U | Dibenzofuran | 10 U |
| 2-Methylphenol | 10 U J | 2,4-Dinitrotoluene | 10 U |
| bis(2-Chloroisopropyl)ether | 10 U | Diethylphthalate | 10 U |
| Acetophenone | 10 U | Fluorene | 10 U |
| 4-Methylphenol | 10 U J | 4-Chlorophenyl-phenylether | 10 U |
| n-Nitroso-di-n-propylamine | 10 U | 4-Nitroaniline | 10 U |
| Hexachloroethane | 10 U | 4,6-Dinitro-2-methylphenol | 10 U J |
| Nitrobenzene | 10 U | n-Nitrosodiphenylamine | 10 U |
| Isophorone | 10 U | 4-Bromophenyl-phenylether | 10 U J |
| 2-Nitrophenol | 10 U | Hexachlorobenzene | 10 U |
| 2,4-Dimethylphenol | 10 U J | Atrazine | 10 U J |
| bis(2-Chloroethoxy)methane | 10 U | Pentachlorophenol | ~~10 U~~ R |
| 2,4-Dichlorophenol | 10 U J | Phenanthrene | 10 U |
| [illegible]phthalene | 0.010U J ~~10 U~~ | Anthracene | 10 U |
| [illegible]loroaniline | 10 U J | Carbazole | 10 U |
| Hexachlorobutadiene | 10 U | Di-n-butylphthalate | 10 U |
| Caprolactam | 10 U J | Fluoranthene | 10 U |
| 4-Chloro-3-methylphenol | 10 U J | Pyrene | 10 U |
| 2-Methylnaphthalene | 10 U | Butylbenzylphthalate | 10 U |
| Hexachlorocyclopentadiene | 10 U J | 3,3'-Dichlorobenzidine | 10 U |
| 2,4,6-Trichlorophenol | 10 U J | Benz[a]anthracene | 0.010U ~~10 U~~ |
| 2,4,5-Trichlorophenol | 10 U | Chrysene | 0.010U ~~10 U~~ |
| Biphenyl | 10 U | bis(2-Ethylhexyl)phthalate | 10 U |
| 2-Chloronaphthalene | 10 U | Di-n-octylphthalate | 10 U |
| 2-Nitroaniline | 10 U | Benzo[b]fluoranthene | 0.010U ~~10 U~~ |
| Dimethylphthalate | 10 U | Benzo[k]fluoranthene | 0.010U J ~~10 U~~ |
| 2,6-Dinitrotoluene | 10 U | Benzo[a]pyrene | 0.010U ~~10 U~~ |
| Acenaphthylene | 10 U | Indeno[1,2,3-cd]pyrene | 0.010U ~~10 U~~ |
| 3-Nitroaniline | 10 U | Dibenz[a,h]anthracene | 0.010U ~~10 U~~ |
| | | Benzo[g,h,i]perylene | 10 U J |

| Surrogate | % Recovery | Acceptance Range (%) |
|---|---|---|
| 2-Fluorophenol | 39 | 21-100 |
| Phenol-d5 | 25 | 10-94 |
| Nitrobenzene-d5 | 69 | 35-114 |
| 2-Fluorobiphenyl | 70 | 43-116 |
| [illegible] Tribromophenol | 78 | 10-123 |
| [illegible]henyl-d14 | 76 | 33-141 |

U - The analyte was analyzed for but not detected at the sample specific level reported.

01/07/03 16:03

# Form I
## Semi-Volatile Tentatively Identified Compounds (TIC)

Client: **Metcalf & Eddy**
Project: **DAS -Southwest properties, Woburn**
Case: **0209M** SDG: **D03582**
Client ID: **D03583** WB-1R
Matrix: **Water**

Lab Code: **MA00030**
ETR: **0212074**
Lab ID: **0212074-01**
Associated Blank: **SW1220B2**
Concentration Units: **µg/L**

| Date Collected | Date Received | Date Extracted | Date Analyzed | Sample Amount (ml) | Final Volume (ml) | Dilution Factor | Analyst |
|---|---|---|---|---|---|---|---|
| 12/16/02 | 12/18/02 | 12/20/02 | 01/01/03 | 1000 | 1 | 1 | AJA |

| Parameter | RT | Result | CAS Number |
|---|---|---|---|
| No TICS were detected in this sample. | | | |

01/07/03 16:14

# Form I
## Semi-Volatile Organics by GC/MS

Client: **Metcalf & Eddy**
Project: **DAS -Southwest properties, Woburn**
Case: **0209M** SDG: **D03582**
Client ID: **D03585** MWE-18S
Matrix: **Water**

Lab Code: **MA00030**
ETR: **0212083**
Lab ID: **0212083-02**
Associated Blank: **SW1223B1**
Concentration Units: **µg/L**

| Date Collected | Date Received | Date Extracted | Date Analyzed | Sample Amount (ml) | Final Volume (ml) | Dilution Factor | Analyst |
|---|---|---|---|---|---|---|---|
| 12/18/02 | 12/19/02 | 12/23/02 | 01/01/03 | 950 | 1 | 1 | AJA |

| Parameter | Result | Parameter | Result |
|---|---|---|---|
| Benzaldehyde | 11 U J | Acenaphthene | 11 U |
| Phenol | 11 U J | 2,4-Dinitrophenol | ~~11 U~~ R |
| 2-Chlorophenol | 11 U J | 4-Nitrophenol | 11 U J |
| bis(2-Chloroethyl)ether | 11 U | Dibenzofuran | 11 U |
| 2-Methylphenol | 11 U J | 2,4-Dinitrotoluene | 11 U |
| bis(2-Chloroisopropyl)ether | 11 U | Diethylphthalate | 11 U |
| Acetophenone | 11 U | Fluorene | 11 U |
| 4-Methylphenol | 11 U J | 4-Chlorophenyl-phenylether | 11 U |
| n-Nitroso-di-n-propylamine | 11 U | 4-Nitroaniline | 11 U |
| Hexachloroethane | 11 U J | 4,6-Dinitro-2-methylphenol | 11 U J |
| Nitrobenzene | 11 U | n-Nitrosodiphenylamine | 11 U |
| Isophorone | 11 U | 4-Bromophenyl-phenylether | 11 U J |
| 2-Nitrophenol | 11 U J | Hexachlorobenzene | 11 U |
| 2,4-Dimethylphenol | 11 U J | Atrazine | 11 U J |
| bis(2-Chloroethoxy)methane | 11 U | Pentachlorophenol | ~~11 U~~ R |
| 2,4-Dichlorophenol | 11 U J | Phenanthrene | 11 U |
| Naphthalene | 0.063 J ~~11 U~~ | Anthracene | 11 U |
| Chloroaniline | 11 U J | Carbazole | 11 U |
| Hexachlorobutadiene | 11 U | Di-n-butylphthalate | 11 U J |
| Caprolactam | 11 U J | Fluoranthene | 11 U |
| 4-Chloro-3-methylphenol | 11 U J | Pyrene | 11 U |
| 2-Methylnaphthalene | 11 U J | Butylbenzylphthalate | 11 U |
| Hexachlorocyclopentadiene | 11 U J | 3,3'-Dichlorobenzidine | 11 U |
| 2,4,6-Trichlorophenol | 11 U J | Benz[a]anthracene | 0.011 U ~~11 U~~ |
| 2,4,5-Trichlorophenol | 11 U J | Chrysene | 0.011 U ~~11 U~~ |
| Biphenyl | 11 U | bis(2-Ethylhexyl)phthalate | 11 U |
| 2-Chloronaphthalene | 11 U | Di-n-octylphthalate | 11 U |
| 2-Nitroaniline | 11 U | Benzo[b]fluoranthene | 0.011 U ~~11 U~~ |
| Dimethylphthalate | 11 U | Benzo[k]fluoranthene | 0.011 U ~~11 U~~ |
| 2,6-Dinitrotoluene | 11 U | Benzo[a]pyrene | 0.011 U ~~11 U~~ |
| Acenaphthylene | 11 U | Indeno[1,2,3-cd]pyrene | 0.011 U ~~11 U~~ |
| 3-Nitroaniline | 11 U J | Dibenz[a,h]anthracene | 0.011 U ~~11 U~~ |
| | | Benzo[g,h,i]perylene | 11 U |

| Surrogate | % Recovery | Acceptance Range (%) |
|---|---|---|
| 2-Fluorophenol | 42 | 21-100 |
| Phenol-d5 | 24 | 10-94 |
| Nitrobenzene-d5 | 71 | 35-114 |
| 2-Fluorobiphenyl | 71 | 43-116 |
| 2,4,6-Tribromophenol | 93 | 10-123 |
| Terphenyl-d14 | 101 | 33-141 |

U - The analyte was analyzed for but not detected at the sample specific level reported.

01/07/03 16:04

# Form I
## Semi-Volatile Tentatively Identified Compounds (TIC)

Client: **Metcalf & Eddy**
Project: **DAS -Southwest properties, Woburn**
Case: **0209M** SDG: **D03582**
Client ID: **D03585** MWE-18S
Matrix: **Water**

Lab Code: **MA00030**
ETR: **0212083**
Lab ID: **0212083-02**
Associated Blank: **SW1223B1**
Concentration Units: **µg/L**

| Date Collected | Date Received | Date Extracted | Date Analyzed | Sample Amount (ml) | Final Volume (ml) | Dilution Factor | Analyst |
|---|---|---|---|---|---|---|---|
| 12/18/02 | 12/19/02 | 12/23/02 | 01/01/03 | 950 | 1 | 1 | AJA |

| Parameter | RT | Result | CAS Number |
|---|---|---|---|
| Cyclohexanamine, N,N-dimethyl- | 5.63 | 5 | 000098-94-2 |

01/07/03 16:16

# METALS
-1-
## INORGANIC ANALYSIS DATA SHEET

Client: Metcalf & Eddy
Project No.: 02136-0390-01463
Project Name: Woburn, MA-Southwest
Matrix: WATER

Service Request: K2209045
Date Collected: 12/12/02
Date Received: 12/14/02
Units: µG/L
Basis: NA

Sample Name: D03579 MW-1 Lab Code: K2209045-001

| Analyte | Analysis Method | MRL | MDL | Dil. | Date Extracted | Date Analyzed | Result | C | Q |
|---|---|---|---|---|---|---|---|---|---|
| Aluminum | 6020 | 15.0 | 0.4 | 1 | 1/06/03 | 1/8/03 | 23.8 | | ~~J~~ J |
| Antimony | 6020 | 0.500 | 0.005 | 1 | 1/06/03 | 1/8/03 | 0.076 | B | UJ |
| Arsenic | 6020 | 0.20 | 0.05 | 1 | 1/06/03 | 1/9/03 | 0.18 | B | UJ |
| Barium | 6020 | 2.000 | 0.008 | 1 | 1/06/03 | 1/8/03 | 20.6 | | J |
| Beryllium | 6020 | 0.200 | 0.005 | 1 | 1/06/03 | 1/9/03 | 0.006 | B | UJ |
| Cadmium | 6020 | 0.200 | 0.007 | 1 | 1/06/03 | 1/8/03 | 0.155 | B | J |
| Cobalt | 6020 | 2.000 | 0.005 | 1 | 1/06/03 | 1/8/03 | 1.330 | B | J |
| Copper | 6020 | 2.00 | 0.05 | 1 | 1/06/03 | 1/8/03 | 2.18 | | UJ |
| Lead | 6020 | 0.200 | 0.006 | 1 | 1/06/03 | 1/8/03 | 0.057 | B | UJ |
| Manganese | 6020 | 1.00 | 0.04 | 1 | 1/06/03 | 1/8/03 | 23.7 | | J |
| Nickel | 6020 | 20.00 | 0.02 | 1 | 1/06/03 | 1/8/03 | 1.16 | B | UJ |
| Selenium | 6020 | 3.0 | 0.2 | 1 | 1/06/03 | 1/8/03 | 0.2 | U | UJ |
| Silver | 6020 | 1.000 | 0.003 | 1 | 1/06/03 | 1/8/03 | 0.003 | B | UJ |
| Thallium | 6020 | 0.500 | 0.002 | 1 | 1/06/03 | 1/8/03 | 0.041 | B | J |

% Solids: 0.0

Comments:

# METALS
-1-
## INORGANIC ANALYSIS DATA SHEET

SAMPLE NO.
D03579
MW-1

ntract: Metcalf & Eddy

o Code: KLAB  Case No.: 02136-039  SAS No.: 0209M  SDG NO.: K2209045

trix (soil/water): WATER  Lab Sample ID: K2209045-001

vel (low/med): LOW  Date Received: 12/14/02

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

| CAS No. | Analyte | Concentration | C | Q | M |
|---|---|---|---|---|---|
| 7440-70-2 | Calcium | 26500 | | | P |
| 7440-47-3 | Chromium | 0.72 | B | J | P |
| 7439-89-6 | Iron | 54.4 | B | | P |
| 7439-95-4 | Magnesium | 4100 | | | P |
| 7439-97-6 | Mercury | 0.10 | U | | CV |
| 7440-09-7 | Potassium | 2930 | | | P |
| 7440-23-5 | Sodium | 41000 | | | P |
| 7440-62-2 | Vanadium | 0.60 | U | | P |
| 7440-66-6 | Zinc | 1.4 | B | UJ | P |

Color Before:  Clarity Before:  Texture:

Color After:  Clarity After:  Artifacts:

Comments:

# METALS

-1-

## INORGANIC ANALYSIS DATA SHEET

Client: Metcalf & Eddy
Project No.: 02136-0390-01463
Project Name: Woburn, MA-Southwest
Matrix: WATER

Service Request: K2209045
Date Collected: 12/13/02
Date Received: 12/14/02
Units: µG/L
Basis: NA

Sample Name: D03582 MW-45 Lab Code: K2209045-002

| Analyte | Analysis Method | MRL | MDL | Dil. | Date Extracted | Date Analyzed | Result | C | Q |
|---|---|---|---|---|---|---|---|---|---|
| Aluminum | 6020 | 15.0 | 0.4 | 1 | 1/06/03 | 1/8/03 | 20.9 | | ~~B~~ J |
| Antimony | 6020 | 0.500 | 0.005 | 1 | 1/06/03 | 1/8/03 | 0.274 | ~~B~~ | UJ |
| Arsenic | 6020 | 0.20 | 0.05 | 1 | 1/06/03 | 1/9/03 | 0.20 | ~~B~~ | UJ |
| Barium | 6020 | 2.000 | 0.008 | 1 | 1/06/03 | 1/8/03 | 15.7 | | J |
| Beryllium | 6020 | 0.200 | 0.005 | 1 | 1/06/03 | 1/9/03 | 0.005 | U | |
| Cadmium | 6020 | 0.200 | 0.007 | 1 | 1/06/03 | 1/8/03 | 0.039 | ~~B~~ | J |
| Cobalt | 6020 | 2.000 | 0.005 | 1 | 1/06/03 | 1/8/03 | 0.546 | ~~B~~ | J |
| Copper | 6020 | 2.00 | 0.05 | 1 | 1/06/03 | 1/8/03 | 1.64 | ~~B~~ | UJ |
| Lead | 6020 | 0.200 | 0.006 | 1 | 1/06/03 | 1/8/03 | 0.887 | | UJ |
| Manganese | 6020 | 1.00 | 0.04 | 1 | 1/06/03 | 1/8/03 | 75.8 | | J |
| Nickel | 6020 | 20.00 | 0.02 | 1 | 1/06/03 | 1/8/03 | 0.93 | ~~B~~ | UJ |
| Selenium | 6020 | 3.0 | 0.2 | 1 | 1/06/03 | 1/8/03 | 0.3 | ~~B~~ | J |
| Silver | 6020 | 1.000 | 0.003 | 1 | 1/06/03 | 1/8/03 | 0.003 | ~~B~~ | UJ |
| Thallium | 6020 | 0.500 | 0.002 | 1 | 1/06/03 | 1/8/03 | 0.012 | ~~B~~ | J |

% Solids: 0.0

Comments:

# METALS

-1-

## INORGANIC ANALYSIS DATA SHEET

SAMPLE NO.

D03582 MW-4S

ntract: Metcalf & Eddy

Code: KLAB Case No.: 02136-039 SAS No.: 0209M SDG NO.: K2209045

trix (soil/water): WATER Lab Sample ID: K2209045-002

vel (low/med): LOW Date Received: 12/14/02

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

| CAS No. | Analyte | Concentration | C | Q | M |
|---|---|---|---|---|---|
| 7440-70-2 | Calcium | 46100 | | | P |
| 7440-47-3 | Chromium | 3.1 | B | | P |
| 7439-89-6 | Iron | 664 | | | P |
| 7439-95-4 | Magnesium | 2560 | | | P |
| 7439-97-6 | Mercury | 0.10 | U | | CV |
| 7440-09-7 | Potassium | 2640 | | | P |
| 7440-23-5 | Sodium | 39700 | | | P |
| 7440-62-2 | Vanadium | 0.60 | U | | P |
| 7440-66-6 | Zinc | 1.9 | B | UJ | P |

Color Before: Clarity Before: Texture:

Color After: Clarity After: Artifacts:

Comments:

# METALS
-1-
## INORGANIC ANALYSIS DATA SHEET

Client: Metcalf & Eddy
Project No.: 02136-0390-01463
Project Name: Woburn, MA-Southwest
Matrix: WATER

Service Request: K2209045
Date Collected: 12/18/02
Date Received: 12/20/02
Units: µG/L
Basis: NA

Sample Name: DO3581 MW-18S  Lab Code: K2209045-009

| Analyte | Analysis Method | MRL | MDL | Dil. | Date Extracted | Date Analyzed | Result | C | Q |
|---|---|---|---|---|---|---|---|---|---|
| Aluminum | 6020 | 150 | 4.0 | 10 | 1/06/03 | 1/8/03 | 294 | | J |
| Antimony | 6020 | 0.500 | 0.005 | 1 | 1/06/03 | 1/8/03 | 0.146 | B | UJ |
| Arsenic | 6020 | 0.20 | 0.05 | 1 | 1/06/03 | 1/9/03 | 1.36 | | UJ |
| Barium | 6020 | 2.000 | 0.008 | 1 | 1/06/03 | 1/8/03 | 14.6 | | J |
| Beryllium | 6020 | 0.200 | 0.005 | 1 | 1/06/03 | 1/9/03 | 0.031 | B | UJ |
| Cadmium | 6020 | 0.200 | 0.007 | 1 | 1/06/03 | 1/8/03 | 0.010 | B | J |
| Cobalt | 6020 | 2.000 | 0.005 | 1 | 1/06/03 | 1/8/03 | 0.463 | B | J |
| Copper | 6020 | 2.00 | 0.05 | 1 | 1/06/03 | 1/8/03 | 0.59 | B | UJ |
| Lead | 6020 | 0.200 | 0.006 | 1 | 1/06/03 | 1/8/03 | 3.360 | | J |
| Manganese | 6020 | 10.00 | 0.40 | 10 | 1/06/03 | 1/8/03 | 201 | | J |
| Nickel | 6020 | 20.00 | 0.02 | 1 | 1/06/03 | 1/8/03 | 1.80 | B | UJ |
| Selenium | 6020 | 3.0 | 0.2 | 1 | 1/06/03 | 1/8/03 | 0.7 | B | J |
| Silver | 6020 | 1.000 | 0.003 | 1 | 1/06/03 | 1/8/03 | 0.003 | U | UJ |
| Thallium | 6020 | 0.500 | 0.002 | 1 | 1/06/03 | 1/8/03 | 0.003 | B | UJ |

% Solids: 0.0

Comments:

# METALS

-1-

## INORGANIC ANALYSIS DATA SHEET

SAMPLE NO.

D03581 MW-18S

ıtract: Metcalf & Eddy

› Code: KLAB Case No.: 02136-039 SAS No.: 0209M SDG NO.: K2209045

:rix (soil/water): WATER Lab Sample ID: K2209045-009

/el (low/med): LOW Date Received: 12/20/02

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

| CAS No. | Analyte | Concentration | C | Q | M |
|---|---|---|---|---|---|
| 7440-70-2 | Calcium | 60700 | | | P |
| 7440-47-3 | Chromium | 10.3 | | | P |
| 7439-89-6 | Iron | 3110 | | | P |
| 7439-95-4 | Magnesium | 6140 | | | P |
| 7439-97-6 | Mercury | 0.10 | U | | CV |
| 7440-09-7 | Potassium | 3280 | | | P |
| 7440-23-5 | Sodium | 53100 | | | P |
| 7440-62-2 | Vanadium | 2.8 | ~~B~~ | ✓ | P |
| 7440-66-6 | Zinc | 2.1 | ~~B~~ | UJ ✓ | P |

:c Before: Clarity Before: Texture:

:olor After: Clarity After: Artifacts:

:omments:

# METALS

-1-

## INORGANIC ANALYSIS DATA SHEET

Client: Metcalf & Eddy

Project No.: 02136-0390-01463

Project Name: Woburn, MA-Southwest

Matrix: WATER

Service Request: K2209045

Date Collected: 12/18/02

Date Received: 12/20/02

Units: µG/L

Basis: NA

Sample Name: D03585 MWE-18S

Lab Code: K2209045-010

| Analyte | Analysis Method | MRL | MDL | Dil. | Date Extracted | Date Analyzed | Result | C | Q |
|---|---|---|---|---|---|---|---|---|---|
| Aluminum | 6020 | 150 | 4.0 | 10 | 1/06/03 | 1/8/03 | 292 | | ~~B~~ J |
| Antimony | 6020 | 0.500 | 0.005 | 1 | 1/06/03 | 1/8/03 | 0.143 | ~~B~~ | UJ |
| Arsenic | 6020 | 0.20 | 0.05 | 1 | 1/06/03 | 1/9/03 | 1.49 | | UJ |
| Barium | 6020 | 2.000 | 0.008 | 1 | 1/06/03 | 1/8/03 | 16.1 | | J |
| Beryllium | 6020 | 0.200 | 0.005 | 1 | 1/06/03 | 1/9/03 | 0.030 | ~~B~~ | UJ |
| Cadmium | 6020 | 0.200 | 0.007 | 1 | 1/06/03 | 1/8/03 | 0.011 | ~~B~~ | J |
| Cobalt | 6020 | 2.000 | 0.005 | 1 | 1/06/03 | 1/8/03 | 1.160 | ~~B~~ | J |
| Copper | 6020 | 2.00 | 0.05 | 1 | 1/06/03 | 1/8/03 | 0.92 | ~~B~~ | UJ |
| Lead | 6020 | 0.200 | 0.006 | 1 | 1/06/03 | 1/8/03 | 2.610 | | J |
| Manganese | 6020 | 10.00 | 0.40 | 10 | 1/06/03 | 1/8/03 | 214 | | J |
| Nickel | 6020 | 20.00 | 0.02 | 1 | 1/06/03 | 1/8/03 | 7.75 | ~~B~~ | UJ |
| Selenium | 6020 | 3.0 | 0.2 | 1 | 1/06/03 | 1/8/03 | 0.7 | B | J |
| Silver | 6020 | 1.000 | 0.003 | 1 | 1/06/03 | 1/8/03 | 0.003 | U | UJ |
| Thallium | 6020 | 0.500 | 0.002 | 1 | 1/06/03 | 1/8/03 | 0.003 | ~~B~~ | UJ |

% Solids: 0.0

Comments:

# METALS

-1-

## INORGANIC ANALYSIS DATA SHEET

SAMPLE NO.

DO3585
MWE-18S

ntract: Metcalf & Eddy

b Code: KLAB Case No.: 02136-039 SAS No.: 0209M SDG NO.: K2209045

trix (soil/water): WATER Lab Sample ID: K2209045-010

vel (low/med): LOW Date Received: 12/20/02

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

| CAS No. | Analyte | Concentration | C | Q | M |
|---|---|---|---|---|---|
| 7440-70-2 | Calcium | 58300 | | | P |
| 7440-47-3 | Chromium | 22.1 | | | P |
| 7439-89-6 | Iron | 3070 | | | P |
| 7439-95-4 | Magnesium | 6040 | | | P |
| 7439-97-6 | Mercury | 0.10 | U | | CV |
| 7440-09-7 | Potassium | 3260 | | | P |
| 7440-23-5 | Sodium | 54900 | | | P |
| 7440-62-2 | Vanadium | 3.0 | ~~B~~ | | P |
| 7440-66-6 | Zinc | 4.3 | ~~B~~ | J | P |

C Before: Clarity Before: Texture:

Color After: Clarity After: Artifacts:

Comments:

1PCB-A
PCB SAMPLE DATA SUMMARY
HIGH RESOLUTION

EPA SAMPLE No.

Lab Name: PSC ANALYTICAL Contract: 68-W6-0042 D03582

Lab Code: PASCAN Case No.: 0209M T.O. No.: SDG No.: D03631 MW-4S

Matrix: (soil/water/ash/tissue/oil) WATER Lab Sample ID: 84471

Sample wt/vol.: 0.93 (g/L) L Lab File ID: 07FEB_MET061

Water Sample Prep.: NA (SEPF/SPE) Date Received: 12/19/02

Concentrated Extract Vol.: 100 (µL) Date Extracted: 2/4/2003

Injection Vol.: 1.0 (µL) % Solids/Lipids: 0.0 Date Analyzed: 2/7/2003

GC Column: SPB OCTYL 30M ID: 0.25 (mm) Dilution Factor: 1.0

CONCENTRATION UNITS: (ng/L or ng/g) NG/L

| TARGET ANALYTE | SELECTED IONS | PEAK RT | ION RATIO # | CONCENTRATION | Q | EMPC/EDL |
|---|---|---|---|---|---|---|
| PCB 81 | 292/290 | | | | U | 0.11 ~~0.0579~~ |
| PCB 77 | 292/290 | | | | U | 0.11 ~~0.0559~~ |
| PCB 123 | 326/328 | | | | U | 0.11 ~~0.0599~~ |
| PCB 118 | 326/328 | 27.167 | 1.19 * | | ~~X~~ U | ~~0.11~~ ~~0.187~~ 0.187 |
| PCB 114 | 326/328 | | | | U | 0.11 ~~0.0514~~ |
| PCB 105 | 326/328 | 28.233 | 1.40 | 0.0906 | J | |
| PCB 126 | 326/328 | | | | U | 0.11 ~~0.0529~~ |
| PCB 167 | 360/362 | | | | U | 0.11 ~~0.0587~~ |
| PCB 156/157 | 360/362 | | | | U | 0.11 ~~0.0594~~ |
| PCB 169 | 360/362 | | | | U | 0.11 ~~0.0406~~ |
| PCB 193/180 | 394/396 | 35.267 | 0.95 | 0.166 | ~~X~~ U | |
| PCB 170 | 394/396 | | | | U | 0.11 ~~0.0769~~ |
| PCB 189 | 394/396 | | | | U | 0.11 ~~0.0594~~ |

NOTE: Concentrations, Estimated Maximum Possible Concentrations (EMPCs), and Estimated Detection Levels (EDLs) for solid samples are calculated on a dry weight basis (except tissues, which are reported on a wet weight basis with % Lipids).

# Column to be used to flag values outside QC limits.

**Q Flags**

X = Analyte Not Detected due to Incorrect Isotope Ratio

Y = May be some contribution due to co-eluting isomers

FORM I-HR PCB-A 21/01/2003 aa

EPA ID #: D03582 MW-4S

PSC ID #: 84471

Analyte: PCB
Units: ng/L

| Congener | TEF Humans/mammals | TEF Fish | TEF Birds | Concentration | TEQ Humans/mammals | TEQ Fish | TEQ Birds |
|---|---|---|---|---|---|---|---|
| PCB 77 | 0.0001 | 0.0001 | 0.05 | | 0.0000000 | 0.000000000 | 0.0000000 |
| PCB 81 | 0.0001 | 0.0005 | 0.1 | | 0.0000000 | 0.000000000 | 0.0000000 |
| PCB 105 | 0.0001 | <0.000005 | 0.0001 | 0.0906 | 0.0000091 | <0.000000453 | 0.0000091 |
| PCB 114 | 0.0005 | <0.000005 | 0.0001 | | 0.0000000 | 0.000000000 | 0.0000000 |
| PCB 118 | 0.0001 | <0.000005 | 0.00001 | | 0.0000000 | 0.000000000 | 0.0000000 |
| PCB 123 | 0.0001 | <0.000005 | 0.00001 | | 0.0000000 | 0.000000000 | 0.0000000 |
| PCB 126 | 0.1 | 0.005 | 0.1 | | 0.0000000 | 0.000000000 | 0.0000000 |
| PCB 156/157 | 0.0005 | <0.000005 | 0.0001 | | 0.0000000 | 0.000000000 | 0.0000000 |
| PCB 167 | 0.00001 | <0.000005 | 0.00001 | | 0.0000000 | 0.000000000 | 0.0000000 |
| PCB 169 | 0.01 | 0.00005 | 0.001 | | 0.0000000 | 0.000000000 | 0.0000000 |
| PCB 170 (1994 WHO factor) | 0.0001 | - | - | | 0.0000000 | - | - |
| PCB 193/180 (1994 WHO factor) | 0.00001 | - | - | | 0.0000000 | - | - |
| PCB 189 | 0.0001 | <0.000005 | 0.00001 | | 0.0000000 | 0.000000000 | 0.0000000 |

| | | | |
|---|---|---|---|
| Including 170, 193/180 | 0.00000906 | NA | NA |
| Not including 170, 193/180 | 0.00000906 | <0.000000453 | 0.00000906 |

Report

1PCB-A
PCB SAMPLE DATA SUMMARY
HIGH RESOLUTION

EPA SAMPLE No.

D03579

Lab Name: PSC ANALYTICAL Contract: 68-W6-0042

Lab Code: PASCAN Case No.: 0209M T.O. No.: SDG No.: D03631 MW-1

Matrix: (soil/water/ash/tissue/oil) WATER Lab Sample ID: 84470

Sample wt/vol.: 1 (g/L) L Lab File ID: 30JAN_MET061

Water Sample Prep.: NA (SEPF/SPE) Date Received: 12/19/02

Concentrated Extract Vol.: 100 (µL) Date Extracted: 12/23/02

Injection Vol.: 1.0 (µL) % Solids/Lipids: 0.0 Date Analyzed: 1/30/2003

GC Column: SPB OCTYL 30M ID: 0.25 (mm) Dilution Factor: 1.0

CONCENTRATION UNITS: (ng/L or ng/g) NG/L

| TARGET ANALYTE | SELECTED IONS | PEAK RT | ION RATIO # | CONCENTRATION | Q | EMPC/EDL |
|---|---|---|---|---|---|---|
| PCB 81 | 292/290 | | | | U | 0.10 ~~0.0823~~ |
| PCB 77 | 292/290 | | | | U | 0.10 ~~0.0795~~ |
| PCB 123 | 326/328 | | | | U | 0.10 ~~0.0237~~ |
| PCB 118 | 326/328 | 27.467 | 1.55 | ~~0.0275~~ 0.1 | U ~~J~~ | |
| PCB 114 | 326/328 | | | | U | 0.10 ~~0.0226~~ |
| PCB 105 | 326/328 | 28.567 | 3.22 * | | ~~XJ~~ U | 0.10 ~~0.0351~~ |
| PCB 126 | 326/328 | | | | U | 0.10 ~~0.0229~~ |
| PCB 167 | 360/362 | | | | U | 0.10 ~~0.0271~~ |
| PCB 156/157 | 360/362 | | | | U | 0.10 ~~0.0277~~ |
| PCB 169 | 360/362 | | | | U | 0.10 ~~0.0285~~ |
| PCB 193/180 | 394/396 | 35.583 | 1.02 | ~~0.0486~~ 0.1 | ~~YJ~~ U | |
| PCB 170 | 394/396 | | | | U | 0.10 ~~0.0368~~ |
| PCB 189 | 394/396 | | | | U | 0.10 ~~0.0339~~ |

NOTE: Concentrations, Estimated Maximum Possible Concentrations (EMPCs), and Estimated Detection Levels (EDLs) for solid samples are calculated on a dry weight basis (except tissues, which are reported on a wet weight basis with % Lipids).

# Column to be used to flag values outside QC limits.

**Q Flags**

X = Analyte Not Detected due to Incorrect Isotope Ratio

Y = May be some contribution due to co-eluting isomers

FORM I-HR PCB-A 21/01/2003 ss

EPA ID #: D03579 MW-1

PSC ID #: 84470

Analyte: PCB

Units: ng/L

| Congener | TEF Humans/mammals | TEF Fish | TEF Birds | Concentration | TEQ Humans/mammals | TEQ Fish | TEQ Birds |
|---|---|---|---|---|---|---|---|
| PCB 77 | 0.0001 | 0.0001 | 0.05 | | 0.0000000 | 0.000000000 | 0.0000000 |
| PCB 81 | 0.0001 | 0.0005 | 0.1 | | 0.0000000 | 0.000000000 | 0.0000000 |
| PCB 105 | 0.0001 | <0.000005 | 0.0001 | | 0.0000000 | <0.00002725 | 0.0000000 |
| PCB 114 | 0.0005 | <0.000005 | 0.0001 | | 0.0000000 | <0.00000088 | 0.0000000 |
| PCB 118 | 0.0001 | <0.000005 | 0.00001 | | 0.0000000 | <0.000079 | 0.0000000 |
| PCB 123 | 0.0001 | <0.000005 | 0.00001 | | 0.0000000 | <0.00000209 | 0.0000000 |
| PCB 126 | 0.1 | 0.005 | 0.1 | | 0.0000000 | 0.000000000 | 0.0000000 |
| PCB 156/157 | 0.0005 | <0.000005 | 0.0001 | | 0.0000000 | <0.0000134 | 0.0000000 |
| PCB 167 | 0.00001 | <0.000005 | 0.00001 | | 0.0000000 | <0.0000081 | 0.0000000 |
| PCB 169 | 0.01 | 0.00005 | 0.001 | | 0.0000000 | 0.000000000 | 0.0000000 |
| PCB 170 (1994 WHO factor) | 0.0001 | - | - | | 0.0000000 | - | - |
| PCB 193/180 (1994 WHO factor) | 0.00001 | - | - | | 0.0000000 | - | - |
| PCB 189 | 0.0001 | <0.000005 | 0.00001 | | 0.0000000 | <0.000001645 | 0.0000000 |
| **Including 170, 193/180** | | | | | **0.00000000** | **NA** | **NA** |
| **Not including 170, 193/180** | | | | Report ND | **0.00000000** | | **0.00000000** |

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

D03604
AB-15(0-2)

Lab Name: MITKEM CORPORATION Contract: _____

Lab Code: MITKEM Case No.: 0209M SAS No.: _____ SDG No.: D03604

Matrix: (soil/water) SOIL Lab Sample ID: A1752-11C

Sample wt/vol: 6.5 (g/mL) G Lab File ID: V1F1419

Level: (low/med) LOW Date Received: 11/27/02

% Moisture: not dec. 10 Date Analyzed: 12/03/02

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

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

| CAS NO. | COMPOUND | CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG | Q |
|---|---|---|---|
| 75-71-8 | Dichlorodifluoromethane | 1.7 | U |
| 74-87-3 | Chloromethane | 1.7 | U |
| 75-01-4 | Vinyl Chloride | 1.7 | U |
| 74-83-9 | Bromomethane | 1.7 | U |
| 75-00-3 | Chloroethane | 1.7 | U |
| 75-69-4 | Trichlorofluoromethane | 1.7 | U |
| 75-35-4 | 1,1-Dichloroethene | 1.7 | U |
| 76-13-1 | 1,1,2-Trichloro-1,2,2-trifluoroethane | 1.7 | U |
| 67-64-1 | Acetone | 3.7 | ~~J~~ J·EB |
| 75-15-0 | Carbon Disulfide | 1.7 | U |
| 79-20-9 | Methyl Acetate | 1.7 | U |
| 75-09-2 | Methylene Chloride | 7.8 | UJ |
| 156-60-5 | trans-1,2-Dichloroethene | 1.7 | U |
| 1634-04-4 | Methyl tert-Butyl Ether | 1.7 | U |
| 75-34-3 | 1,1-Dichloroethane | 1.7 | U |
| 156-59-2 | cis-1,2-Dichloroethene | 1.7 | U |
| 78-93-3 | 2-Butanone | 4.3 | U |
| 67-66-3 | Chloroform | 1.7 | U |
| 71-55-6 | 1,1,1-Trichloroethane | 1.7 | U |
| 110-82-7 | Cyclohexane | 1.7 | U |
| 56-23-5 | Carbon Tetrachloride | 1.7 | U |
| 71-43-2 | Benzene | 1.7 | U |
| 107-06-2 | 1,2-Dichloroethane | 1.7 | U |

1B
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

D03604
AB-15(0-2)

Lab Name: MITKEM CORPORATION Contract: _____

Lab Code: MITKEM Case No.: 0209M SAS No.: _____ SDG No.: D03604

Matrix: (soil/water) SOIL Lab Sample ID: A1752-11C

Sample wt/vol: 6.5 (g/mL) G Lab File ID: V1F1419

Level: (low/med) LOW Date Received: 11/27/02

% Moisture: not dec. 10 Date Analyzed: 12/03/02

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

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

| CAS NO. | COMPOUND | CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG | Q |
|---|---|---|---|
| 79-01-6 | Trichloroethene | 1.7 | U |
| 108-87-2 | Methylcyclohexane | 1.7 | U |
| 78-87-5 | 1,2-Dichloropropane | 1.7 | U |
| 75-27-4 | Bromodichloromethane | 1.7 | U |
| 10061-01-5 | cis-1,3-Dichloropropene | 1.7 | U |
| 108-10-1 | 4-Methyl-2-Pentanone | 4.3 | U J |
| 108-88-3 | Toluene | 1.7 | U |
| 10061-02-6 | trans-1,3-Dichloropropene | 1.7 | U |
| 79-00-5 | 1,1,2-Trichloroethane | 1.7 | U |
| 127-18-4 | Tetrachloroethene | 1.7 | U |
| 591-78-6 | 2-Hexanone | 4.3 | U |
| 124-48-1 | Dibromochloromethane | 1.7 | U |
| 106-93-4 | 1,2-Dibromoethane | 1.7 | U |
| 108-90-7 | Chlorobenzene | 1.7 | U |
| 100-41-4 | Ethylbenzene | 1.7 | U |
| 1330-20-7 | Xylene (Total) | 1.7 | U |
| 100-42-5 | Styrene | 1.7 | U |
| 75-25-2 | Bromoform | 1.7 | U |
| 98-82-8 | Isopropylbenzene | 1.7 | U |
| 79-34-5 | 1,1,2,2-Tetrachloroethane | 1.7 | U |
| 541-73-1 | 1,3-Dichlorobenzene | 1.7 | U |
| 106-46-7 | 1,4-Dichlorobenzene | 1.7 | U |
| 95-50-1 | 1,2-Dichlorobenzene | 1.7 | U |
| 96-12-8 | 1,2-Dibromo-3-chloropropane | 1.7 | U |
| 120-82-1 | 1,2,4-Trichlorobenzene | 1.7 | U |

1F

# VOLATILE ORGANICS ANALYSIS DATA SHEET
## TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

D03604
AB-15(0-2)

Lab Name: MITKEM CORPORATION Contract: _____

Lab Code: MITKEM Case No.: 0209M SAS No.: _____ SDG No.: D03604

Matrix: (soil/water) SOIL Lab Sample ID: A1752-11C

Sample wt/vol: 6.5 (g/mL) G Lab File ID: V1F1419

Level: (low/med) LOW Date Received: 11/27/02

% Moisture: not dec. 10 Date Analyzed: 12/03/02

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

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

Number TICs found: 2

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

| CAS NUMBER | COMPOUND NAME | RT | EST. CONC. | Q |
|---|---|---|---|---|
| 1. 556-67-2 | CYCLOTETRASILOXANE, OCTAMETH | 11.62 | 14 | NJ |
| 2. 106-68-3 | 3-OCTANONE | 12.28 | 15 | NJ |
| 3. | | | | |
| 4. | | | | |
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1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

D03605
AB-15(4-4.5)

Lab Name: MITKEM CORPORATION Contract: _____

Lab Code: MITKEM Case No.: 0209M SAS No.: _____ SDG No.: D03604

Matrix: (soil/water) SOIL Lab Sample ID: A1752-12C

Sample wt/vol: 3.7 (g/mL) G Lab File ID: V1F1441

Level: (low/med) LOW Date Received: 12/04/02

% Moisture: not dec. 80 Date Analyzed: 12/04/02

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

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

| CAS NO. | COMPOUND | CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG | Q |
|---|---|---|---|
| 75-71-8 | Dichlorodifluoromethane | ~~14~~ | ~~U~~ R |
| 74-87-3 | Chloromethane | ~~14~~ | ~~U~~ |
| 75-01-4 | Vinyl Chloride | ~~14~~ | ~~U~~ |
| 74-83-9 | Bromomethane | ~~14~~ | ~~U~~ |
| 75-00-3 | Chloroethane | ~~14~~ | ~~U~~ |
| 75-69-4 | Trichlorofluoromethane | ~~14~~ | ~~U~~ |
| 75-35-4 | 1,1-Dichloroethene | ~~14~~ | ~~U~~ |
| 76-13-1 | 1,1,2-Trichloro-1,2,2-trifluoroethane | ~~14~~ | ~~U~~ |
| 67-64-1 | Acetone | 530 | J EB |
| 75-15-0 | Carbon Disulfide | ~~14~~ | ~~U~~ R |
| 79-20-9 | Methyl Acetate | ~~14~~ | ~~U~~ R |
| 75-09-2 | Methylene Chloride | 39 | UJ |
| 156-60-5 | trans-1,2-Dichloroethene | ~~14~~ | ~~U~~ R |
| 1634-04-4 | Methyl tert-Butyl Ether | 130 | J |
| 75-34-3 | 1,1-Dichloroethane | ~~14~~ | ~~U~~ R |
| 156-59-2 | cis-1,2-Dichloroethene | ~~14~~ | ~~U~~ R |
| 78-93-3 | 2-Butanone | 170 | J |
| 67-66-3 | Chloroform | ~~14~~ | ~~U~~ R |
| 71-55-6 | 1,1,1-Trichloroethane | ~~14~~ | ~~U~~ |
| 110-82-7 | Cyclohexane | ~~14~~ | ~~U~~ |
| 56-23-5 | Carbon Tetrachloride | ~~14~~ | ~~U~~ |
| 71-43-2 | Benzene | 44 | J |
| 107-06-2 | 1,2-Dichloroethane | ~~14~~ | ~~U~~ R |

1B
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

D03605
AB-15(4-4.5)

Lab Name: MITKEM CORPORATION Contract: _____

Lab Code: MITKEM Case No.: 0209M SAS No.: _____ SDG No.: D03604

Matrix: (soil/water) SOIL Lab Sample ID: A1752-12C

Sample wt/vol: 3.7 (g/mL) G Lab File ID: V1F1441

Level: (low/med) LOW Date Received: 12/04/02

% Moisture: not dec. 80 Date Analyzed: 12/04/02

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

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

| CAS NO. | COMPOUND | CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG | Q |
|---|---|---|---|
| 79-01-6 | Trichloroethene | ~~14~~ | ~~U~~ R |
| 108-87-2 | Methylcyclohexane | ~~14~~ | ~~U~~ |
| 78-87-5 | 1,2-Dichloropropane | ~~14~~ | ~~U~~ |
| 75-27-4 | Bromodichloromethane | ~~14~~ | ~~U~~ |
| 10061-01-5 | cis-1,3-Dichloropropene | ~~14~~ | ~~U~~ |
| 108-10-1 | 4-Methyl-2-Pentanone | ~~24~~ | ~~U~~ ~~J~~ R |
| 108-88-3 | Toluene | ~~14~~ ~~14~~ | ~~24~~ ~~J~~ R |
| 10061-02-6 | trans-1,3-Dichloropropene | ~~14~~ | ~~U~~ R |
| 79-00-5 | 1,1,2-Trichloroethane | ~~14~~ | ~~U~~ R |
| 127-18-4 | Tetrachloroethene | ~~14~~ | ~~U~~ R |
| 591-78-6 | 2-Hexanone | ~~34~~ | ~~U~~ R |
| 124-48-1 | Dibromochloromethane | ~~14~~ | ~~U~~ R |
| 106-93-4 | 1,2-Dibromoethane | ~~14~~ | ~~U~~ ~~J~~ R |
| 108-90-7 | Chlorobenzene | ~~14~~ | ~~U~~ ~~J~~ |
| 100-41-4 | Ethylbenzene | ~~14~~ | ~~U~~ ~~J~~ |
| 1330-20-7 | Xylene (Total) | ~~14~~ | ~~U~~ ~~J~~ |
| 100-42-5 | Styrene | ~~14~~ | ~~U~~ ~~J~~ |
| 75-25-2 | Bromoform | ~~14~~ | ~~U~~ |
| 98-82-8 | Isopropylbenzene | ~~14~~ | ~~U~~ ~~J~~ |
| 79-34-5 | 1,1,2,2-Tetrachloroethane | ~~14~~ | ~~U~~ ~~J~~ |
| 541-73-1 | 1,3-Dichlorobenzene | ~~14~~ | ~~U~~ ~~J~~ |
| 106-46-7 | 1,4-Dichlorobenzene | ~~14~~ | ~~U~~ ~~J~~ |
| 95-50-1 | 1,2-Dichlorobenzene | ~~14~~ | ~~U~~ ~~J~~ |
| 96-12-8 | 1,2-Dibromo-3-chloropropane | ~~14~~ | ~~U~~ ~~J~~ |
| 120-82-1 | 1,2,4-Trichlorobenzene | ~~14~~ | ~~U~~ ~~J~~ |

1F

# VOLATILE ORGANICS ANALYSIS DATA SHEET
## TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

D03605
AB-15(4-4.5)

Lab Name: MITKEM CORPORATION Contract: _____

Lab Code: MITKEM Case No.: 0209M SAS No.: _____ SDG No.: D03604

Matrix: (soil/water) SOIL Lab Sample ID: A1752-12C

Sample wt/vol: 3.7 (g/mL) G Lab File ID: V1F1441

Level: (low/med) LOW Date Received: 12/04/02

% Moisture: not dec. 80 Date Analyzed: 12/04/02

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

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

Number TICs found: 3

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

| CAS NUMBER | COMPOUND NAME | RT | EST. CONC. | Q |
|---|---|---|---|---|
| 1. | CYCLIC ALKANE | 11.90 | 130 | J |
| 2. | CYCLIC ALKANE | 12.57 | 36 | J |
| 3. 464-48-2 | BICYCLO[2.2.1]HEPTAN-2-ONE, | 14.79 | 62 | NJ |
| 4. | | | | |
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1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

D03607
MR-10(0-2)

Lab Name: MITKEM CORPORATION Contract: _____

Lab Code: MITKEM Case No.: 0209M SAS No.: _____ SDG No.: D03604

Matrix: (soil/water) SOIL Lab Sample ID: A1752-13C

Sample wt/vol: 5.1 (g/mL) G Lab File ID: V1F1442

Level: (low/med) LOW Date Received: 12/04/02

% Moisture: not dec. 7 Date Analyzed: 12/04/02

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

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

| CAS NO. | COMPOUND | CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG | Q |
|---|---|---|---|
| 75-71-8 | Dichlorodifluoromethane | 2.1 | U |
| 74-87-3 | Chloromethane | 2.1 | U |
| 75-01-4 | Vinyl Chloride | 2.1 | U |
| 74-83-9 | Bromomethane | 2.1 | U |
| 75-00-3 | Chloroethane | 2.1 | U |
| 75-69-4 | Trichlorofluoromethane | 2.1 | U |
| 75-35-4 | 1,1-Dichloroethene | 1.6 | J |
| 76-13-1 | 1,1,2-Trichloro-1,2,2-trifluoroethane | 2.1 | U |
| 67-64-1 | Acetone | 5.3 | UJ |
| 75-15-0 | Carbon Disulfide | 2.1 | U |
| 79-20-9 | Methyl Acetate | 2.1 | U |
| 75-09-2 | Methylene Chloride | 9.5 | UJ |
| 156-60-5 | trans-1,2-Dichloroethene | 2.1 | U |
| 1634-04-4 | Methyl tert-Butyl Ether | 2.1 | U |
| 75-34-3 | 1,1-Dichloroethane | 2.1 | U |
| 156-59-2 | cis-1,2-Dichloroethene | 2.1 | U |
| 78-93-3 | 2-Butanone | 5.3 | U |
| 67-66-3 | Chloroform | 2.1 | U |
| 71-55-6 | 1,1,1-Trichloroethane | 1.3 | J |
| 110-82-7 | Cyclohexane | 2.1 | U |
| 56-23-5 | Carbon Tetrachloride | 2.1 | U |
| 71-43-2 | Benzene | 2.1 | U |
| 107-06-2 | 1,2-Dichloroethane | 2.1 | U |

1B
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

D03607
MR-10 (0-2)

Lab Name: MITKEM CORPORATION Contract: _____

Lab Code: MITKEM Case No.: 0209M SAS No.: _____ SDG No.: D03604

Matrix: (soil/water) SOIL Lab Sample ID: A1752-13C

Sample wt/vol: 5.1 (g/mL) G Lab File ID: V1F1442

Level: (low/med) LOW Date Received: 12/04/02

% Moisture: not dec. 7 Date Analyzed: 12/04/02

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

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

| CAS NO. | COMPOUND | CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG | Q |
|---|---|---|---|
| 79-01-6 | Trichloroethene | 20 | |
| 108-87-2 | Methylcyclohexane | 2.1 | U |
| 78-87-5 | 1,2-Dichloropropane | 2.1 | U |
| 75-27-4 | Bromodichloromethane | 2.1 | U |
| 10061-01-5 | cis-1,3-Dichloropropene | 2.1 | U |
| 108-10-1 | 4-Methyl-2-Pentanone | 5.3 | U J |
| 108-88-3 | Toluene | 2.1 ~~1.2~~ | ~~U~~ |
| 10061-02-6 | trans-1,3-Dichloropropene | 2.1 | U |
| 79-00-5 | 1,1,2-Trichloroethane | 2.1 | U |
| 127-18-4 | Tetrachloroethene | 13 | |
| 591-78-6 | 2-Hexanone | 5.3 | U J |
| 124-48-1 | Dibromochloromethane | 2.1 | U |
| 106-93-4 | 1,2-Dibromoethane | 2.1 | U |
| 108-90-7 | Chlorobenzene | 2.1 | U |
| 100-41-4 | Ethylbenzene | 2.1 | U |
| 1330-20-7 | Xylene (Total) | 2.1 | U |
| 100-42-5 | Styrene | 2.1 | U |
| 75-25-2 | Bromoform | 2.1 | U |
| 98-82-8 | Isopropylbenzene | 2.1 | U |
| 79-34-5 | 1,1,2,2-Tetrachloroethane | 2.1 | U |
| 541-73-1 | 1,3-Dichlorobenzene | 2.1 | U |
| 106-46-7 | 1,4-Dichlorobenzene | 2.1 | U |
| 95-50-1 | 1,2-Dichlorobenzene | 2.1 | U |
| 96-12-8 | 1,2-Dibromo-3-chloropropane | 2.1 | U |
| 120-82-1 | 1,2,4-Trichlorobenzene | 2.1 | U |

1F

# VOLATILE ORGANICS ANALYSIS DATA SHEET
## TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

D03607
MR-10(0-2)

Lab Name: MITKEM CORPORATION Contract: _____

Lab Code: MITKEM Case No.: 0209M SAS No.: _____ SDG No.: D03604

Matrix: (soil/water) SOIL Lab Sample ID: A1752-13C

Sample wt/vol: 5.1 (g/mL) G Lab File ID: V1F1442

Level: (low/med) LOW Date Received: 12/04/02

% Moisture: not dec. 7 Date Analyzed: 12/04/02

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

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

Number TICs found: 0

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

| CAS NUMBER | COMPOUND NAME | RT | EST. CONC. | Q |
|---|---|---|---|---|
| 1. | | | | |
| 2. | | | | |
| 3. | | | | |
| 4. | | | | |
| 5. | | | | |
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1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

D03608
MR-10(3-5)

Lab Name: MITKEM CORPORATION Contract: _____

Lab Code: MITKEM Case No.: 0209M SAS No.: _____ SDG No.: D03604

Matrix: (soil/water) SOIL Lab Sample ID: A1752-14C

Sample wt/vol: 5.0 (g/mL) G Lab File ID: V1F1510

Level: (low/med) LOW Date Received: 12/04/02

% Moisture: not dec. 8 Date Analyzed: 12/09/02

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

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

| CAS NO. | COMPOUND | CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG | Q |
|---|---|---|---|
| 75-71-8 | Dichlorodifluoromethane | 2.2 | U |
| 74-87-3 | Chloromethane | 2.2 | U |
| 75-01-4 | Vinyl Chloride | 2.2 | U |
| 74-83-9 | Bromomethane | 2.2 | U |
| 75-00-3 | Chloroethane | 2.2 | U |
| 75-69-4 | Trichlorofluoromethane | 2.2 | U |
| 75-35-4 | 1,1-Dichloroethene | 2.2 | U |
| 76-13-1 | 1,1,2-Trichloro-1,2,2-trifluoroethane | 2.2 | U |
| 67-64-1 | Acetone | 5.4 | UJ |
| 75-15-0 | Carbon Disulfide | 2.2 | U |
| 79-20-9 | Methyl Acetate | 2.2 | U |
| 75-09-2 | Methylene Chloride | 11 | U5 |
| 156-60-5 | trans-1,2-Dichloroethene | 2.2 | U |
| 1634-04-4 | Methyl tert-Butyl Ether | 2.2 | U |
| 75-34-3 | 1,1-Dichloroethane | 2.2 | U |
| 156-59-2 | cis-1,2-Dichloroethene | 2.2 | U |
| 78-93-3 | 2-Butanone | 5.4 | U |
| 67-66-3 | Chloroform | 2.2 | U |
| 71-55-6 | 1,1,1-Trichloroethane | 2.2 | U |
| 110-82-7 | Cyclohexane | 2.2 | U |
| 56-23-5 | Carbon Tetrachloride | 2.2 | U |
| 71-43-2 | Benzene | 2.2 | U |
| 107-06-2 | 1,2-Dichloroethane | 2.2 | U |

1B
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

D03608
MR-10(3-5)

Lab Name: MITKEM CORPORATION Contract: _____

Lab Code: MITKEM Case No.: 0209M SAS No.: _____ SDG No.: D03604

Matrix: (soil/water) SOIL Lab Sample ID: A1752-14C

Sample wt/vol: 5.0 (g/mL) G Lab File ID: V1F1510

Level: (low/med) LOW Date Received: 12/04/02

% Moisture: not dec. 8 Date Analyzed: 12/09/02

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

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

| CAS NO. | COMPOUND | CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG | Q |
|---|---|---|---|
| 79-01-6 | Trichloroethene | 12 | |
| 108-87-2 | Methylcyclohexane | 2.2 | U |
| 78-87-5 | 1,2-Dichloropropane | 2.2 | U |
| 75-27-4 | Bromodichloromethane | 2.2 | U |
| 10061-01-5 | cis-1,3-Dichloropropene | 2.2 | U |
| 108-10-1 | 4-Methyl-2-Pentanone | 5.4 | U |
| 108-88-3 | Toluene | 2.2 | U |
| 10061-02-6 | trans-1,3-Dichloropropene | 2.2 | U |
| 79-00-5 | 1,1,2-Trichloroethane | 2.2 | U |
| 127-18-4 | Tetrachloroethene | 7.1 | |
| 591-78-6 | 2-Hexanone | 5.4 | UJ |
| 124-48-1 | Dibromochloromethane | 2.2 | U |
| 106-93-4 | 1,2-Dibromoethane | 2.2 | U |
| 108-90-7 | Chlorobenzene | 2.2 | U |
| 100-41-4 | Ethylbenzene | 2.2 | U |
| 1330-20-7 | Xylene (Total) | 2.2 | U |
| 100-42-5 | Styrene | 2.2 | U |
| 75-25-2 | Bromoform | 2.2 | U |
| 98-82-8 | Isopropylbenzene | 2.2 | U |
| 79-34-5 | 1,1,2,2-Tetrachloroethane | 2.2 | U |
| 541-73-1 | 1,3-Dichlorobenzene | 2.2 | U |
| 106-46-7 | 1,4-Dichlorobenzene | 2.2 | U |
| 95-50-1 | 1,2-Dichlorobenzene | 2.2 | U |
| 96-12-8 | 1,2-Dibromo-3-chloropropane | 2.2 | U |
| 120-82-1 | 1,2,4-Trichlorobenzene | 2.2 | U |

1F

# VOLATILE ORGANICS ANALYSIS DATA SHEET
## TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

D03608
MR-10(3-5)

Lab Name: MITKEM CORPORATION Contract: _____

Lab Code: MITKEM Case No.: 0209M SAS No.: _____ SDG No.: D03604

Matrix: (soil/water) SOIL Lab Sample ID: A1752-14C

Sample wt/vol: 5.0 (g/mL) G Lab File ID: V1F1510

Level: (low/med) LOW Date Received: 12/04/02

% Moisture: not dec. 8 Date Analyzed: 12/09/02

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

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

Number TICs found: 1

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

| CAS NUMBER | COMPOUND NAME | RT | EST. CONC. | Q |
|---|---|---|---|---|
| 1. 556-67-2 | CYCLOTETRASILOXANE, OCTAMETH | 11.60 | 16 | NJ |
| 2. | | | | |
| 3. | | | | |
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1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

D03609
MR-11 (0.75-1.75)

Lab Name: MITKEM CORPORATION Contract: _____

Lab Code: MITKEM Case No.: 0209M SAS No.: _____ SDG No.: D03604

Matrix: (soil/water) SOIL Lab Sample ID: A1752-18C

Sample wt/vol: 4.1 (g/mL) G Lab File ID: V1F1522

Level: (low/med) LOW Date Received: 12/05/02

% Moisture: not dec. 41 Date Analyzed: 12/09/02

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

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

| CAS NO. | COMPOUND | CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG | Q |
|---|---|---|---|
| 75-71-8 | Dichlorodifluoromethane | 4.1 | U |
| 74-87-3 | Chloromethane | 4.1 | U |
| 75-01-4 | Vinyl Chloride | 170 | J |
| 74-83-9 | Bromomethane | 4.1 | U |
| 75-00-3 | Chloroethane | 4.1 | U |
| 75-69-4 | Trichlorofluoromethane | 4.1 | U |
| 75-35-4 | 1,1-Dichloroethene | 4.1 | U |
| 76-13-1 | 1,1,2-Trichloro-1,2,2-trifluoroethane | 4.1 | U |
| 67-64-1 | Acetone | 490 ~~500~~ | ~~E~~ JEB |
| 75-15-0 | Carbon Disulfide | 14 | J |
| 79-20-9 | Methyl Acetate | 730 ~~4.1~~ | ~~U~~ |
| 75-09-2 | Methylene Chloride | 10 | U |
| 156-60-5 | trans-1,2-Dichloroethene | 4.1 | U |
| 1634-04-4 | Methyl tert-Butyl Ether | 4.1 | U |
| 75-34-3 | 1,1-Dichloroethane | 110 | J |
| 156-59-2 | cis-1,2-Dichloroethene | 2500 ~~1200~~ | ~~E~~ D |
| 78-93-3 | 2-Butanone | 10 | U |
| 67-66-3 | Chloroform | 4.1 | U |
| 71-55-6 | 1,1,1-Trichloroethane | 4.1 | U |
| 110-82-7 | Cyclohexane | 4.1 | U |
| 56-23-5 | Carbon Tetrachloride | 4.1 | U |
| 71-43-2 | Benzene | 370 | J |
| 107-06-2 | 1,2-Dichloroethane | 4.1 | U |

1B
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

D03609
MR711(0.75 1.75)

Lab Name: MITKEM CORPORATION Contract: _____

Lab Code: MITKEM Case No.: 0209M SAS No.: _____ SDG No.: D03604

Matrix: (soil/water) SOIL Lab Sample ID: A1752-18C

Sample wt/vol: 4.1 (g/mL) G Lab File ID: V1F1522

Level: (low/med) LOW Date Received: 12/05/02

% Moisture: not dec. 41 Date Analyzed: 12/09/02

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

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

| CAS NO. | COMPOUND | CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG | Q |
|---|---|---|---|
| 79-01-6 | Trichloroethene | 85 | J |
| 108-87-2 | Methylcyclohexane | 4400 | ~~E~~ J |
| 78-87-5 | 1,2-Dichloropropane | 4.1 | U |
| 75-27-4 | Bromodichloromethane | 4.1 | U |
| 10061-01-5 | cis-1,3-Dichloropropene | 4.1 | U |
| 108-10-1 | 4-Methyl-2-Pentanone | 10 | U J |
| 108-88-3 | Toluene | 13,000 ~~8700~~ | ~~E~~ J |
| 10061-02-6 | trans-1,3-Dichloropropene | 4.1 | U |
| 79-00-5 | 1,1,2-Trichloroethane | 4.1 | U |
| 127-18-4 | Tetrachloroethene | 410 | J |
| 591-78-6 | 2-Hexanone | 10 | U J |
| 124-48-1 | Dibromochloromethane | 4.1 | U |
| 106-93-4 | 1,2-Dibromoethane | 4.1 | U J |
| 108-90-7 | Chlorobenzene | 4.1 | U J |
| 100-41-4 | Ethylbenzene | 11,000 ~~12000~~ | ~~E~~ J |
| 1330-20-7 | Xylene (Total) | 45,000 ~~30000~~ | ~~E~~ J |
| 100-42-5 | Styrene | 4.1 | U J |
| 75-25-2 | Bromoform | 4.1 | U |
| 98-82-8 | Isopropylbenzene | 590 ~~650~~ | ~~E~~ J |
| 79-34-5 | 1,1,2,2-Tetrachloroethane | 4.1 | U J |
| 541-73-1 | 1,3-Dichlorobenzene | 4.1 | U J |
| 106-46-7 | 1,4-Dichlorobenzene | 55 | J |
| 95-50-1 | 1,2-Dichlorobenzene | 1500 ~~210~~ | ~~J~~ |
| 96-12-8 | 1,2-Dibromo-3-chloropropane | 4.1 | U J |
| 120-82-1 | 1,2,4-Trichlorobenzene | 4.1 | U J |

1F
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

D03609
MR-11 (0.75 1.75)

Lab Name: MITKEM CORPORATION Contract: _____

Lab Code: MITKEM Case No.: 0209M SAS No.: _____ SDG No.: D03604

Matrix: (soil/water) SOIL Lab Sample ID: A1752-18C

Sample wt/vol: 4.1 (g/mL) G Lab File ID: V1F1522

Level: (low/med) LOW Date Received: 12/05/02

% Moisture: not dec. 41 Date Analyzed: 12/09/02

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

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

Number TICs found: 45

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

| CAS NUMBER | COMPOUND NAME | RT | EST. CONC. | Q |
|---|---|---|---|---|
| 1. | BRANCHED ALKANE | 3.51 | 2800 | J |
| 2. | BRANCHED ALKANE | 3.77 | 1300 | J |
| 3. | STRAIGHT-CHAINED ALKANE | 4.05 | 1600 | J |
| 4. | CYCLIC ALKANE | 4.69 | 2400 | J |
| 5. | BRANCHED ALKANE | 5.38 | 4800 | J |
| 6. | UNKNOWN | 5.57 | 3300 | J |
| 7. | UNKNOWN | 5.92 | 4600 | J |
| 8. | STRAIGHT-CHAINED ALKANE | 6.07 | 3000 | J |
| 9. | UNKNOWN | 6.22 | 1800 | J |
| 10. | CYCLIC ALKANE | 6.91 | 890 | J |
| 11. | UNKNOWN | 7.05 | 1500 | J |
| 12. | UNKNOWN | 7.21 | 2100 | J |
| 13. | UNKNOWN | 7.35 | 2900 | J |
| 14. | BRANCHED ALKANE | 7.46 | 1200 | J |
| 15. | UNKNOWN | 7.63 | 960 | J |
| 16. | CYCLIC ALKANE | 7.75 | 260 | J |
| 17. | UNKNOWN | 7.86 | 940 | J |
| 18. | STRAIGHT-CHAINED ALKANE | 8.17 | 1100 | J |
| 19. | UNKNOWN | 8.32 | 470 | J |
| 20. | UNKNOWN | 8.49 | 780 | J |
| 21. | UNKNOWN | 8.65 | 240 | J |
| 22. | BRANCHED ALKANE | 8.76 | 350 | J |
| 23. | UNKNOWN | 8.91 | 720 | J |
| 24. | CYCLIC ALKANE | 9.04 | 520 | J |
| 25. | UNKNOWN | 9.12 | 670 | J |
| 26. | UNKNOWN | 9.29 | 310 | J |
| 27. | UNKNOWN | 9.36 | 280 | J |
| 28. | UNKNOWN | 9.48 | 880 | J |
| 29. | UNKNOWN | 9.64 | 650 | J |
| 30. | UNKNOWN | 9.84 | 350 | J |

1F

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

D03609
MR-1/CA 751-75

Lab Name: MITKEM CORPORATION Contract: _____

Lab Code: MITKEM Case No.: 0209M SAS No.: _____ SDG No.: D03604

Matrix: (soil/water) SOIL Lab Sample ID: A1752-18C

Sample wt/vol: 4.1 (g/mL) G Lab File ID: V1F1522

Level: (low/med) LOW Date Received: 12/05/02

% Moisture: not dec. 41 Date Analyzed: 12/09/02

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

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

Number TICs found: 45

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

| CAS NUMBER | COMPOUND NAME | RT | EST. CONC. | Q |
|---|---|---|---|---|
| 1. | UNKNOWN | 10.51 | 480 | J |
| 2. | UNKNOWN | 10.81 | 600 | J |
| 3. | UNKNOWN | 10.93 | 590 | J |
| 4. | UNKNOWN | 10.98 | 270 | J |
| 5. | UNKNOWN | 11.18 | 410 | J |
| 6. | UNKNOWN | 11.27 | 400 | J |
| 7. | UNKNOWN | 11.31 | 420 | J |
| 8. | UNKNOWN | 11.44 | 690 | J |
| 9. 103-65-1 | BENZENE, PROPYL- | 11.59 | 380 | NJ |
| 10. 611-14-3 | BENZENE, 1-ETHYL-2-METHYL- | 11.71 | 1200 | NJ |
| 11. 108-67-8 | BENZENE, 1,3,5-TRIMETHYL- | 11.82 | 730 | NJ |
| 12. | STRAIGHT-CHAINED ALKANE | 11.87 | 770 | J |
| 13. 611-14-3 | BENZENE, 1-ETHYL-2-METHYL- | 12.05 | 590 | NJ |
| 14. 108-67-8 | BENZENE, 1,3,5-TRIMETHYL- | 12.27 | 1000 | NJ |
| 15. 526-73-8 | BENZENE, 1,2,3-TRIMETHYL- | 12.75 | 510 | NJ |
| 16. | | | | |
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1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

D03619
WB-11(1-1.75)

Lab Name: MITKEM CORPORATION Contract: _____

Lab Code: MITKEM Case No.: 0209M SAS No.: _____ SDG No.: D03604

Matrix: (soil/water) SOIL Lab Sample ID: A1752-23C

Sample wt/vol: 6.2 (g/mL) G Lab File ID: V1F1518

Level: (low/med) LOW Date Received: 12/06/02

% Moisture: not dec. 19 Date Analyzed: 12/09/02

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

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

| CAS NO. | COMPOUND | CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG | Q |
|---|---|---|---|
| 75-71-8 | Dichlorodifluoromethane | 2.0 | U |
| 74-87-3 | Chloromethane | 2.0 | U |
| 75-01-4 | Vinyl Chloride | 2.0 | U |
| 74-83-9 | Bromomethane | 2.0 | U |
| 75-00-3 | Chloroethane | 2.0 | U |
| 75-69-4 | Trichlorofluoromethane | 2.0 | U |
| 75-35-4 | 1,1-Dichloroethene | 2.0 | U |
| 76-13-1 | 1,1,2-Trichloro-1,2,2-trifluoroethane | 2.0 | U |
| 67-64-1 | Acetone | 120 | JEB |
| 75-15-0 | Carbon Disulfide | 14 | |
| 79-20-9 | Methyl Acetate | 250 ~~2.0~~ | ~~U~~ |
| 75-09-2 | Methylene Chloride | 8.2 | UJ |
| 156-60-5 | trans-1,2-Dichloroethene | 2.0 | U |
| 1634-04-4 | Methyl tert-Butyl Ether | 2.0 | U |
| 75-34-3 | 1,1-Dichloroethane | 2.0 | U |
| 156-59-2 | cis-1,2-Dichloroethene | 2.0 | U |
| 78-93-3 | 2-Butanone | 5.0 | U |
| 67-66-3 | Chloroform | 2.0 | U |
| 71-55-6 | 1,1,1-Trichloroethane | 2.0 | U |
| 110-82-7 | Cyclohexane | 2.0 | U |
| 56-23-5 | Carbon Tetrachloride | 2.0 | U |
| 71-43-2 | Benzene | 66 | |
| 107-06-2 | 1,2-Dichloroethane | 2.0 | U |

1B
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

D03619
WB-11(1-1.75)

Lab Name: MITKEM CORPORATION Contract: _____

Lab Code: MITKEM Case No.: 0209M SAS No.: _____ SDG No.: D03604

Matrix: (soil/water) SOIL Lab Sample ID: A1752-23C

Sample wt/vol: 6.2 (g/mL) G Lab File ID: V1F1518

Level: (low/med) LOW Date Received: 12/06/02

% Moisture: not dec. 19 Date Analyzed: 12/09/02

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

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

| CAS NO. | COMPOUND | CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG | Q |
|---|---|---|---|
| 79-01-6 | Trichloroethene | 2.0 | U |
| 108-87-2 | Methylcyclohexane | 170 ~~240~~ | ~~E~~ |
| 78-87-5 | 1,2-Dichloropropane | 2.0 | U |
| 75-27-4 | Bromodichloromethane | 2.0 | U |
| 10061-01-5 | cis-1,3-Dichloropropene | 2.0 | U |
| 108-10-1 | 4-Methyl-2-Pentanone | 5.0 | U |
| 108-88-3 | Toluene | 290 ~~300~~ | ~~E~~ |
| 10061-02-6 | trans-1,3-Dichloropropene | 2.0 | U |
| 79-00-5 | 1,1,2-Trichloroethane | 2.0 | U |
| 127-18-4 | Tetrachloroethene | 1.5 | J |
| 591-78-6 | 2-Hexanone | 5.0 | U 5 |
| 124-48-1 | Dibromochloromethane | 2.0 | U |
| 106-93-4 | 1,2-Dibromoethane | 2.0 | U |
| 108-90-7 | Chlorobenzene | 2.0 | U |
| 100-41-4 | Ethylbenzene | 190 | |
| 1330-20-7 | Xylene (Total) | 720 ~~680~~ | ~~E~~ |
| 100-42-5 | Styrene | 2.0 | U |
| 75-25-2 | Bromoform | 2.0 | U |
| 98-82-8 | Isopropylbenzene | 2.0 | U |
| 79-34-5 | 1,1,2,2-Tetrachloroethane | 2.0 | U |
| 541-73-1 | 1,3-Dichlorobenzene | 2.0 | U |
| 106-46-7 | 1,4-Dichlorobenzene | 2.0 | U |
| 95-50-1 | 1,2-Dichlorobenzene | 2.0 | U |
| 96-12-8 | 1,2-Dibromo-3-chloropropane | 2.0 | U |
| 120-82-1 | 1,2,4-Trichlorobenzene | 2.0 | U |

1F
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

D03619
WB511(1-1.75)

Lab Name: MITKEM CORPORATION Contract: _____

Lab Code: MITKEM Case No.: 0209M SAS No.: _____ SDG No.: D03604

Matrix: (soil/water) SOIL Lab Sample ID: A1752-23C

Sample wt/vol: 6.2 (g/mL) G Lab File ID: V1F1518

Level: (low/med) LOW Date Received: 12/06/02

% Moisture: not dec. 19 Date Analyzed: 12/09/02

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

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

Number TICs found: 41

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

| CAS NUMBER | COMPOUND NAME | RT | EST. CONC. | Q |
|---|---|---|---|---|
| 1. | BRANCHED ALKANE | 3.49 | 940 | J |
| 2. | BRANCHED ALKANE | 3.74 | 680 | J |
| 3. | STRAIGHT-CHAINED ALKANE | 4.03 | 530 | J |
| 4. 922-62-3 | 2-PENTENE, 3-METHYL-, (Z)- | 4.52 | 160 | NJ |
| 5. | UNKNOWN | 4.59 | 250 | J |
| 6. | UNKNOWN | 4.66 | 800 | J |
| 7. | UNKNOWN | 5.19 | 280 | J |
| 8. | BRANCHED ALKANE | 5.35 | 930 | J |
| 9. | UNKNOWN | 5.43 | 950 | J |
| 10. | BRANCHED ALKANE | 5.54 | 1100 | J |
| 11. | UNKNOWN | 5.85 | 5100 | J |
| 12. | STRAIGHT-CHAINED ALKANE | 6.03 | 870 | J |
| 13. | BRANCHED ALKANE | 6.19 | 630 | J |
| 14. | UNKNOWN | 6.46 | 290 | J |
| 15. | UNKNOWN | 6.75 | 660 | J |
| 16. | CYCLIC ALKANE | 6.88 | 300 | J |
| 17. | BRANCHED ALKANE | 7.17 | 1900 | J |
| 18. | UNKNOWN | 7.32 | 2000 | J |
| 19. | UNKNOWN | 7.42 | 760 | J |
| 20. | UNKNOWN | 7.59 | 700 | J |
| 21. | STRAIGHT-CHAINED ALKANE | 8.13 | 80 | J |
| 22. | CYCLIC ALKANE | 8.27 | 49 | J |
| 23. | UNKNOWN | 8.94 | 41 | J |
| 24. 80-56-8 | .ALPHA.-PINENE | 11.04 | 74 | NJ |
| 25. 611-14-3 | BENZENE, 1-ETHYL-2-METHYL- | 11.69 | 63 | NJ |
| 26. 95-36-3 | 1,2,4-TRIMETHYLBENZENE | 11.80 | 50 | NJ |
| 27. 108-67-8 | BENZENE, 1,3,5-TRIMETHYL- | 12.25 | 66 | NJ |
| 28. 13466-78-9 | 3-CARENE | 12.29 | 68 | NJ |
| 29. 5989-27-5 | D-LIMONENE | 12.58 | 57 | NJ |
| 30. 99-87-6 | BENZENE, 1-METHYL-4-(1-METHY | 12.64 | 66 | NJ |

1F
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

D03619
WB-11 (1-1.75)

Lab Name: MITKEM CORPORATION Contract: _____

Lab Code: MITKEM Case No.: 0209M SAS No.: _____ SDG No.: D03604

Matrix: (soil/water) SOIL Lab Sample ID: A1752-23C

Sample wt/vol: 6.2 (g/mL) G Lab File ID: V1F1518

Level: (low/med) LOW Date Received: 12/06/02

% Moisture: not dec. 19 Date Analyzed: 12/09/02

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

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

Number TICs found: 41

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

| CAS NUMBER | COMPOUND NAME | RT | EST. CONC. | Q |
|---|---|---|---|---|
| 1. 526-73-8 | BENZENE, 1,2,3-TRIMETHYL- | 12.74 | 59 | NJ |
| 2. 99-87-6 | BENZENE, 1-METHYL-4-(1-METHY | 13.09 | 59 | NJ |
| 3. 2870-04-4 | BENZENE, 2-ETHYL-1,3-DIMETHY | 13.52 | 50 | NJ |
| 4. 527-53-7 | BENZENE, 1,2,3,5-TETRAMETHYL | 14.03 | 43 | NJ |
| 5. | UNKNOWN | 14.48 | 92 | J |
| 6. 119-64-2 | NAPHTHALENE, 1,2,3,4-TETRAHY | 14.66 | 67 | NJ |
| 7. 4912-92-9 | 1H-INDENE, 2,3-DIHYDRO-1,1-D | 15.00 | 55 | NJ |
| 8. 91-20-3 | NAPHTHALENE | 15.15 | 70 | NJ |
| 9. 3877-19-8 | NAPHTHALENE, 1,2,3,4-TETRAHY | 15.27 | 57 | NJ |
| 10. 6682-71-9 | 1H-INDENE, 2,3-DIHYDRO-4,7-D | 15.37 | 78 | NJ |
| 11. | STRAIGHT-CHAINED ALKANE | 15.55 | 91 | J |
| 12. | | | | |
| 13. | | | | |
| 14. | | | | |
| 15. | | | | |
| 16. | | | | |
| 17. | | | | |
| 18. | | | | |
| 19. | | | | |
| 20. | | | | |
| 21. | | | | |
| 22. | | | | |
| 23. | | | | |
| 24. | | | | |
| 25. | | | | |
| 26. | | | | |
| 27. | | | | |
| 28. | | | | |
| 29. | | | | |
| 30. | | | | |

# Form I
## Semi-Volatile Organics by GC/MS

Client: **Metcalf & Eddy**
Project: **DAS -Southwest properties, Woburn**
Case: **0209M** SDG: **D03603**
Client ID: **D03604** AB15(0-2)
Matrix: **Soil**

Lab Code: **MA00030**
ETR: **0211137**
Lab ID: **0211137-10**
Associated Blank: **SS1203B3**
Concentration Units: **µg/Kg**

| Date Collected | Date Received | Date Extracted | Date Analyzed | Percent Solid | Sample Amount (g) | Final Volume (ml) | Dilution Factor | Analyst |
|---|---|---|---|---|---|---|---|---|
| 11/26/02 | 11/27/02 | 12/03/02 | 12/18/02 | 89.9 | 20.26 | 1 | 1 | AJA |

| Parameter | Result | | Parameter | Result | |
|---|---|---|---|---|---|
| Benzaldehyde | 270 | U J | Acenaphthene | 270 | U |
| Phenol | 4.2 UJ ~~270~~ | ~~U~~ | 2,4-Dinitrophenol | 270 | U J |
| 2-Chlorophenol | 270 | U | 4-Nitrophenol | 270 | U J |
| bis(2-Chloroethyl)ether | 270 | U | Dibenzofuran | 270 | U |
| 2-Methylphenol | 2.8 UJ ~~270~~ | ~~U~~ | 2,4-Dinitrotoluene | 270 | U |
| bis(2-Chloroisopropyl)ether | 270 | U | Diethylphthalate | 270 | U |
| Acetophenone | 270 | U | Fluorene | 270 | U |
| 4-Methylphenol | 270 | U | 4-Chlorophenyl-phenylether | 270 | U |
| n-Nitroso-di-n-propylamine | 270 | U | 4-Nitroaniline | 270 | U J |
| Hexachloroethane | 270 | U J | 4,6-Dinitro-2-methylphenol | 270 | U J |
| Nitrobenzene | 270 | U | n-Nitrosodiphenylamine | 270 | U |
| Isophorone | 270 | U | 4-Bromophenyl-phenylether | 270 | U J |
| 2-Nitrophenol | 270 | U J | Hexachlorobenzene | 2.8 ~~270~~ | U |
| 2,4-Dimethylphenol | 270 | U J | Atrazine | 270 | U J |
| bis(2-Chloroethoxy)methane | 270 | U | Pentachlorophenol | 270 | U J |
| 2,4-Dichlorophenol | 270 | U | Phenanthrene | 9.8 J ~~270~~ | ~~U~~ |
| Naphthalene | 3.1 UJ ~~270~~ | ~~U~~ | Anthracene | 270 | U |
| 4-Chloroaniline | 270 | U J | Carbazole | 270 | U |
| Hexachlorobutadiene | 270 | U | Di-n-butylphthalate | 270 | U |
| Caprolactam | 270 | U | Fluoranthene | 19 ~~9.8 J~~ ~~270~~ | ~~U~~ |
| 4-Chloro-3-methylphenol | 270 | U | Pyrene | 19 ~~270~~ | ~~U~~ |
| 2-Methylnaphthalene | 270 | U | Butylbenzylphthalate | 270 | U |
| Hexachlorocyclopentadiene | 270 | U J | 3,3'-Dichlorobenzidine | ~~270~~ | ~~U~~ R |
| 2,4,6-Trichlorophenol | 270 | U J | Benz[a]anthracene | 11 ~~270~~ | ~~U~~ |
| 2,4,5-Trichlorophenol | 270 | U J | Chrysene | 15 ~~270~~ | ~~U~~ |
| Biphenyl | 270 | U | bis(2-Ethylhexyl)phthalate | 58 | J |
| 2-Chloronaphthalene | 270 | U | Di-n-octylphthalate | 270 | U |
| 2-Nitroaniline | 270 | U J | Benzo[b]fluoranthene | 13 ~~270~~ | ~~U~~ J |
| Dimethylphthalate | 270 | U | Benzo[k]fluoranthene | 12 ~~270~~ | ~~U~~ |
| 2,6-Dinitrotoluene | 270 | U | Benzo[a]pyrene | 12 ~~270~~ | ~~U~~ J |
| Acenaphthylene | 270 | U | Indeno[1,2,3-cd]pyrene | 6.2 ~~270~~ | ~~U~~ J |
| 3-Nitroaniline | 270 | U J | Dibenz[a,h]anthracene | 2.8 ~~270~~ | ~~U~~ J |
| | | | Benzo[g,h,i]perylene | 7.9 ~~270~~ | ~~U~~ J |

| Surrogate | % Recovery | Acceptance Range (%) |
|---|---|---|
| 2-Fluorophenol | 64 | 25-121 |
| Phenol-d5 | 70 | 24-113 |
| Nitrobenzene-d5 | 63 | 23-120 |
| 2-Fluorobiphenyl | 73 | 30-115 |
| 2,4,6-Tribromophenol | 73 | 19-122 |
| Terphenyl-d14 | 81 | 18-137 |

J - Estimated value, below quantitation limit.
U - The analyte was analyzed for but not detected at the sample specific level reported.

12/23/02 11:10



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# Form I
## Semi-Volatile Tentatively Identified Compounds (TIC)

Client: **Metcalf & Eddy**
Project: **DAS -Southwest properties, Woburn**
Case: **0209M** SDG: **D03603**
Client ID: **D03604** AB 15 (0-2)
Matrix: **Soil**

Lab Code: **MA00030**
ETR: **0211137**
Lab ID: **0211137-10**
Associated Blank: **SS1203B3**
Concentration Units: **µg/Kg**

| Date Collected | Date Received | Date Extracted | Date Analyzed | Percent Solid | Sample Amount (g) | Final Volume (ml) | Dilution Factor | Analyst |
|---|---|---|---|---|---|---|---|---|
| 11/26/02 | 11/27/02 | 12/03/02 | 12/18/02 | 89.9 | 20.26 | 1 | 1 | AJA |

| Parameter | RT | Result | CAS Number |
|---|---|---|---|
| unknown | 3.9 | 340 | |
| 2-Pentanone, 4-hydroxy-4-methyl- | 4.18 | 11000 | 000123-42-2 |
| 9-Hexadecenoic acid, methyl ester, (Z)- | 12.69 | 260 | 001120-25-8 |

12/23/02 11:06

# Form I
## Semi-Volatile Organics by GC/MS

Client: **Metcalf & Eddy**
Project: **DAS -Southwest properties, Woburn**
Case: **0209M** SDG: **D03603**
Client ID: **D03605 FD** AB15(4-4.5)
Matrix: **Soil**

Lab Code: **MA00030**
ETR: **0212008**
Lab ID: **0212008-07**
Associated Blank: **SS1213B2**
Concentration Units: **µg/Kg**

| Date Collected | Date Received | Date Extracted | Date Analyzed | Percent Solid | Sample Amount (g) | Final Volume (ml) | Dilution Factor | Analyst |
|---|---|---|---|---|---|---|---|---|
| 12/02/02 | 12/04/02 | 12/13/02 | 12/26/02 | 42.5 | 20.29 | 2 | 1 | AJA |

| Parameter | Result | Parameter | Result |
|---|---|---|---|
| Benzaldehyde | 1900 J | Acenaphthene | 1200 U J |
| Phenol | 52 ~~1200~~ U J | 2,4-Dinitrophenol | ~~1200 U~~ R |
| 2-Chlorophenol | 1200 U | 4-Nitrophenol | 1200 U J |
| bis(2-Chloroethyl)ether | 1200 U | Dibenzofuran | 1200 U |
| 2-Methylphenol | 8.8 JEB ~~1200 U~~ | 2,4-Dinitrotoluene | 1200 U |
| bis(2-Chloroisopropyl)ether | 1200 U J | Diethylphthalate | 1200 U |
| Acetophenone | 1200 U | Fluorene | 1200 U |
| 4-Methylphenol | 1200 U | 4-Chlorophenyl-phenylether | 1200 U |
| n-Nitroso-di-n-propylamine | 1200 U | 4-Nitroaniline | 1200 U |
| Hexachloroethane | 1200 U | 4,6-Dinitro-2-methylphenol | 1200 U |
| Nitrobenzene | 1200 U | n-Nitrosodiphenylamine | 1200 U |
| Isophorone | 1200 U | 4-Bromophenyl-phenylether | 1200 U |
| 2-Nitrophenol | 1200 U | Hexachlorobenzene | 12 ~~1200~~ U |
| 2,4-Dimethylphenol | ~~1200 U~~ R | Atrazine | 1200 U J |
| bis(2-Chloroethoxy)methane | 1200 U J | Pentachlorophenol | ~~1200 U~~ R |
| 2,4-Dichlorophenol | 1200 U | Phenanthrene | 37 J ~~1200 U~~ J |
| Naphthalene | 26 ~~1200~~ U | Anthracene | 1200 U J |
| 4-Chloroaniline | ~~1200 U~~ R | Carbazole | 1200 U |
| Hexachlorobutadiene | 1200 U J | Di-n-butylphthalate | 1200 U |
| Caprolactam | 1200 U | Fluoranthene | 73 J ~~1200 U~~ |
| 4-Chloro-3-methylphenol | 1200 U | Pyrene | 64 J ~~1200 U~~ |
| 2-Methylnaphthalene | 1200 U | Butylbenzylphthalate | 1200 U J |
| Hexachlorocyclopentadiene | 1200 U J | 3,3'-Dichlorobenzidine | ~~1200 U~~ R |
| 2,4,6-Trichlorophenol | 1200 U | Benz[a]anthracene | 25 J ~~1200 U~~ J |
| 2,4,5-Trichlorophenol | 1200 U | Chrysene | 110 J ~~1200 U~~ |
| Biphenyl | 1200 U | bis(2-Ethylhexyl)phthalate | 1200 U J |
| 2-Chloronaphthalene | 1200 U | Di-n-octylphthalate | 1200 U J |
| 2-Nitroaniline | 1200 U | Benzo[b]fluoranthene | 51 J ~~1200 U~~ |
| Dimethylphthalate | 1200 U | Benzo[k]fluoranthene | 13 J ~~1200 U~~ |
| 2,6-Dinitrotoluene | 1200 U | Benzo[a]pyrene | 19 J ~~1200 U~~ |
| Acenaphthylene | 1200 U | Indeno[1,2,3-cd]pyrene | 12 J ~~1200 U~~ |
| 3-Nitroaniline | 1200 U | Dibenz[a,h]anthracene | 4.3 J ~~1200 U~~ |
| | | Benzo[g,h,i]perylene | 11 J ~~1200 U~~ |

| Surrogate | % Recovery | Acceptance Range (%) |
|---|---|---|
| 2-Fluorophenol | 45 | 25-121 |
| Phenol-d5 | 52 | 24-113 |
| Nitrobenzene-d5 | 45 | 23-120 |
| 2-Fluorobiphenyl | 62 | 30-115 |
| 2,4,6-Tribromophenol | 72 | 19-122 |
| Terphenyl-d14 | 62 | 18-137 |

U - The analyte was analyzed for but not detected at the sample specific level reported.

01/06/03 09:21



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# Form I
## Semi-Volatile Tentatively Identified Compounds (TIC)

Client: **Metcalf & Eddy**
Project: **DAS -Southwest properties, Woburn**
Case: **0209M** SDG: **D03603**
Client ID: **D03605 FD** AB 15 (4-4.5)
Matrix: **Soil**

Lab Code: **MA00030**
ETR: **0212008**
Lab ID: **0212008-07**
Associated Blank: **SS1213B2**
Concentration Units: **µg/Kg**

| Date Collected | Date Received | Date Extracted | Date Analyzed | Percent Solid | Sample Amount (g) | Final Volume (ml) | Dilution Factor | Analyst |
|---|---|---|---|---|---|---|---|---|
| 12/02/02 | 12/04/02 | 12/13/02 | 12/26/02 | 42.5 | 20.29 | 2 | 1 | AJA |

| Parameter | RT | Result | CAS Number |
|---|---|---|---|
| 2-Pentanone, 4-hydroxy-4-methyl- | 6.23 | 56000 | 000123-42-2 |
| 1-Docosene | 16.97 | 2000 | 001599-67-3 |
| Hexadecanoic acid | 17.31 | 2700 | 000057-10-3 |
| 1-Heptadecanol | 18.93 | 2300 | 001454-85-9 |
| unknown | 19.14 | 2500 | |
| 1-Docosene | 19.77 | 13000 | 001599-67-3 |
| unknown | 20.19 | 4400 | |
| 1,2-Tetradecanediol | 20.57 | 22000 | 021129-09-9 |
| unknown | 20.72 | 1800 | |
| unknown | 21.51 | 13000 | |
| 2-Nonacosanone | 22.67 | 7000 | 000000-00-0 |

01/06/03 09:24

# Form I
## Semi-Volatile Organics by GC/MS

Client: **Metcalf & Eddy**
Project: **DAS -Southwest properties, Woburn**
Case: **0209M** SDG: **D03603**
Client ID: **D03607** MR-10 (0-2)
Matrix: **Soil**

Lab Code: **MA00030**
ETR: **0212008**
Lab ID: **0212008-02**
Associated Blank: **SS1213B2**
Concentration Units: **µg/Kg**

| Date Collected | Date Received | Date Extracted | Date Analyzed | Percent Solid | Sample Amount (g) | Final Volume (ml) | Dilution Factor | Analyst |
|---|---|---|---|---|---|---|---|---|
| 12/02/02 | 12/04/02 | 12/13/02 | 12/26/02 | 91.3 | 20.30 | 1 | 1 | AJA |

| Parameter | | Result | |
|---|---|---|---|
| Benzaldehyde | | 270 | U J |
| Phenol | 5.3 | ~~270~~ | U |
| 2-Chlorophenol | | 270 | U |
| bis(2-Chloroethyl)ether | | 270 | U |
| 2-Methylphenol | 2.7 | ~~270~~ | U |
| bis(2-Chloroisopropyl)ether | | 270 | U |
| Acetophenone | | 270 | U |
| 4-Methylphenol | | 270 | U |
| n-Nitroso-di-n-propylamine | | 270 | U |
| Hexachloroethane | | 270 | U |
| Nitrobenzene | | 270 | U |
| Isophorone | | 270 | U |
| 2-Nitrophenol | | 270 | U |
| 2,4-Dimethylphenol | | ~~270 U~~ | R |
| bis(2-Chloroethoxy)methane | | 270 | U J |
| ·Dichlorophenol | | 270 | U |
| ·phthalene | 6.6 | ~~270~~ | U |
| 4-Chloroaniline | | ~~270 U~~ | R |
| Hexachlorobutadiene | | 270 | U J |
| Caprolactam | | 270 | U |
| 4-Chloro-3-methylphenol | | 270 | U |
| 2-Methylnaphthalene | | 270 | U |
| Hexachlorocyclopentadiene | | 270 | U J |
| 2,4,6-Trichlorophenol | | 270 | U |
| 2,4,5-Trichlorophenol | | 270 | U |
| Biphenyl | | 270 | U |
| 2-Chloronaphthalene | | 270 | U |
| 2-Nitroaniline | | 270 | U |
| Dimethylphthalate | | 270 | U |
| 2,6-Dinitrotoluene | | 270 | U |
| Acenaphthylene | | 270 | U |
| 3-Nitroaniline | | 270 | U |

| Parameter | | Result | |
|---|---|---|---|
| Acenaphthene | | 270 | U J |
| 2,4-Dinitrophenol | | 91 | J |
| 4-Nitrophenol | | 270 | U J |
| Dibenzofuran | | 270 | U |
| 2,4-Dinitrotoluene | | 270 | U |
| Diethylphthalate | | 270 | U |
| Fluorene | | 270 | U |
| 4-Chlorophenyl-phenylether | | 270 | U |
| 4-Nitroaniline | | 270 | U |
| 4,6-Dinitro-2-methylphenol | | 270 | U |
| n-Nitrosodiphenylamine | | 270 | U |
| 4-Bromophenyl-phenylether | | 270 | U |
| Hexachlorobenzene | 2.7 | ~~270~~ | U |
| Atrazine | | 270 | U J |
| Pentachlorophenol | | ~~270 U~~ | R |
| Phenanthrene | 86 | ~~80~~ | J |
| Anthracene | | 270 | U J |
| Carbazole | | 270 | U |
| Di-n-butylphthalate | | 270 | U |
| Fluoranthene | 210 | ~~180~~ | J |
| Pyrene | 170 | ~~150~~ | J |
| Butylbenzylphthalate | | 270 | U J |
| 3,3'-Dichlorobenzidine | | ~~270 U~~ | R |
| Benz[a]anthracene | 100 | ~~90~~ | J |
| Chrysene | 110 | ~~110~~ | J |
| bis(2-Ethylhexyl)phthalate | | 270 | U J |
| Di-n-octylphthalate | | 270 | U J |
| Benzo[b]fluoranthene | 100 | ~~95~~ | J |
| Benzo[k]fluoranthene | 92 | ~~79~~ | J |
| Benzo[a]pyrene | 100 | ~~87~~ | J |
| Indeno[1,2,3-cd]pyrene | 82 | ~~68~~ | J |
| Dibenz[a,h]anthracene | 26 | J ~~270 U J~~ | |
| Benzo[g,h,i]perylene | 81 | ~~74~~ | J |

| Surrogate | % Recovery | Acceptance Range (%) |
|---|---|---|
| 2-Fluorophenol | 35 | 25-121 |
| Phenol-d5 | 40 | 24-113 |
| ·obenzene-d5 | 36 | 23-120 |
| ·uorobiphenyl | 44 | 30-115 |
| 2,4,6-Tribromophenol | 56 | 19-122 |
| Terphenyl-d14 | 61 | 18-137 |

J - Estimated value, below quantitation limit.
U - The analyte was analyzed for but not detected at the sample specific level reported.

01/02/03 16:32

# Form I
## Semi-Volatile Tentatively Identified Compounds (TIC)

Client: **Metcalf & Eddy**
Project: **DAS -Southwest properties, Woburn**
Case: **0209M** SDG: **D03603**
Client ID: **D03607** MR-10 (0-2)
Matrix: **Soil**

Lab Code: **MA00030**
ETR: **0212008**
Lab ID: **0212008-02**
Associated Blank: **SS1213B2**
Concentration Units: **µg/Kg**

| Date Collected | Date Received | Date Extracted | Date Analyzed | Percent Solid | Sample Amount (g) | Final Volume (ml) | Dilution Factor | Analyst |
|---|---|---|---|---|---|---|---|---|
| 12/02/02 | 12/04/02 | 12/13/02 | 12/26/02 | 91.3 | 20.30 | 1 | 1 | AJA |

| Parameter | RT | Result | CAS Number |
|---|---|---|---|
| 2-Pentanone, 4-hydroxy-4-methyl- | 6.21 | 14000 | 000123-42-2 |
| Hexadecanoic acid | 17.3 | 690 | 000057-10-3 |



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# Form I
## Semi-Volatile Organics by GC/MS

Woods Hole Group

Client: **Metcalf & Eddy**
Project: **DAS -Southwest properties, Woburn**
Case: **0209M** SDG: **D03603**
Client ID: **D03608** MR-10(3-5)
Matrix: **Soil**

Lab Code: **MA00030**
ETR: **0212008**
Lab ID: **0212008-03**
Associated Blank: **SS1213B2**
Concentration Units: **µg/Kg**

| Date Collected | Date Received | Date Extracted | Date Analyzed | Percent Solid | Sample Amount (g) | Final Volume (ml) | Dilution Factor | Analyst |
|---|---|---|---|---|---|---|---|---|
| 12/02/02 | 12/04/02 | 12/13/02 | 12/26/02 | 92.4 | 20.07 | 1 | 1 | AJA |

| Parameter | Result | |
|---|---|---|
| Benzaldehyde | 49 | J |
| Phenol | 3.8 ~~270~~ | U J |
| 2-Chlorophenol | 270 | U |
| bis(2-Chloroethyl)ether | 270 | U |
| 2-Methylphenol | 2.7 ~~270~~ | U |
| bis(2-Chloroisopropyl)ether | 270 | U |
| Acetophenone | 270 | U |
| 4-Methylphenol | 270 | U |
| n-Nitroso-di-n-propylamine | 270 | U |
| Hexachloroethane | 270 | U |
| Nitrobenzene | 270 | U |
| Isophorone | 270 | U |
| 2-Nitrophenol | 270 | U |
| 2,4-Dimethylphenol | ~~270~~ | ~~U~~ R |
| bis(2-Chloroethoxy)methane | 270 | U J |
| 2,4-Dichlorophenol | 270 | U |
| Naphthalene | 2.7 ~~270~~ | U |
| Chloroaniline | ~~270~~ | ~~U~~ R |
| Hexachlorobutadiene | 270 | U J |
| Caprolactam | 59 | J |
| 4-Chloro-3-methylphenol | 270 | U J |
| 2-Methylnaphthalene | 270 | U |
| Hexachlorocyclopentadiene | 270 | U J |
| 2,4,6-Trichlorophenol | 270 | U |
| 2,4,5-Trichlorophenol | 270 | U |
| Biphenyl | 270 | U |
| 2-Chloronaphthalene | 270 | U |
| 2-Nitroaniline | 270 | U |
| Dimethylphthalate | 270 | U |
| 2,6-Dinitrotoluene | 270 | U |
| Acenaphthylene | 270 | U |
| 3-Nitroaniline | 270 | U |

| Parameter | Result | |
|---|---|---|
| Acenaphthene | 270 | U J |
| 2,4-Dinitrophenol | ~~270~~ | ~~U~~ R |
| 4-Nitrophenol | 270 | U J |
| Dibenzofuran | 270 | U |
| 2,4-Dinitrotoluene | 270 | U |
| Diethylphthalate | 270 | U |
| Fluorene | 270 | U |
| 4-Chlorophenyl-phenylether | 270 | U |
| 4-Nitroaniline | 270 | U |
| 4,6-Dinitro-2-methylphenol | 270 | U |
| n-Nitrosodiphenylamine | 270 | U |
| 4-Bromophenyl-phenylether | 270 | U |
| Hexachlorobenzene | 2.7 ~~270~~ | U |
| Atrazine | 270 | U J |
| Pentachlorophenol | ~~270~~ | ~~U~~ R |
| Phenanthrene | 1.3 J ~~270~~ | ~~U~~ J |
| Anthracene | 270 | U J |
| Carbazole | 270 | U |
| Di-n-butylphthalate | 270 | U |
| Fluoranthene | 2.2 J ~~270~~ | ~~U~~ |
| Pyrene | 2.0 J ~~270~~ | ~~U~~ |
| Butylbenzylphthalate | 270 | U J |
| 3,3'-Dichlorobenzidine | ~~270~~ | ~~U~~ R |
| Benz[a]anthracene | 1.2 J ~~270~~ | ~~U~~ J |
| Chrysene | 1.4 J ~~270~~ | ~~U~~ |
| bis(2-Ethylhexyl)phthalate | 270 | U J |
| Di-n-octylphthalate | 270 | U J |
| Benzo[b]fluoranthene | 1.5 J ~~270~~ | ~~U~~ |
| Benzo[k]fluoranthene | 2.7 ~~270~~ | U J UJ |
| Benzo[a]pyrene | 2.7 ~~270~~ | U J UJ |
| Indeno[1,2,3-cd]pyrene | 1.3 J ~~270~~ | ~~U~~ |
| Dibenz[a,h]anthracene | 2.7 ~~270~~ | U J UJ |
| Benzo[g,h,i]perylene | 1.3 J ~~270~~ | ~~U~~ |

| rogate | % Recovery | Acceptance Range (%) |
|---|---|---|
| luorophenol | 38 | 25-121 |
| ıol-d5 | 46 | 24-113 |
| ɔbenzene-d5 | 44 | 23-120 |
| ıorobiphenyl | 47 | 30-115 |
| -T nophenol | 37 | 19-122 |
| ıe 14 | 54 | 18-137 |

J - Estimated value, below quantitation limit.
U - The analyte was analyzed for but not detected at the sample specific level reported.

# Form I
## Semi-Volatile Tentatively Identified Compounds (TIC)

Client: **Metcalf & Eddy**
Project: **DAS -Southwest properties, Woburn**
Case: **0209M** SDG: **D03603**
Client ID: **D03608** MR-10(3-5)
Matrix: **Soil**

Lab Code: **MA00030**
ETR: **0212008**
Lab ID: **0212008-03**
Associated Blank: **SS1213B2**
Concentration Units: **µg/Kg**

| Date Collected | Date Received | Date Extracted | Date Analyzed | Percent Solid | Sample Amount (g) | Final Volume (ml) | Dilution Factor | Analyst |
|---|---|---|---|---|---|---|---|---|
| 12/02/02 | 12/04/02 | 12/13/02 | 12/26/02 | 92.4 | 20.07 | 1 | 1 | AJA |

| Parameter | RT | Result | CAS Number |
|---|---|---|---|
| 2-Pentanone, 4-hydroxy-4-methyl- | 6.42 | 2200 | 000123-42-2 |



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# Form I
## Semi-Volatile Organics by GC/MS

Client: **Metcalf & Eddy**
Project: **DAS -Southwest properties, Woburn**
Case: **0209M** SDG: **D03603**
Client ID: **D03609** MR-11 (0.75-1.75)
Matrix: **Soil**

Lab Code: **MA00030**
ETR: **0212021**
Lab ID: **0212021-01**
Associated Blank: **SS1213B2**
Concentration Units: **µg/Kg**

| Date Collected | Date Received | Date Extracted | Date Analyzed | Percent Solid | Sample Amount (g) | Final Volume (ml) | Dilution Factor | Analyst |
|---|---|---|---|---|---|---|---|---|
| 12/04/02 | 12/06/02 | 12/13/02 | 12/26/02 | 55.5 | 5.08 | 2 | 1 | AJA |

| Parameter | Result | |
|---|---|---|
| Benzaldehyde | 3500 | U J |
| Phenol | 260 J EB ~~3500~~ | ~~U~~ |
| 2-Chlorophenol | 3500 | U J |
| bis(2-Chloroethyl)ether | 3500 | U J |
| 2-Methylphenol | 28 J EB ~~3500~~ | ~~U~~ |
| bis(2-Chloroisopropyl)ether | 3500 | U |
| Acetophenone | 3500 | U |
| 4-Methylphenol | 3500 | U |
| n-Nitroso-di-n-propylamine | 3500 | U |
| Hexachloroethane | 3500 | U |
| Nitrobenzene | 3500 | U |
| Isophorone | 3500 | U |
| 2-Nitrophenol | 3500 | U |
| 2,4-Dimethylphenol | ~~3500~~ | ~~U~~ R |
| bis(2-Chloroethoxy)methane | 3500 | U J |
| 2,4-Dichlorophenol | 3500 | U |
| Naphthalene | 5300 | J EB |
| 4-Chloroaniline | ~~3500~~ | ~~U~~ R |
| Hexachlorobutadiene | 3500 | U J |
| Caprolactam | 3500 | U |
| 4-Chloro-3-methylphenol | 3500 | U |
| 2-Methylnaphthalene | 7200 | J |
| Hexachlorocyclopentadiene | 3500 | U J |
| 2,4,6-Trichlorophenol | 3500 | U |
| 2,4,5-Trichlorophenol | 3500 | U |
| Biphenyl | 3500 | U |
| 2-Chloronaphthalene | 3500 | U |
| 2-Nitroaniline | 3500 | U |
| Dimethylphthalate | 3500 | U |
| 2,6-Dinitrotoluene | 3500 | U |
| Acenaphthylene | 3500 | U |
| 3-Nitroaniline | 3500 | U |

| Parameter | Result | |
|---|---|---|
| Acenaphthene | 3500 | U J |
| 2,4-Dinitrophenol | ~~3500~~ | ~~UL~~ R |
| 4-Nitrophenol | 3500 | U J |
| Dibenzofuran | 3500 | U |
| 2,4-Dinitrotoluene | 3500 | U |
| Diethylphthalate | 3500 | U |
| Fluorene | 3500 | U |
| 4-Chlorophenyl-phenylether | 3500 | U |
| 4-Nitroaniline | 3500 | U |
| 4,6-Dinitro-2-methylphenol | 3500 | U |
| n-Nitrosodiphenylamine | 3500 | U |
| 4-Bromophenyl-phenylether | 3500 | U |
| Hexachlorobenzene | 35 ~~3500~~ | U |
| Atrazine | 3500 | U J |
| Pentachlorophenol | ~~3500~~ | ~~UL~~ R |
| Phenanthrene | 2000 J ~~3500~~ | ~~U~~ J |
| Anthracene | 3500 | U J |
| Carbazole | 3500 | U |
| Di-n-butylphthalate | 3500 | U |
| Fluoranthene | 640 ~~1300~~ | J |
| Pyrene | 2100 | J |
| Butylbenzylphthalate | 3500 | U J |
| 3,3'-Dichlorobenzidine | ~~3500~~ | ~~U~~ R |
| Benz[a]anthracene | 330 J ~~3500~~ | ~~U~~ J |
| Chrysene | 550 J ~~3500~~ | ~~U~~ |
| bis(2-Ethylhexyl)phthalate | 3500 | U J |
| Di-n-octylphthalate | 3500 | U J |
| Benzo[b]fluoranthene | 130 J ~~3500~~ | ~~U~~ |
| Benzo[k]fluoranthene | 96 J ~~3500~~ | ~~U~~ |
| Benzo[a]pyrene | 120 J ~~3500~~ | ~~U~~ |
| Indeno[1,2,3-cd]pyrene | 91 J ~~3500~~ | ~~U~~ |
| Dibenz[a,h]anthracene | 39 J ~~3500~~ | ~~U~~ |
| Benzo[g,h,i]perylene | 180 J ~~3500~~ | ~~U~~ |

| Surrogate | % Recovery | Acceptance Range (%) |
|---|---|---|
| 2-Fluorophenol | 56 | 25-121 |
| Phenol-d5 | 63 | 24-113 |
| Nitrobenzene-d5 | 61 | 23-120 |
| [illegible]orobiphenyl | 63 | 30-115 |
| [illegible],6-Tribromophenol | 74 | 19-122 |
| Terphenyl-d14 | 87 | 18-137 |

J - Estimated value, below quantitation limit.
U - The analyte was analyzed for but not detected at the sample specific level reported.

01/06/03 09:24

# Form I
# Semi-Volatile Tentatively Identified Compounds (TIC)

Client: **Metcalf & Eddy**
Project: **DAS -Southwest properties, Woburn**
Case: **0209M** SDG: **D03603**
Client ID: **D03609** MR-11 (0.75 1.75)
Matrix: **Soil**

Lab Code: **MA00030**
ETR: **0212021**
Lab ID: **0212021-01**
Associated Blank: **SS1213B2**
Concentration Units: **µg/Kg**

| Date Collected | Date Received | Date Extracted | Date Analyzed | Percent Solid | Sample Amount (g) | Final Volume (ml) | Dilution Factor | Analyst |
|---|---|---|---|---|---|---|---|---|
| 12/04/02 | 12/06/02 | 12/13/02 | 12/26/02 | 55.5 | 5.08 | 2 | 1 | AJA |

| Parameter | RT | Result | CAS Number |
|---|---|---|---|
| 2-Propanol, 2-methyl- | 6.14 | 54000 | 000075-65-0 |
| Ethylbenzene | 6.46 | 3900 | 100-41-4 |
| p-Xylene | 6.62 | 13000 | 000106-42-3 |
| Benzene, 1,3-dimethyl- | 7.04 | 7600 | 000108-38-3 |
| Benzene, 1-ethyl-2-methyl- | 8.2 | 6400 | 000611-14-3 |
| Benzene, 1,2,3-trimethyl- | 8.31 | 6300 | 000526-73-8 |
| 1,2,4-Trimethylbenzene | 8.72 | 22000 | 95-63-6 |
| Benzene, 1-ethyl-4-methyl- | 9.18 | 6200 | 000622-96-8 |
| Benzene, 1-methyl-3-propyl- | 9.58 | 8300 | 001074-43-7 |
| Benzene, 1-ethyl-2,4-dimethyl- | 9.69 | 12000 | 000874-41-9 |
| Benzene, 2-ethyl-1,4-dimethyl- | 10.54 | 6600 | 001758-88-9 |
| Benzene, 1,2,4,5-tetramethyl- | 10.6 | 7200 | 000095-93-2 |
| Benzene, 2-butenyl- | 10.89 | 8200 | 001560-06-1 |
| Benzene, (2-methyl-1-propenyl)- | 11.06 | 7600 | 000768-49-0 |
| Benzene, (1,1-dimethylpropyl)- | 11.32 | 3000 | 002049-95-8 |
| 1H-Indene, 2,3-dihydro-1,2-dimethyl- | 12.31 | 5500 | 017057-82-8 |
| Naphthalene, 1-methyl- | 13.05 | 6700 | 000090-12-0 |
| Naphthalene, 2,6-dimethyl- | 13.91 | 4000 | 000581-42-0 |
| Naphthalene, 2,3-dimethyl- | 14.05 | 6100 | 000581-40-8 |

01/06/03 09:25

# Form I
## Semi-Volatile Organics by GC/MS

Client: **Metcalf & Eddy**
Project: **DAS -Southwest properties, Woburn**
Case: **0209M** SDG: **D03603**
Client ID: **D03619** WB11 (1-1.75)
Matrix: **Soil**

Lab Code: **MA00030**
ETR: **0212021**
Lab ID: **0212021-04**
Associated Blank: **SS1213B2**
Concentration Units: **µg/Kg**

| Date Collected | Date Received | Date Extracted | Date Analyzed | Percent Solid | Sample Amount (g) | Final Volume (ml) | Dilution Factor | Analyst |
|---|---|---|---|---|---|---|---|---|
| 12/05/02 | 12/06/02 | 12/13/02 | 12/26/02 | 82.5 | 20.23 | 2 | 1 | AJA |

| Parameter | Result | |
|---|---|---|
| Benzaldehyde | 600 | U J |
| Phenol | 27 UJ ~~600~~ | ~~U~~ |
| 2-Chlorophenol | 600 | U J |
| bis(2-Chloroethyl)ether | 600 | U J |
| 2-Methylphenol | 8.6 JEB ~~600~~ | ~~U~~ |
| bis(2-Chloroisopropyl)ether | 600 | U J |
| Acetophenone | 600 | U |
| 4-Methylphenol | 600 | U |
| n-Nitroso-di-n-propylamine | 600 | U |
| Hexachloroethane | 600 | U |
| Nitrobenzene | 600 | U |
| Isophorone | 600 | U |
| 2-Nitrophenol | 600 | U |
| 2,4-Dimethylphenol | ~~600~~ | ~~U~~ R |
| bis(2-Chloroethoxy)methane | 600 | U J |
| 2,4-Dichlorophenol | 600 | U |
| Naphthalene | 210 JEB ~~200~~ | ~~J~~ |
| 4-Chloroaniline | ~~600~~ | ~~U~~ R |
| Hexachlorobutadiene | 600 | U J |
| Caprolactam | 600 | U |
| 4-Chloro-3-methylphenol | 600 | U |
| 2-Methylnaphthalene | 150 | J |
| Hexachlorocyclopentadiene | 600 | U J |
| 2,4,6-Trichlorophenol | 600 | U |
| 2,4,5-Trichlorophenol | 600 | U |
| Biphenyl | 600 | U |
| 2-Chloronaphthalene | 600 | U |
| 2-Nitroaniline | 600 | U |
| Dimethylphthalate | 600 | U |
| 2,6-Dinitrotoluene | 600 | U |
| Acenaphthylene | 600 | U |
| 3-Nitroaniline | 600 | U |

| Parameter | Result | |
|---|---|---|
| Acenaphthene | 350 | J |
| 2,4-Dinitrophenol | ~~600~~ | ~~U~~ R |
| 4-Nitrophenol | 600 | U J |
| Dibenzofuran | 200 | J |
| 2,4-Dinitrotoluene | 600 | U J |
| Diethylphthalate | 600 | U J |
| Fluorene | 390 | J |
| 4-Chlorophenyl-phenylether | 600 | U J |
| 4-Nitroaniline | 600 | U |
| 4,6-Dinitro-2-methylphenol | 600 | U |
| n-Nitrosodiphenylamine | 600 | U |
| 4-Bromophenyl-phenylether | 600 | U |
| Hexachlorobenzene | 3.3 J ~~600~~ | ~~U~~ |
| Atrazine | 600 | U J |
| Pentachlorophenol | ~~600~~ | ~~U~~ R |
| Phenanthrene | 4000 | J |
| Anthracene | 800 | J |
| Carbazole | 500 | J |
| Di-n-butylphthalate | 600 | U J |
| Fluoranthene | 6800 | J |
| Pyrene | 4800 | J |
| Butylbenzylphthalate | 5100 | J |
| 3,3'-Dichlorobenzidine | ~~600~~ | ~~U~~ R |
| Benz[a]anthracene | 3000 | J |
| Chrysene | 2700 | J |
| bis(2-Ethylhexyl)phthalate | 7300 | J |
| Di-n-octylphthalate | 600 | U J |
| Benzo[b]fluoranthene | 2300 | J |
| Benzo[k]fluoranthene | 1800 | |
| Benzo[a]pyrene | 2500 | |
| Indeno[1,2,3-cd]pyrene | 1400 | |
| Dibenz[a,h]anthracene | 3.10 ~~380~~ | J |
| Benzo[g,h,i]perylene | 1400 | J |

| Surrogate | % Recovery | Acceptance Range (%) |
|---|---|---|
| 2-Fluorophenol | 38 | 25-121 |
| Phenol-d5 | 43 | 24-113 |
| Nitrobenzene-d5 | 40 | 23-120 |
| 2-Fluorobiphenyl | 45 | 30-115 |
| 2,4,6-Tribromophenol | 68 | 19-122 |
| Terphenyl-d14 | 59 | 18-137 |

J - Estimated value, below quantitation limit.
U - The analyte was analyzed for but not detected at the sample specific level reported.

01/06/03 09:25

# Form I
## Semi-Volatile Tentatively Identified Compounds (TIC)

Client: **Metcalf & Eddy**
Project: **DAS -Southwest properties, Woburn**
Case: **0209M** SDG: **D03603**
Client ID: **D03619** WB-11 (1-1.75)
Matrix: **Soil**

Lab Code: **MA00030**
ETR: **0212021**
Lab ID: **0212021-04**
Associated Blank: **SS1213B2**
Concentration Units: **µg/Kg**

| Date Collected | Date Received | Date Extracted | Date Analyzed | Percent Solid | Sample Amount (g) | Final Volume (ml) | Dilution Factor | Analyst |
|---|---|---|---|---|---|---|---|---|
| 12/05/02 | 12/06/02 | 12/13/02 | 12/26/02 | 82.5 | 20.23 | 2 | 1 | AJA |

| Parameter | RT | Result | CAS Number |
|---|---|---|---|
| 2-Pentanone, 4-hydroxy-4-methyl- | 6.17 | **11000** | 000123-42-2 |
| unknown | 14.41 | **510** | |
| 4H-Cyclopenta[def]phenanthrene | 17.45 | **760** | 000203-64-5 |

01/06/03 09:27

PESTICIDE ORGANIC ANALYTES DATA SHEET

Client Sample ID:

D03615

WB8(0-2)

010204

Lab Name: SwRI
Lab Code: SwRI
Matrix : Soil
% Moisture : 37
Extraction (SEPF/Cont/Sonc) : SOXH
Concentrated Extract Volume : 2000 uL
Injection Volume : 1.00 uL
GPC Cleanup (Y/N) : Y

Client: METCALF & EDDY
Case #: DAS 0209M
Sample wt/vol : 0.04854 kg
Decanted (Y/N) : N
pH: NA
Dilution Factor : 1

Project: 03159.14.305
SDG: D03611
Lab Sample ID : 217013
SwRI ID : 217013
Date Analyzed: 1/3/2003
Date Received: 11/27/2002
Date Extracted: 12/05/02

| CAS NO. | | COMPOUND | CONCENTRATION UNITS ug/kg | Q |
|---|---|---|---|---|
| 12674-11-2 | ------- | Aroclor-1016 | 6.54 | U J. |
| 11104-28-2 | ------- | Aroclor-1221 | 13.1 | U |
| 11141-16-5 | ------- | Aroclor-1232 | 6.54 | U |
| 53469-21-9 | ------- | Aroclor-1242 | 6.54 | U |
| 12672-29-6 | ------- | Aroclor-1248 | 6.54 | U |
| 11097-69-1 | ------- | Aroclor-1254 | 6.54 | ~~U~~ UJ. |
| 11096-82-5 | ------- | Aroclor-1260 | ~~610~~ 89.6 | ~~E~~ J. |

DATA REPORTING QUALIFIERS

Indicates compound was analyzed for but not detected at the reported concentration.

This flag identifies compounds whose concentration exceed the calibration range.

P - This flag identifies compounds whose %D exceed 25%.

D - Dilution

SOXH - Soxhlet

SEPF - Seperatory Funnel

PESTICIDE ORGANIC ANALYTES DATA SHEET

Client Sample ID:

D03619

WB11 (1-1.75)

010275

Lab Name: SwRI
Lab Code: SwRI
Matrix : Soil
% Moisture : 16
Extraction (SEPF/Cont/Sonc) : SOXH
Concentrated Extract Volume : 2000 uL
Injection Volume : 1.00 uL
GPC Cleanup (Y/N) : Y

Client: METCALF & EDDY
Case #: DAS 0209M
Sample wt/vol : 0.03627 kg
Decanted (Y/N) : N
pH: NA
Dilution Factor : 20

Project: 03159.14.305
SDG: D03611
Lab Sample ID : 217264/DF20
SwRI ID : 217264/DF20
Date Analyzed: 1/3/2003
Date Received: 12/6/2002
Date Extracted: 12/12/02

| CAS NO. | | COMPOUND | CONCENTRATION UNITS ug/kg | Q |
|---|---|---|---|---|
| 12674-11-2 | ------- | Aroclor-1016 | ~~924~~ 132 | ~~U~~ J |
| 11104-28-2 | ------- | Aroclor-1221 | 264 | U |
| 11141-16-5 | ------- | Aroclor-1232 | 132 | U |
| 53469-21-9 | ------- | Aroclor-1242 | ~~482~~ 3250 | ~~U~~ J |
| 12672-29-6 | ------- | Aroclor-1248 | 132 | U |
| 11097-69-1 | ------- | Aroclor-1254 | ~~2800~~ 5770 | ~~DE~~ J |
| 11096-82-5 | ------- | Aroclor-1260 | ~~4460~~ 11,700 | ~~E~~ J |

DATA REPORTING QUALIFIERS

U - Indicates compound was analyzed for but not detected at the reported concentration.

- This flag identifies compounds whose concentration exceed the calibration range.

- This flag identifies compounds whose %D exceed 25%.

D - Dilution

SOXH - Soxhlet

SEPF - Seperatory Funnel



03G1102A
version 12-30-02

# Form I
# Total Metals

Client: **Metcalf & Eddy**
Project: **DAS -Southwest properties, Woburn**
Case: **0209M** SDG: **D03603**
Client ID: **D03607**
Matrix: **Soil** MR-10 (0-2)
Percent Solid: **91.3**

Lab Code: **MA00030**
ETR: **0212008**
Lab ID: **0212008-02**
Concentration Units: **mg/Kg**
Date Collected: **12/02/02**
Date Received: **12/04/02**

| Parameter | Result | Qualifier | Detection Limit | Dilution | Date Analyzed | Date Prepared | Analytical Method | Analyst |
|---|---|---|---|---|---|---|---|---|
| Aluminum | 11000 | J, EB | 16 | 100 | 01/16/03 | 12/19/02 | 6020A | LCP |
| Antimony | 0.094 | UJ | 0.019 | 2 | 01/09/03 | 12/19/02 | 6020A | LMR |
| Arsenic | 2.8 | J | 0.0036 | 2 | 01/06/03 | 12/19/02 | 6020A | LMR |
| Barium | 31 | J | 0.010 | 10 | 01/15/03 | 12/19/02 | 6020A | LMR |
| Beryllium | 0.42 | J | 0.0055 | 2 | 01/06/03 | 12/19/02 | 6020A | LMR |
| Cadmium | 0.079 | J | 0.00087 | 2 | 01/06/03 | 12/19/02 | 6020A | LMR |
| Calcium | 4200 | J | 6.1 | 20 | 01/16/03 | 12/19/02 | 6020A | LCP |
| Chromium | 26 | J | 0.091 | 20 | 01/16/03 | 12/19/02 | 6020A | LCP |
| Cobalt | 8.3 | J | 0.0021 | 2 | 01/06/03 | 12/19/02 | 6020A | LMR |
| Copper | 18 | J | 0.66 | 20 | 01/16/03 | 12/19/02 | 6020A | LCP |
| Iron | 19000 | J | 42 | 100 | 01/16/03 | 12/19/02 | 6020A | LCP |
| Lead | 15 | J | 0.091 | 10 | 01/15/03 | 12/19/02 | 6020A | LMR |
| Magnesium | 6700 | J | 0.78 | 20 | 01/16/03 | 12/19/02 | 6020A | LCP |
| Manganese | 420 | J | 3.6 | 100 | 01/15/03 | 12/19/02 | 6020A | LMR |
| Mercury | 0.018 | J | 0.0014 | 1 | 12/24/02 | 12/19/02 | 7471A | CJH |
| Nickel | 17 | J | 0.25 | 20 | 01/16/03 | 12/19/02 | 6020A | LCP |
| Potassium | 1000 | J | 1.9 | 20 | 01/16/03 | 12/19/02 | 6020A | LCP |
| Selenium | 0.010 | UJ | 0.010 | 2 | 01/06/03 | 12/19/02 | 6020A | LMR |
| Silver | 0.11 | J | 0.0013 | 2 | 01/09/03 | 12/19/02 | 6020A | LMR |
| Sodium | 310 | | 0.91 | 2 | 01/14/03 | 01/08/03 | 6020A | LMR |
| Thallium | 0.075 | U | 0.0082 | 2 | 01/06/03 | 12/19/02 | 6020A | LMR |
| Vanadium | 30 | J | 0.15 | 20 | 01/16/03 | 12/19/02 | 6020A | LCP |
| Zinc | 83 | J | 3.0 | 20 | 01/15/03 | 12/19/02 | 6020A | LMR |

J - Below CRDL, Project DL, or RL but greater than or = MDL.
E - Estimated due to Interference.
N - Spike recovery outside control limits.
U - The analyte was analyzed for but not detected at the sample specific level reported.
Duplicate outside control limits.

01/27/03 18:29

# Form I
# Total Metals

Client: **Metcalf & Eddy**
Project: **DAS -Southwest properties, Woburn**
Case: **0209M** SDG: **D03603**
Client ID: **D03619**
Matrix: **Soil** WB11(1-1.75)
Percent Solid: **82.5**

Lab Code: **MA00030**
ETR: **0212021**
Lab ID: **0212021-04**
Concentration Units: **mg/Kg**
Date Collected: **12/05/02**
Date Received: **12/06/02**

| Parameter | Result | Qualifier | Detection Limit | Dilution | Date Analyzed | Date Prepared | Analytical Method | Analyst |
|---|---|---|---|---|---|---|---|---|
| Aluminum | 7700 | J EB ¤ | 17 | 100 | 01/16/03 | 12/19/02 | 6020A | LCP |
| Antimony | 1.3 | J N | 0.024 | 2 | 01/09/03 | 12/19/02 | 6020A | LMR |
| Arsenic | 6.5 | J E | 0.0038 | 2 | 01/06/03 | 12/19/02 | 6020A | LMR |
| Barium | 210 | J E | 0.11 | 100 | 01/14/03 | 12/19/02 | 6020A | LCP |
| Beryllium | 0.94 | J E | 0.0059 | 2 | 01/06/03 | 12/19/02 | 6020A | LMR |
| Cadmium | 1.6 | J E | 0.00093 | 2 | 01/06/03 | 12/19/02 | 6020A | LMR |
| Calcium | 61000 | J | 120 | 200 | 01/27/03 | 01/08/03 | 6020A | LMR |
| Chromium | 26 | J | 0.049 | 10 | 01/14/03 | 12/19/02 | 6020A | LCP |
| Cobalt | 4.8 | J E | 0.0022 | 2 | 01/06/03 | 12/19/02 | 6020A | LMR |
| Copper | 160 | J | 3.5 | 100 | 01/16/03 | 12/19/02 | 6020A | LCP |
| Iron | 16000 | J | 40 | 50 | 01/27/03 | 01/08/03 | 6020A | LMR |
| Lead | 210 | J E | 0.98 | 100 | 01/14/03 | 12/19/02 | 6020A | LCP |
| Magnesium | 5100 | J | 4.2 | 100 | 01/16/03 | 12/19/02 | 6020A | LCP |
| Manganese | 260 | J | 3.9 | 100 | 01/14/03 | 12/19/02 | 6020A | LCP |
| Mercury | 0.66 | J ¤ | 0.0080 | 5 | 12/24/02 | 12/19/02 | 7471A | CJH |
| Nickel | 19 | J N | 0.13 | 10 | 01/14/03 | 12/19/02 | 6020A | LCP |
| Potassium | 1700 | J N | 1.0 | 10 | 01/16/03 | 12/19/02 | 6020A | LCP |
| nium | 0.048 | UJ J | 0.011 | 2 | 01/06/03 | 12/19/02 | 6020A | LMR |
| er | 0.36 | J N | 0.0012 | 2 | 01/21/03 | 01/21/03 | 6020A | LCP |
| Sodium | 360 | E | 1.4 | 2 | 01/14/03 | 01/08/03 | 6020A | LMR |
| Thallium | 0.096 | U J | 0.0088 | 2 | 01/06/03 | 12/19/02 | 6020A | LMR |
| Vanadium | 22 | J ¤ | 0.078 | 10 | 01/14/03 | 12/19/02 | 6020A | LCP |
| Zinc | 330 | J | 32 | 200 | 01/16/03 | 12/19/02 | 6020A | LCP |

J - Below CRDL, Project DL, or RL but greater than or = MDL.
E - Estimated due to Interference.
N - Spike recovery outside control limits.
¤ - Duplicate outside control limits.

01/27/03 18:49



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# Form I
# Total Metals

Client: **Metcalf & Eddy**
Project: **DAS -Southwest properties, Woburn**
Case: **0209M** SDG: **D03603**
Client ID: **D03616** WB 9(0-0.5)
Matrix: **Soil**
Percent Solid: **62.7**

Lab Code: **MA00030**
ETR: **0212008**
Lab ID: **0212008-05**
Concentration Units: **mg/Kg**
Date Collected: **12/03/02**
Date Received: **12/04/02**

| Parameter | Result | Qualifier | Detection Limit | Dilution | Date Analyzed | Date Prepared | Analytical Method | Analyst |
|---|---|---|---|---|---|---|---|---|
| Aluminum | 5500 | J EB | 4.2 | 20 | 01/16/03 | 12/19/02 | 6020A | LCP |
| Antimony | 0.35 | UJ | 0.030 | 2 | 01/09/03 | 12/19/02 | 6020A | LMR |
| Arsenic | 12 | J | 0.0048 | 2 | 01/06/03 | 12/19/02 | 6020A | LMR |
| Barium | 46 | J | 0.014 | 10 | 01/15/03 | 12/19/02 | 6020A | LMR |
| Beryllium | 0.24 | J | 0.0074 | 2 | 01/06/03 | 12/19/02 | 6020A | LMR |
| Cadmium | 0.70 | J | 0.0012 | 2 | 01/06/03 | 12/19/02 | 6020A | LMR |
| Calcium | 2200 | J | 8.3 | 20 | 01/16/03 | 12/19/02 | 6020A | LCP |
| Chromium | 380 | J | 0.62 | 100 | 01/16/03 | 12/19/02 | 6020A | LCP |
| Cobalt | 2.4 | J | 0.0028 | 2 | 01/06/03 | 12/19/02 | 6020A | LMR |
| Copper | 19 | J | 0.45 | 10 | 01/16/03 | 12/19/02 | 6020A | LCP |
| Iron | 15000 | J | 57 | 100 | 01/16/03 | 12/19/02 | 6020A | LCP |
| Lead | 120 | J | 1.2 | 100 | 01/15/03 | 12/19/02 | 6020A | LMR |
| Magnesium | 420 | J | 0.11 | 2 | 01/16/03 | 12/19/02 | 6020A | LCP |
| Manganese | 150 | J | 4.9 | 100 | 01/15/03 | 12/19/02 | 6020A | LMR |
| Mercury | 0.20 | J | 0.0019 | 1 | 12/24/02 | 12/19/02 | 7471A | CJH |
| Nickel | 8.4 | J | 0.033 | 2 | 01/06/03 | 12/19/02 | 6020A | LMR |
| Potassium | 180 | J | 0.26 | 2 | 01/16/03 | 12/19/02 | 6020A | LCP |
| Selenium | 0.99 | | 0.014 | 2 | 01/06/03 | 12/19/02 | 6020A | LMR |
| Silver | 0.16 | J | 0.0020 | 2 | 01/09/03 | 12/19/02 | 6020A | LMR |
| Sodium | 85 | | 1.6 | 2 | 01/14/03 | 01/08/03 | 6020A | LMR |
| Thallium | 0.072 | U | 0.011 | 2 | 01/06/03 | 12/19/02 | 6020A | LMR |
| Vanadium | 11 | J | 0.020 | 2 | 01/06/03 | 12/19/02 | 6020A | LMR |
| Zinc | 140 | J | 20 | 100 | 01/15/03 | 12/19/02 | 6020A | LMR |

J - Below CRDL, Project DL, or RL but greater than or = MDL.
E - Estimated due to Interference.
N - Spike recovery outside control limits.
□ - Duplicate outside control limits.

01/27/03 18:55

# Form I
# Total Metals

Client: **Metcalf & Eddy**
Project: **DAS -Southwest properties, Woburn**
Case: **0209M** SDG: **D03603**
Client ID: **D03609** MR-11 (0.75-1.75)
Matrix: **Soil**
Percent Solid: **55.5**

Lab Code: **MA00030**
ETR: **0212021**
Lab ID: **0212021-01**
Concentration Units: **mg/Kg**
Date Collected: **12/04/02**
Date Received: **12/06/02**

| Parameter | Result | Qualifier | Detection Limit | Dilution | Date Analyzed | Date Prepared | Analytical Method | Analyst |
|---|---|---|---|---|---|---|---|---|
| Aluminum | 7000 | J EB | 4.4 | 20 | 01/18/03 | 12/19/02 | 6020A | LMR |
| Antimony | 3.0 | J | 0.031 | 2 | 01/09/03 | 12/19/02 | 6020A | LMR |
| Arsenic | 3.8 | J | 0.0050 | 2 | 01/06/03 | 12/19/02 | 6020A | LMR |
| Barium | 2600 | J | 1.5 | 1000 | 01/14/03 | 12/19/02 | 6020A | LCP |
| Beryllium | 0.32 | J | 0.0077 | 2 | 01/06/03 | 12/19/02 | 6020A | LMR |
| Cadmium | 3.4 | J | 0.0012 | 2 | 01/06/03 | 12/19/02 | 6020A | LMR |
| Calcium | 6700 | J | 12 | 20 | 01/27/03 | 01/08/03 | 6020A | LMR |
| Chromium | 190 | J | 0.64 | 100 | 01/14/03 | 12/19/02 | 6020A | LCP |
| Cobalt | 1.0 | J | 0.0030 | 2 | 01/06/03 | 12/19/02 | 6020A | LMR |
| Copper | 48 | J | 0.46 | 10 | 01/14/03 | 12/19/02 | 6020A | LCP |
| Iron | 2400 | J | 17 | 20 | 01/27/03 | 01/08/03 | 6020A | LMR |
| Lead | 12000 | J | 64 | 5000 | 01/14/03 | 12/19/02 | 6020A | LCP |
| Magnesium | 520 | J | 0.11 | 2 | 01/16/03 | 12/19/02 | 6020A | LCP |
| Manganese | 79 | J | 1.0 | 20 | 01/14/03 | 12/19/02 | 6020A | LCP |
| Mercury | 0.63 | J | 0.0024 | 1 | 12/24/02 | 12/19/02 | 7471A | CJH |
| Nickel | 6.5 | J | 0.035 | 2 | 01/06/03 | 12/19/02 | 6020A | LMR |
| Potassium | 760 | J | 0.27 | 2 | 01/16/03 | 12/19/02 | 6020A | LCP |
| [illegible]nium | 0.97 | | 0.014 | 2 | 01/06/03 | 12/19/02 | 6020A | LMR |
| [illegible]ver | 0.30 | J | 0.0017 | 2 | 01/21/03 | 01/21/03 | 6020A | LCP |
| Sodium | 280 | | 1.4 | 2 | 01/14/03 | 01/08/03 | 6020A | LMR |
| Thallium | 0.11 | U | 0.012 | 2 | 01/06/03 | 12/19/02 | 6020A | LMR |
| Vanadium | 15 | J | 0.10 | 10 | 01/14/03 | 12/19/02 | 6020A | LCP |
| Zinc | 1200 | J | 210 | 1000 | 01/14/03 | 12/19/02 | 6020A | LCP |

J - Below CRDL, Project DL, or RL but greater than or = MDL.
E - Estimated due to Interference.
N - Spike recovery outside control limits.
¤ - Duplicate outside control limits.

01/27/03 18:31

# Inorganics

Client: **Metcalf & Eddy**
Project: **DAS -Southwest properties, Woburn**
Case: **0209M** SDG: **D03603**
Client ID: **D03607** MR-10(0-2)
Matrix: **Soil**
Percent Solid: **91.3**

Lab Code: **MA00030**
ETR: **0212008**
Lab ID: **0212008-02**
Date Collected: **12/02/02**
Date Received: **12/04/02**

| Parameter | Result | Qualifier | Reporting Limit | Dilution | Date Analyzed | Unit | Analytical Method | Analyst |
|---|---|---|---|---|---|---|---|---|
| Cyanide, Total | 0.082 | U | 0.082 | 1 | 12/05/02 | mg/Kg | 9014 | DEB |

U - The analyte was analyzed for but not detected at the sample specific level reported.



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# Inorganics

Client: **Metcalf & Eddy**
Project: **DAS -Southwest properties, Woburn**
Case: **0209M** SDG: **D03603**
Client ID: **D03609** MR-11 (0.75-1.75)
Matrix: **Soil**
Percent Solid: **55.5**

Lab Code: **MA00030**
ETR: **0212021**
Lab ID: **0212021-01**
Date Collected: **12/04/02**
Date Received: **12/06/02**

| Parameter | Result | Qualifier | Reporting Limit | Dilution | Date Analyzed | Unit | Analytical Method | Analyst |
|---|---|---|---|---|---|---|---|---|
| Cyanide, Total | 0.77 | | 0.15 | 1 | 12/14/02 | mg/Kg | 9014 | DEB |

12/17/02 13:35

# Inorganics

Client: **Metcalf & Eddy**
Project: **DAS -Southwest properties, Woburn**
Case: **0209M** SDG: **D03603**
Client ID: **D03616** WB-9(0-0.5)
Matrix: **Soil**
Percent Solid: **62.7**

Lab Code: **MA00030**
ETR: **0212008**
Lab ID: **0212008-05**
Date Collected: **12/03/02**
Date Received: **12/04/02**

| Parameter | Result | Qualifier | Reporting Limit | Dilution | Date Analyzed | Unit | Analytical Method | Analyst |
|---|---|---|---|---|---|---|---|---|
| Cyanide, Total | **0.31** | | 0.11 | 1 | 12/05/02 | mg/Kg | 9014 | DEB |

12/17/02 13:35

# Inorganics

Client: **Metcalf & Eddy**
Project: **DAS -Southwest properties, Woburn**
Case: **0209M** SDG: **D03603**
Client ID: **D03619** WB-11 (1-1.75)
Matrix: **Soil**
Percent Solid: **82.5**

Lab Code: **MA00030**
ETR: **0212021**
Lab ID: **0212021-04**
Date Collected: **12/05/02**
Date Received: **12/06/02**

| Parameter | Result | Qualifier | Reporting Limit | Dilution | Date Analyzed | Unit | Analytical Method | Analyst |
|---|---|---|---|---|---|---|---|---|
| Cyanide, Total | **0.22** | | 0.098 | 1 | 12/14/02 | mg/Kg | 9014 | DEB |

12/17/02 15:35

1PCB-A
PCB SAMPLE DATA SUMMARY
HIGH RESOLUTION

EPA SAMPLE No.

D03615

Lab Name: PSC ANALYTICAL Contract: 68-W6-0042

Lab Code: PASCAN Case No.: 0209M T.O. No.: SDG No.: D03613 WB-8(0-2)

Matrix: (soil/water/ash/tissue/oil) SOIL Lab Sample ID: 79288

Sample wt/vol.: 11.046 (g/L) G Lab File ID: 29JAN_MET2091

Water Sample Prep.: NA (SEPF/SPE) Date Received: 11/27/02

Concentrated Extract Vol.: 100 (µL) Date Extracted: 12/2/2002

Injection Vol.: 1.0 (µL) % Solids/Lipids: 100.0 Date Analyzed: 1/29/2003

GC Column: SPB OCTYL 30M ID: 0.25 (mm) Dilution Factor: 1.0

CONCENTRATION UNITS: (ng/L or ng/g) NG/G

| TARGET ANALYTE | SELECTED IONS | PEAK RT | ION RATIO # | CONCENTRATION | Q | EMPC/EDL |
|---|---|---|---|---|---|---|
| PCB 81 | 292/290 | 24.950 | 0.66 | 0.0125 | Y | |
| PCB 77 | 292/290 | 25.533 | 0.76 | 0.231 | Y | |
| PCB 123 | 326/328 | 27.083 | 1.60 | 0.0965 | Y | |
| PCB 118 | 326/328 | 27.467 | 1.46 | 5.87 | Y | |
| PCB 114 | 326/328 | 27.967 | 1.52 | 0.063 | Y | |
| PCB 105 | 326/328 | 28.533 | 1.44 | 2.57 | Y | |
| PCB 126 | 326/328 | 31.367 | 1.42 | 0.0388 | Y | |
| PCB 167 | 360/362 | 33.133 | 1.24 | 0.475 | Y | |
| PCB 156/157 | 360/362 | 34.267 | 1.23 | 1.26 | ~~X~~ Y | |
| PCB 169 | 360/362 | | | | U Y | ~~0.00742~~ 0.00905 |
| PCB 193/180 | 394/396 | 35.617 | 1.05 | 5.24 | ~~DY~~ Y | |
| PCB 170 | 394/396 | 36.933 | 1.05 | 2.74 | Y | |
| PCB 189 | 394/396 | 40.133 | 1.19 | 0.104 | Y | |

NOTE: Concentrations, Estimated Maximum Possible Concentrations (EMPCs), and Estimated Detection Levels (EDLs) for solid samples are calculated on a dry weight basis (except tissues, which are reported on a wet weight basis with % Lipids).

# - Column to be used to flag values outside QC limits with asterisk (*)

**Q Flags**

X = Analyte Not Detected due to Incorrect Isotope Ratio

Y = May be some contribution due to co-eluting isomers

EPA ID #: D03615 WB-8 (0-2)

PSC ID #: 79288

Analyte: PCB

Units: ng/g

| Congener | TEF Humans/mammals | TEF Fish | TEF Birds | Concentration | TEQ Humans/mammals | TEQ Fish | TEQ Birds |
|---|---|---|---|---|---|---|---|
| PCB 77 | 0.0001 | 0.0001 | 0.05 | 0.231 | 0.0000231 | 0.000023100 | 0.0115500 |
| PCB 81 | 0.0001 | 0.0005 | 0.1 | 0.0125 | 0.0000013 | 0.000006250 | 0.0012500 |
| PCB 105 | 0.0001 | <0.000005 | 0.0001 | 2.57 | 0.0002570 | <0.000012850 | 0.0002570 |
| PCB 114 | 0.0005 | <0.000005 | 0.0001 | 0.063 | 0.0000315 | <0.00000315 | 0.0000063 |
| PCB 118 | 0.0001 | <0.000005 | 0.00001 | 5.87 | 0.0005870 | <0.00002935 | 0.0000587 |
| PCB 123 | 0.0001 | <0.000005 | 0.00001 | 0.0965 | 0.0000097 | <0.000000483 | 0.0000010 |
| PCB 126 | 0.1 | 0.005 | 0.1 | 0.0388 | 0.0038800 | 0.000194000 | 0.0038800 |
| PCB 156/157 | 0.0005 | <0.000005 | 0.0001 | 1.26 | 0.0006300 | <0.0000063 | 0.0001260 |
| PCB 167 | 0.00001 | <0.000005 | 0.00001 | 0.475 | 0.0000048 | <0.000002375 | 0.0000048 |
| PCB 169 | 0.01 | 0.00005 | 0.001 | | 0.0000000 | 0.000000000 | 0.0000000 |
| PCB 170 (1994 WHO factor) | 0.0001 | - | - | 2.74 | 0.0002740 | - | - |
| PCB 193/180 (1994 WHO factor) | 0.00001 | - | - | 5.24 | 0.0000524 | - | - |
| PCB 189 | 0.0001 | <0.000005 | 0.00001 | 0.104 | 0.0000104 | <0.00000052 | 0.0000010 |

| | | | |
|---|---|---|---|
| **Including 170, 193/180** | **0.00576105** | NA | NA |
| **Not including 170, 193/180** | **0.00543465** | | **0.01713476** |

Report #4

# APPENDIX C

# SUMMARY TABLES

## TABLE A-1a - SPLIT SAMPLE COMPARISON - Wells G&H - Southwest Properties
## VOLATILE ORGANIC COMPOUNDS IN GROUNDWATER (ug/L)

| Analyte | EPA/TRC | RETEC | RPD | EPA/TRC | RETEC | RPD | EPA/TRC | RETEC | RPD | TRC field duplicate EPA/TRC | TRC field duplicate RETEC | RPD | EPA/TRC | RETEC | RPD |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | AB-1 | AB1 | | AB-6SS | AB6SS | | MW-1 | MW1 | | MW-18S | MW18S | | WB-1R | WB1R | |
| Dichlorodifluoromethane | 10 U | 1 U | NA | 10 U | 1 U | NA | 10 U | 1 U | NA | 10 U | 1 U | NA | 10 U | 1 U | NA |
| Chloromethane | 0.1 U | 1 U | NA | 0.1 U | 1 U | NA | 0.1 UJ | 1 U | NA | 2 U | 1 U | NA | 0.1 UJ | 1 U | NA |
| Vinyl chloride | 0.1 U | 0.08 UJ | NA | 0.153 | 0.24 J | 44 | 0.1 U | 0.08 UJ | NA | 140 | 213 J | 41 (5) | 0.1 U | 0.08 UJ | NA |
| Bromomethane | 0.1 U | 1 UJ | NA | 0.1 U | 1 U | NA | 0.1 UJ | 1 U | NA | 2 U | 1 UJ | NA | 0.1 UJ | 1 UJ | NA |
| Chloroethane | 2 U | 1 UJ | NA | 2 U | 1 U | NA | 2 U | 1 UJ | NA | 2 U | 1 UJ | NA | 2 U | 1 UJ | NA |
| Fluorotrichloromethane | 10 U | 1 UJ | NA | 10 U | 1 U | NA | 10 U | 1 UJ | NA | 10 U | 1 UJ | NA | 10 U | 1 UJ | NA |
| 1,1-Dichloroethene | 0.1 U | 0.08 UJ | NA | 0.194 U | 0.08 UJ | NA | 0.1 U | 0.08 UJ | NA | 3 | 0.08 UJ | NA (5) | 0.1 U | 0.08 UJ | NA |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | 10 U | 1 UJ | NA | 10 U | 1 U | NA | 10 U | 1 U | NA | 5 J | 8 J | 46 * | 10 U | 1 UJ | NA |
| Acetone | 10 U | 5 UJ | NA | 10 U | 5 U | NA | 10 U | 5 U | NA | 10 U | 5 UJ | NA | 10 U | 5 UJ | NA |
| Carbon disulfide | 0.1 U | 1 U | NA | 0.1 U | 1 U | NA | 0.1 U | 1 U | NA | 2 U | 1 U | NA | 0.1 U | 1 U | NA |
| Methyl acetate | 10 U | 1 U | NA | 10 U | 1 U | NA | 10 U | 1 U | NA | 10 U | 1 U | NA | 10 U | 1 U | NA |
| Methylene chloride | 2 U | 1 UJ | NA | 2 U | 1 U | NA | 2 U | 1 U | NA | 2 U | 1 UJ | NA | 2 U | 1 UJ | NA |
| trans-1,2-Dichloroethene | 10 U | 1 U | NA | 10 U | 1 U | NA | 10 U | 1 U | NA | 11 | 13 J | 17 | 10 U | 1 U | NA |
| Methyl tert-butyl ether | 10 U | 1 U | NA | 10 U | 1 U | NA | 10 U | 1 U | NA | 10 U | 1 U | NA | 10 U | 1 U | NA |
| 1,1-Dichloroethane | 10 U | 1 U | NA | 10 U | 1 U | NA | 10 U | 1 U | NA | 98 | 100 J | 2.0 | 10 U | 1 U | NA |
| cis-1,2-Dichloroethene | 2 U | 1 U | NA | 8 | 8 J | 0 | 2 U | 1 U | NA | 350 | 320 J | 9.0 | 2 U | 1 U | NA |
| 2-Butanone (MEK) | 10 U | 3 U | NA | 10 U | 3 U | NA | 10 U | 3 UJ | NA | 10 U | 3 U | NA | 10 U | 3 U | NA |
| Chloroform | 0.1 U | 0.08 UJ | NA | 0.107 | 0.14 UJ | NA | 0.1 U | 0.08 UJ | NA | 2 U | 0.08 UJ | NA (2) | 0.1 U | 0.1 UJ | NA |
| 1,1,1-Trichloroethane | 10 U | 0.3 UJ | NA (1) | 10 U | 0.3 U | NA (1) | 10 U | 0.3 U | NA (1) | 36 | 46 J | 24 | 10 U | 0.3 UJ | NA (1) |
| Cyclohexane | 10 U | 1 U | NA | 10 U | 1 U | NA | 10 U | 1 U | NA | 10 U | 1 U | NA | 10 U | 1 U | NA |
| Carbon tetrachloride | 0.1 U | 0.08 UJ | NA | 0.1 U | 0.08 UJ | NA | 0.1 U | 0.08 UJ | NA | 2 U | 0.08 UJ | NA (2) | 0.1 U | 0.08 UJ | NA |
| Benzene | 0.1 U | 0.08 UJ | NA | 0.1 U | 0.1 J | NA | 0.1 U | 0.08 UJ | NA | 2 U | 0.78 J | NA (5) | 0.1 U | 0.08 UJ | NA |
| 1,2-Dichloroethane | 0.1 U | 0.08 UJ | NA | 0.1 U | 0.08 UJ | NA | 0.1 U | 0.08 UJ | NA | 2 U | 0.08 UJ | NA (2) | 0.1 U | 0.08 UJ | NA |
| Trichloroethene | 0.1 U | 5 U | NA (2) | 25 | 18 J | 33 (5) | 0.1 U | 5 U | NA (2) | 2 | 5 U | NA (5) | 0.1 U | 5 U | NA (2) |
| Methyl cyclohexane | 10 U | 1 U | NA | 10 U | 1 U | NA | 10 U | 1 U | NA | 10 U | 1 U | NA | 10 U | 1 U | NA |
| 1,2-Dichloropropane | 0.1 U | 0.08 UJ | NA | 0.1 U | 0.08 UJ | NA | 0.1 U | 0.08 UJ | NA | 2 U | 0.08 UJ | NA (2) | 0.1 U | 0.08 UJ | NA |
| Bromodichloromethane | 0.1 U | 0.08 UJ | NA | 0.1 U | 0.08 UJ | NA | 0.1 U | 0.08 UJ | NA | 2 U | 0.08 UJ | NA (2) | 0.1 U | 0.08 UJ | NA |
| cis-1,3-Dichloropropene | 0.1 U | 0.08 UJ | NA | 0.1 U | 0.08 UJ | NA | 0.1 U | 0.08 UJ | NA | 2 U | 0.08 UJ | NA (2) | 0.1 U | 0.08 UJ | NA |
| 4-Methyl-2-pentanone | 10 UJ | 5 U | NA | 10 UJ | 5 U | NA | 10 UJ | 5 U | NA | 10 UJ | 5 U | NA | 10 UJ | 5 U | NA |
| Toluene | 2 U | 1 U | NA | 2 U | 1 U | NA | 2 U | 1 U | NA | 3.5 | 1 U | NA | 2 U | 1 U | NA |
| trans-1,3-Dichloropropene | 0.1 U | 0.08 UJ | NA | 0.1 U | 0.08 UJ | NA | 0.1 U | 0.08 UJ | NA | 2 U | 0.08 UJ | NA (2) | 0.1 U | 0.08 UJ | NA |
| 1,1,2-Trichloroethane | 0.1 U | 0.08 UJ | NA | 0.1 U | 0.08 UJ | NA | 0.1 U | 0.08 UJ | NA | 2 U | 0.4 J | NA (5) | 0.1 U | 0.08 UJ | NA |
| Tetrachloroethene | 0.1 U | 1 U | NA | 0.418 | 1 U | NA (4) | 0.1 U | 1 U | NA | 2 U | 1 U | NA | 0.1 U | 1 U | NA |
| 2-Hexanone | 10 UJ | 1 U | NA | 10 UJ | 1 U | NA | 10 UJ | 1 UJ | NA | 10 UJ | 1 U | NA | 10 UJ | 1 U | NA |
| Chlorodibromomethane | 0.1 U | 0.49 J | NA (5) | 0.1 U | 1.03 J | NA (5) | 0.1 U | 0.08 UJ | NA | 2 U | 0.56 UJ | NA | 0.1 U | 0.08 UJ | NA |
| Ethylenedibromide | 0.1 U | 0.01 U | NA | 0.1 U | 0.01 U | NA | 0.1 U | 0.01 U | NA | 2 U | 0.01 U | NA (2) | 0.1 U | 0.01 U | NA |
| Chlorobenzene | 10 U | 1 U | NA | 10 U | 1 U | NA | 10 U | 1 U | NA | 10 U | 1 U | NA | 10 U | 1 U | NA |
| Ethylbenzene | 2 U | 1 U | NA | 2 U | 1 U | NA | 2 U | 1 U | NA | 1 J | 2 J | 67 | 2 U | 1 U | NA |
| Xylenes (total) | 10 U | 2 U | NA | 10 U | 2 U | NA | 10 U | 2 U | NA | 4 J | 4 J | 0 | 10 U | 2 U | NA |
| Styrene | 10 U | 1 U | NA | 10 U | 1 U | NA | 10 U | 1 U | NA | 10 U | 1 U | NA | 10 U | 1 U | NA |
| Bromoform | 2 U | 1 U | NA | 2 U | 1 U | NA | 2 U | 1 U | NA | 2 U | 1 U | NA | 2 U | 1 U | NA |
| Isopropylbenzene | 10 U | 1 U | NA | 10 U | 1 U | NA | 10 U | 1 U | NA | 10 U | 1 U | NA | 10 U | 1 U | NA |
| 1,1,2,2-Tetrachloroethane | 0.1 U | 0.08 UJ | NA | 0.1 U | 0.08 UJ | NA | 0.1 U | 0.08 UJ | NA | 2 U | 0.08 UJ | NA (2) | 0.1 U | 0.08 UJ | NA |
| 1,3-Dichlorobenzene | 0.1 U | 1 U | NA | 0.1 U | 1 U | NA | 0.1 U | 1 U | NA | 2 U | 1 U | NA | 0.1 U | 1 U | NA |
| 1,4-Dichlorobenzene | 0.1 U | 0.14 UJ | NA | 0.484 | 0.75 UJ | NA (5) | 0.1 U | 0.08 UJ | NA | 2 U | 0.09 UJ | NA (2) | 0.1 U | 0.14 UJ | NA |
| 1,2-Dichlorobenzene | 10 U | 1 U | NA | 10 U | 1 U | NA | 10 U | 1 U | NA | 10 U | 1 U | NA | 10 U | 1 U | NA |
| 1,2-Dibromo-3-chloropropane | 0.1 UJ | 0.01 U | NA | 0.1 UJ | 0.01 U | NA | 0.1 UJ | 0.01 U | NA | R | 0.01 U | NA (3) | 0.1 UJ | 0.01 U | NA |
| 1,2,4-Trichlorobenzene | 10 U | 1 U | NA | 10 U | 1 U | NA | 10 U | 1 U | NA | 10 U | 1 U | NA | 10 U | 1 U | NA |

U = Analyte was not detected at the concentration listed.
J = Estimated value due to limitations identified during data validation.
UJ = Estimated nondetect due to limitations identified during data validation.
R = Value was rejected due to laboratory quality control problems.
RPD = Relative percent difference; RPD is calculated only when analytes are detected in both samples.
* = Results outside the quantitative comparability goal for split samples – RPD > 30%
NA = Not Applicable; RPD cannot be calculated when one or both results are nondetects.
(1) = Difference between QLs exceeds 10; therefore no basis for comparison. Since both QLs are below project action limits, data usability not adversely affected.
(2) = Difference between QLs exceeds 10; therefore no basis for comparison. Since one of the reported QLs was below project action limits, overall data usability not adversely affected.
(3) = No basis for comparison due to rejected result(s).
(4) = Analyte was detected by one party at >3x the QL and was not detected by the other party; results not comparable. Both results were below the project action limits; data usability not adversely affected.
(5) = Analyte was detected by one party with a result >3x its own QL and above the project action limit and was not detected by the other party; results not comparable.
Not comparable
No basis for comparison

## TABLE A-1b - SPLIT SAMPLE COMPARISON - Wells G&H - Southwest Properties
## VOLATILE ORGANIC COMPOUNDS IN SOIL/SEDIMENT (ug/Kg)

| Analyte | EPA/TRC AB-16(0-2) | RETEC AB-16SS(0-2) | RPD | TRC Field Duplicate EPA/TRC MR-12(0-0.5) | TRC Field Duplicate RETEC MR-12SS(0-0.5) | RPD | EPA/TRC WB-6(0-2) | RETEC WB-6SS(0-2) | RPD | EPA/TRC WB-6(2-4) | RETEC WB-6D(2-4) | RPD | EPA/TRC WB-7(0-2) | RETEC WB-7SS(0-2) | RPD | EPA/TRC WB-7(2-4) | RETEC WB-7D(2-4) | RPD | EPA/TRC WB-10(0-2) | RETEC WB-10SS(0-2) | RPD | EPA/TRC WB-10(2-4) | RETEC WB-10D(2-4) | RPD | EPA/TRC WB-13(0-2) | RETEC WB-13SS(0-2) | RPD |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Dichlorodifluoromethane | 1.8 U | 34 U | NA (1) | R | R | NA (3) | 2.6 U | 82 U | NA (1) | 1.9 U | 43 U | NA (1) | 2 U | 53 U | NA (1) | 1.8 U | 61 U | NA (1) | 2.1 U | 52 U | NA (1) | 2.2 U | 62 U | NA (1) | 2.1 U | 46 U | NA (1) |
| Chloromethane | 1.8 U | 34 U | NA (1) | R | R | NA (3) | 2.6 U | 450 | NA (4) | 1.9 U | 43 U | NA (1) | 2 U | 53 U | NA (1) | 1.8 U | 61 U | NA (1) | 2.1 U | 52 U | NA (1) | 2.2 U | 62 U | NA (1) | 2.1 U | 46 U | NA (1) |
| Vinyl chloride | 1.8 U | 34 U | NA (1) | R | R | NA (3) | 2.6 U | 280 | NA (5) | 1.9 U | 43 UJ | NA (1) | 9.1 | 53 U | NA (4) | 220 J | 390 | 56 * | 2.1 U | 52 U | NA (1) | 2.2 U | 62 U | NA (1) | 2.1 U | 46 U | NA (1) |
| Bromomethane | 1.8 U | 34 U | NA (1) | R | R | NA (3) | 2.6 U | 82 U | NA (1) | 1.9 U | 43 U | NA (1) | 2 U | 53 U | NA (1) | 1.8 U | 61 U | NA (1) | 2.1 U | 52 U | NA (1) | 2.2 U | 62 U | NA (1) | 2.1 U | 46 U | NA (1) |
| Chloroethane | 1.8 U | 34 UJ | NA (1) | R | R | NA (3) | 2.6 U | 82 UJ | NA (1) | 1.9 U | 43 UJ | NA (1) | 10 | 53 UJ | NA (4) | 86 | 61 UJ | NA (4) | 2.1 U | 52 UJ | NA (1) | 2.2 U | 62 UJ | NA (1) | 2.1 U | 46 U | NA (1) |
| Fluorotrichloromethane | 1.8 U | 34 U | NA (1) | R | R | NA (3) | 2.6 U | 82 U | NA (1) | 1.9 U | 43 UJ | NA (1) | 2 U | 53 U | NA (1) | 1.8 U | 61 U | NA (1) | 2.1 U | 52 U | NA (1) | 2.2 U | 62 U | NA (1) | 2.1 U | 46 U | NA (1) |
| 1,1-Dichloroethene | 1.8 U | 34 U | NA (1) | R | R | NA (3) | 2.6 U | 82 U | NA (2) | 1.9 U | 43 U | NA (1) | 2 U | 53 U | NA (1) | 120 | 61 U | NA (5) | 2.1 U | 52 U | NA (1) | 2.2 U | 62 U | NA (1) | 2.1 U | 46 U | NA (1) |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | 1.8 U | 34 U | NA (1) | R | R | NA (3) | 2.6 U | 82 U | NA (1) | 1.9 U | 43 U | NA (1) | 2 U | 53 U | NA (1) | 3.8 | 61 U | NA | 2.1 U | 52 U | NA (1) | 2.2 U | 62 U | NA (1) | 2.1 U | 46 U | NA (1) |
| Acetone | 4.6 UJ | 170 U | NA (1) | 480 JEB | R | NA (3) | 120 JEB | 410 U | NA (4) | 200 JEB | 210 U | NA (4) | 58 JEB | 260 U | NA (4) | 33 JEB | 300 U | NA (4) | 11 JEB | 260 U | NA (4) | 75 JEB | 310 U | NA (4) | 3.5 JEB | 230 U | NA (4) |
| Carbon disulfide | 1.8 U | 34 U | NA (1) | 17 J | R | NA (3) | 3.2 | 82 U | NA | 1.1 J | 43 U | NA | 4.1 | 53 U | NA | 1.5 J | 61 U | NA | 2.1 U | 52 U | NA (1) | 3.6 | 62 U | NA | 2.1 U | 46 U | NA (1) |
| Methyl acetate | 1.8 U | 34 U | NA (1) | R | R | NA (3) | 2.6 U | 82 U | NA (1) | 350 | 43 U | NA (4) | 2 U | 53 U | NA (1) | 420 | 61 U | NA (4) | 2.1 U | 52 U | NA (1) | 2.2 U | 62 U | NA (1) | 2.1 U | 46 U | NA (1) |
| Methylene chloride | 9.4 UJ | 280 U | NA (2) | 70 UJ | R | NA (3) | 9.3 UJ | 950 U | NA (2) | 4.7 U | 410 UJ | NA (2) | 7.4 UJ | 580 U | NA (2) | 15 UJ | 770 U | NA (2) | 5.9 UJ | 600 U | NA (2) | 7 UJ | 890 U | NA (2) | 7.5 UJ | 110 U | NA (2) |
| trans-1,2-Dichloroethene | 1.8 U | 34 U | NA (1) | R | R | NA (3) | 2.6 U | 82 U | NA (1) | 1.9 U | 43 U | NA (1) | 2 U | 53 U | NA (1) | 200 | 110 | 58 * | 2.1 U | 52 U | NA (1) | 2.2 U | 62 U | NA (1) | 2.1 U | 46 U | NA (1) |
| Methyl tert-butyl ether | 1.8 U | 34 U | NA (1) | 120 J | R | NA (3) | 2.6 U | 370 | NA (5) | 1.9 U | 43 U | NA (1) | 2 U | 53 U | NA (1) | 1.8 U | 61 U | NA (1) | 3.1 | 52 U | NA | 2.2 U | 62 U | NA (1) | 2.1 U | 46 U | NA (1) |
| 1,1-Dichloroethane | 1.8 U | 34 U | NA (1) | R | R | NA (3) | 2.6 U | 82 U | NA (1) | 16 J | 43 U | NA (4) | 2.7 | 53 U | NA | 1100 | 310 | 112 * | 2.1 U | 52 U | NA (1) | 2.2 U | 62 U | NA (1) | 2.1 U | 46 U | NA (1) |
| cis-1,2-Dichloroethene | 1.8 U | 34 U | NA (1) | R | R | NA (3) | 2.6 U | 82 U | NA (1) | 1.9 U | 43 U | NA (1) | 2.5 | 53 U | NA | 380 | 300 | 24 | 2.1 U | 52 U | NA (1) | 2.2 U | 62 U | NA (1) | 2.1 U | 46 U | NA (1) |
| 2-Butanone (MEK) | 4.6 U | 100 U | NA (1) | 140 J | R | NA (3) | 29 | 250 U | NA (4) | 4.7 U | 130 U | NA (1) | 11 | 160 U | NA (4) | 7.7 | 180 U | NA (4) | 5.2 U | 160 U | NA (1) | 21 | 190 U | NA (4) | 5.3 U | 140 U | NA (1) |
| Chloroform | 1.8 U | 34 U | NA (1) | R | R | NA (3) | 2.6 U | 82 U | NA (1) | 1.9 U | 43 U | NA (1) | 2 U | 53 U | NA (1) | 1.8 U | 61 U | NA (1) | 2.1 U | 52 U | NA (1) | 2.2 U | 62 U | NA (1) | 2.1 U | 46 U | NA (1) |
| 1,1,1-Trichloroethane | 1.8 U | 34 U | NA (1) | R | R | NA (3) | 2.6 U | 82 U | NA (1) | 1.9 U | 43 UJ | NA (1) | 2 U | 53 U | NA (1) | 1.8 U | 61 U | NA (1) | 2.1 U | 52 U | NA (1) | 2.2 U | 62 U | NA (1) | 2.1 U | 46 U | NA (1) |
| Cyclohexane | 1.8 U | 34 UJ | NA (1) | R | R | NA (3) | 2.6 U | 82 UJ | NA (1) | 1.9 U | 43 UJ | NA (1) | 2.6 | 53 UJ | NA | 58 J | 61 UJ | NA (4) | 2.1 U | 52 UJ | NA (1) | 2.2 U | 62 UJ | NA (1) | 2.1 U | 46 U | NA (1) |
| Carbon tetrachloride | 1.8 U | 34 U | NA (1) | R | R | NA (3) | 2.6 U | 82 U | NA (1) | 1.9 U | 43 U | NA (1) | 2 U | 53 U | NA (1) | 1.8 U | 61 U | NA (1) | 2.1 U | 52 U | NA (1) | 2.2 U | 62 U | NA (1) | 2.1 U | 46 U | NA (1) |
| Benzene | 1.8 U | 34 U | NA (1) | R | R | NA (3) | 2.9 | 120 | 191 | 210 J | 130 | 47 | 1.9 J | 53 U | NA | 160 | 61 U | NA (4) | 1.3 J | 52 U | NA | 2.2 U | 62 U | NA (1) | 2.1 U | 46 U | NA (1) |
| 1,2-Dichloroethane | 1.8 U | 34 U | NA (1) | R | R | NA (3) | 2.6 U | 82 U | NA (2) | 1.9 U | 43 U | NA (1) | 2 U | 53 U | NA (2) | 1.8 U | 61 U | NA (2) | 2.1 U | 52 U | NA (2) | 2.2 U | 62 U | NA (2) | 2.1 U | 46 U | NA (1) |
| Trichloroethene | 1.8 U | 34 U | NA (1) | R | R | NA (3) | 2.6 U | 82 U | NA (1) | 1.9 U | 43 U | NA (1) | 1.4 J | 53 U | NA | 740 | 120 J | 144 * | 2.1 U | 52 U | NA (1) | 1.6 J | 62 U | NA | 2.1 U | 46 UJ | NA (1) |
| Methyl cyclohexane | 1.8 U | 34 U | NA (1) | R | R | NA (3) | 36 | 82 U | NA (4) | 1300 J | 43 U | NA (4) | 2 U | 53 U | NA (1) | 48 J | 61 U | NA (4) | 2.1 U | 52 U | NA (1) | 1.5 J | 62 U | NA | 2.1 U | 46 U | NA (1) |
| 1,2-Dichloropropane | 1.8 U | 34 U | NA (1) | R | R | NA (3) | 2.6 U | 82 U | NA (1) | 1.9 U | 43 U | NA (1) | 2 U | 53 U | NA (1) | 1.8 U | 61 U | NA (1) | 2.1 U | 52 U | NA (1) | 2.2 U | 62 U | NA (1) | 2.1 U | 46 U | NA (1) |
| Bromodichloromethane | 1.8 U | 34 U | NA (1) | R | R | NA (3) | 2.6 U | 82 U | NA (1) | 1.9 U | 43 U | NA (1) | 2 U | 53 U | NA (1) | 1.8 U | 61 U | NA (1) | 2.1 U | 52 U | NA (1) | 2.2 U | 62 U | NA (1) | 2.1 U | 46 U | NA (1) |
| cis-1,3-Dichloropropene | 1.8 U | 34 U | NA (2) | R | R | NA (3) | 2.6 U | 82 U | NA (2) | 1.9 U | 43 U | NA (2) | 2 U | 53 U | NA (2) | 1.8 U | 61 U | NA (2) | 2.1 U | 52 U | NA (2) | 2.2 U | 62 U | NA (2) | 2.1 U | 46 U | NA (2) |
| 4-Methyl-2-pentanone | 4.6 UJ | 170 U | NA (1) | R | R | NA (3) | 6.5 UJ | 410 U | NA (1) | 4.7 UJ | 210 U | NA (1) | 5.1 UJ | 260 U | NA (1) | 4.5 UJ | 300 U | NA (1) | 5.2 UJ | 260 U | NA (1) | 5.4 UJ | 310 U | NA (1) | 5.3 U | 230 U | NA (1) |
| Toluene | 1.8 U | 34 U | NA (1) | 140 J | R | NA (3) | 4.9 U | 82 U | NA (1) | 10 J | 93 | 161 * | 23 | 53 U | NA (4) | 3900 | 460 | 158 * | 3.3 U | 52 U | NA (1) | 2.2 U | 62 U | NA (1) | 2.1 U | 46 U | NA (1) |
| trans-1,3-Dichloropropene | 1.8 U | 34 U | NA (1) | R | R | NA (3) | 2.6 U | 82 U | NA (1) | 1.9 U | 43 U | NA (1) | 2 U | 53 U | NA (1) | 1.8 U | 61 U | NA (1) | 2.1 U | 52 U | NA (1) | 2.2 U | 62 U | NA (1) | 2.1 U | 46 U | NA (1) |
| 1,1,2-Trichloroethane | 1.8 U | 34 U | NA (1) | R | R | NA (3) | 2.6 U | 82 U | NA (1) | 1.9 U | 43 U | NA (1) | 2 U | 53 U | NA (1) | 1.8 U | 61 U | NA (1) | 2.1 U | 52 U | NA (1) | 2.2 U | 62 U | NA (1) | 2.1 U | 46 U | NA (1) |
| Tetrachloroethene | 1.8 U | 34 U | NA (1) | R | R | NA (3) | 2.6 U | 82 U | NA (1) | 1.9 U | 43 U | NA (1) | 2 U | 53 U | NA (1) | 110 | 61 U | NA (4) | 2.1 U | 52 U | NA (1) | 2.2 U | 62 U | NA (1) | 2.1 U | 46 U | NA (1) |
| 2-Hexanone | 4.6 U | 34 U | NA (1) | R | R | NA (3) | 6.5 U | 82 U | NA (1) | 4.7 U | 43 U | NA (1) | 5.1 UJ | 53 U | NA (1) | 4.5 U | 61 U | NA (1) | 5.2 U | 52 U | NA | 5.4 U | 62 U | NA (1) | 5.3 UJ | 46 U | NA (1) |
| Chlorodibromomethane | 1.8 U | 34 U | NA (1) | R | R | NA (3) | 2.6 U | 82 U | NA (1) | 1.9 U | 43 U | NA (1) | 2 U | 53 U | NA (1) | 1.8 U | 61 U | NA (1) | 2.1 U | 52 U | NA (1) | 2.2 U | 62 U | NA (1) | 2.1 U | 46 U | NA (1) |
| Ethylenedibromide | 1.8 U | 0.01 UJ | NA (2) | R | R | NA (3) | 2.6 U | 0.01 UJ | NA (2) | 1.9 U | 0.01 UJ | NA (2) | 2 U | 0.01 UJ | NA (2) | 1.8 U | 0.01 UJ | NA (2) | 2.1 U | 0.01 UJ | NA (2) | 2.2 U | 0.01 UJ | NA (2) | 2.1 U | 0.01 U | NA (2) |
| Chlorobenzene | 1.8 U | 34 U | NA (1) | R | R | NA (3) | 46 | 82 U | NA (4) | 880 J | 43 U | NA (4) | 2 U | 53 U | NA (1) | 1.8 U | 61 U | NA (1) | 2.1 U | 52 U | NA (1) | 2.2 U | 62 U | NA (1) | 2.1 U | 46 U | NA (1) |
| Ethylbenzene | 1.8 U | 34 U | NA (1) | R | R | NA (3) | 12 | 82 U | NA (4) | 190 | 500 | 90 * | 3.5 | 53 U | NA | 410 | 61 U | NA (4) | 2.1 U | 52 U | NA (1) | 2.2 U | 62 U | NA (1) | 2.1 U | 46 U | NA (1) |
| Xylenes (total) | 1.8 U | 68 U | NA (1) | 7 J | R | NA (3) | 9.7 | 160 U | NA (4) | 470 | 990 | 71 * | 4.4 | 110 U | NA | 1400 | 90 | 178 * | 5.5 | 100 U | NA | 3.9 | 120 U | NA | 2.1 U | 93 U | NA (1) |
| Styrene | 1.8 U | 34 U | NA (1) | R | R | NA (3) | 2.6 U | 82 U | NA (1) | 1.9 U | 43 U | NA (1) | 2 U | 53 U | NA (1) | 1.8 U | 61 U | NA (1) | 2.1 U | 52 U | NA (1) | 2.2 U | 62 U | NA (1) | 2.1 U | 46 U | NA (1) |
| Bromoform | 1.8 U | 34 U | NA (1) | R | R | NA (3) | 2.6 U | 82 U | NA (1) | 1.9 U | 43 U | NA (1) | 2 U | 53 U | NA (1) | 1.8 U | 61 U | NA (1) | 2.1 U | 52 U | NA (1) | 2.2 U | 62 U | NA (1) | 2.1 U | 46 U | NA (1) |
| Isopropylbenzene | 1.8 U | 34 U | NA (1) | R | R | NA (3) | 2.6 U | 82 U | NA (1) | 79 J | 120 | 41 | 2 U | 53 U | NA (1) | 1.8 U | 61 U | NA (1) | 2.1 U | 52 U | NA (1) | 2.2 U | 62 U | NA (1) | 2.1 U | 46 U | NA (1) |
| 1,1,2,2-Tetrachloroethane | 1.8 U | 34 UJ | NA (2) | R | R | NA (3) | 2.6 U | 82 U | NA (2) | 1.9 U | 43 U | NA (2) | 2 U | 53 U | NA (2) | 1.8 U | 61 U | NA (2) | 2.1 U | 52 U | NA (2) | 2.2 U | 62 U | NA (2) | 2.1 U | 46 U | NA (2) |
| 1,3-Dichlorobenzene | 1.8 U | 34 U | NA (1) | R | R | NA (3) | 4.3 | 82 U | NA | 100 J | 43 U | NA (4) | 2 U | 53 U | NA (1) | 92 | 61 U | NA (4) | 2.1 U | 52 U | NA (1) | 2.2 U | 62 U | NA (1) | 2.1 U | 46 U | NA (1) |
| 1,4-Dichlorobenzene | 1.8 U | 34 U | NA (1) | R | R | NA (3) | 3.7 | 82 U | NA | 640 J | 43 U | NA (4) | 2 U | 53 U | NA (1) | 64 J | 61 U | NA (4) | 2.1 U | 52 U | NA (1) | 1.6 J | 62 U | NA | 2.1 U | 46 U | NA (1) |
| 1,2-Dichlorobenzene | 1.8 U | 34 U | NA (1) | R | R | NA (3) | 2.9 | 82 U | NA | 1.9 U | 43 U | NA (1) | 2 U | 53 U | NA (1) | 51 J | 61 U | NA (4) | 2.1 U | 52 U | NA (1) | 2.2 U | 62 U | NA (1) | 2.1 U | 46 U | NA (1) |
| 1,2-Dibromo-3-chloropropane | 1.8 U | 34 U | NA (1) | R | R | NA (3) | 2.6 U | 82 U | NA (1) | 1.9 U | 43 U | NA (1) | 2 U | 53 U | NA (1) | 1.8 U | 61 U | NA (1) | 2.1 U | 52 U | NA (1) | 2.2 U | 62 U | NA (1) | 2.1 U | 46 U | NA (1) |
| 1,2,4-Trichlorobenzene | 1.8 U | 34 UJ | NA (1) | R | R | NA (3) | 3.5 | 82 U | NA | 64 J | 43 U | NA (4) | 2 U | 53 U | NA (1) | 370 | 61 U | NA (4) | 2.1 U | 52 U | NA (1) | 2.2 U | 62 U | NA (1) | 2.1 U | 46 U | NA (1) |

U = Analyte was not detected at the concentration listed.
J = Estimated value due to limitations identified during data validation.
UJ = Estimated nondetect due to limitations identified during data validation.
R = Value was rejected due to laboratory quality control problems.
RPD = Relative percent difference; RPD is calculated only when analytes are detected in both samples.
* = Results outside the quantitative comparability goal for split samples – RPD > 50%
NA = Not Applicable; RPD cannot be calculated when one or both results are nondetects.
(1) = Difference between QLs exceeds 10; therefore no basis for comparison. Since both QLs are below project action limits, data usability not adversely affected.
(2) = Difference between QLs exceeds 10; therefore no basis for comparison. Since one of the reported QLs was below project action limits, overall data usability not adversely affected.
(3) = No basis for comparison due to rejected result(s).
(4) = Analyte was detected by one party at >3x the QL and was not detected by the other party; results not comparable. Both results were below the project action limits; data usability not adversely affected.
(5) = Analyte was detected by one party with a result >3x its own QL and above the project action limit and was not detected by the other party; results not comparable.
Not comparable
No basis for comparison

## TABLE A-2 - SPLIT SAMPLE COMPARISON - Wells G&H - Southwest Properties
## SEMI-VOLATILE ORGANIC COMPOUNDS IN SOIL/SEDIMENT (ug/Kg)

| Analyte | RETEC field duplicate | | RPD | | | RPD | TRC field duplicate | | RPD | | | RPD | | | RPD | | | RPD | | | RPD | | | RPD | | | RPD |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | EPA/TRC | RETEC | | EPA/TRC | RETEC | | EPA/TRC | RETEC | | EPA/TRC | RETEC | | EPA/TRC | RETEC | | EPA/TRC | RETEC | | EPA/TRC | RETEC | | EPA/TRC | RETEC | | EPA/TRC | RETEC | |
| | MR-11 (0-0.5) | MR11SS (0-0.5) | | AB-16 (0-2) | AB16SS (0-2) | | MR-12 (0-0.5) | MR12SS (0-0.5) | | WB-6 (0-2) | WB6SS (0-2) | | WB-7 (0-2) | WB-7SS (0-2) | | WB-7 (2-4) | WB-7D (2-4) | | WB-10 (0-2) | WB-10SS (0-2) | | WB-10 (2-4) | WB-10D (2-4) | | WB-13 (0-2) | WB-13SS (0-2) | |
| Benzaldehyde | 190 J | 120 UJ | NA | 270 UJ | 130 UJ | NA | 2400 J | 370 J | 147 (6) | 380 J | 680 UJ | NA | 440 J | 740 UJ | NA | 2200 UJ | 6500 UJ | NA | 200 J | 720 UJ | NA | 79 J | 140 UJ | NA | 2300 UJ | 140 UJ | NA (1) |
| Phenol | 25 UJ | 10000 J | NA (4) | 5.2 UJ | 130 UJ | NA (1) | 220 JEB | 190 J | 15 | 35 UJ | 680 UJ | NA (1) | 39 UJ | 740 UJ | NA (1) | 2400 | 6500 UJ | NA | 60 U | 720 UJ | NA (1) | 14 U | 140 U | NA | 53 UJ | 140 UJ | NA |
| Bis(2-chloroethyl) ether | 800 UJ | 50 UJ | NA (2) | 270 U | 52 U | NA | 720 UJ | 82 UJ | NA | 560 U | 270 UJ | NA | 1200 U | 290 UJ | NA | 2200 U | 2600 UJ | NA | 600 U | 290 UJ | NA | 280 U | 58 UJ | NA | 2300 UJ | 57 UJ | NA (2) |
| 2-Methylphenol | 5.1 JEB | 120 UJ | NA | 2.7 UJ | 130 UJ | NA (1) | 200 JEB | 210 UJ | NA | 28 UJ | 680 UJ | NA (1) | 31 UJ | 740 UJ | NA (1) | 54 UJ | 6500 UJ | NA (1) | 60 UJ | 720 UJ | NA (1) | 14 U | 140 UJ | NA | 27 JEB | 140 UJ | NA |
| 2,2'-Oxybis(1-Chloropropane) | 800 UJ | 50 UJ | NA (2) | 270 U | 52 U | NA | 720 UJ | 82 UJ | NA | 560 U | 270 UJ | NA | 1200 U | 290 UJ | NA | 2200 U | 2600 UJ | NA | 600 U | 290 UJ | NA | 280 U | 58 U | NA | 2300 UJ | 57 UJ | NA (2) |
| Acetophenone | 800 UJ | 5000 J | NA (7) | 270 U | 52 U | NA | 720 UJ | 2400 J | NA (7) | 560 U | 270 UJ | NA | 1200 U | 290 UJ | NA | 2200 U | 2600 UJ | NA | 600 U | 290 UJ | NA | 280 U | 58 U | NA | 2300 UJ | 57 UJ | NA (2) |
| 4-Methylphenol | 800 UJ | 120 UJ | NA | 270 U | 130 U | NA | 720 UJ | 210 UJ | NA | 200 J | 420 J | 71 | 1200 U | 740 UJ | NA | 2800 | 6500 UJ | NA | 600 U | 720 UJ | NA | 280 U | 140 U | NA | 2300 UJ | 140 UJ | NA (1) |
| N-Nitrosodi-n-propylamine | 800 UJ | 50 UJ | NA (2) | 270 U | 52 U | NA | 720 UJ | 82 UJ | NA | 560 U | 270 UJ | NA | 1200 U | 290 UJ | NA | 2200 U | 2600 UJ | NA | 600 U | 290 UJ | NA | 280 U | 58 U | NA | 2300 UJ | 57 UJ | NA (2) |
| Hexachloroethane | 800 UJ | 50 UJ | NA (1) | 270 UJ | 52 U | NA | 720 UJ | 82 UJ | NA | 560 UJ | 270 UJ | NA | 1200 UJ | 290 UJ | NA | 2200 UJ | 2600 UJ | NA | 600 UJ | 290 UJ | NA | 280 UJ | 58 U | NA | 2300 UJ | 57 UJ | NA (1) |
| Nitrobenzene | 800 UJ | 50 UJ | NA (1) | 270 U | 52 U | NA | 720 UJ | 82 UJ | NA | 560 U | 270 UJ | NA | 1200 U | 290 UJ | NA | 2200 U | 2600 UJ | NA | 600 U | 290 UJ | NA | 280 U | 58 UJ | NA | 2300 UJ | 57 UJ | NA (1) |
| Isophorone | 800 UJ | 50 UJ | NA (1) | 270 U | 52 U | NA | 720 UJ | 82 UJ | NA | 560 U | 270 UJ | NA | 1200 U | 290 UJ | NA | 2200 U | 2600 UJ | NA | 600 U | 290 UJ | NA | 280 U | 58 U | NA | 2300 UJ | 57 UJ | NA (1) |
| 2-Nitrophenol | 800 UJ | 120 UJ | NA | 270 UJ | 130 UJ | NA | 720 UJ | 210 UJ | NA | 560 UJ | 680 UJ | NA | 1200 UJ | 740 UJ | NA | 2200 UJ | 6500 UJ | NA | 600 UJ | 720 UJ | NA | 280 UJ | 140 UJ | NA | 2300 UJ | 140 UJ | NA (5) |
| 2,4-Dimethylphenol | R | R | NA (3) | 270 UJ | 130 UJ | NA | R | R | NA (3) | 560 UJ | 680 UJ | NA | 1200 UJ | 740 UJ | NA | 850 J | 6500 UJ | NA | 600 UJ | 720 UJ | NA | 280 UJ | 140 UJ | NA | R | 140 UJ | NA (3) |
| Bis(2-chloroethoxy) methane | 800 UJ | 50 UJ | NA (5) | 270 U | 52 U | NA | 720 UJ | 82 UJ | NA | 560 U | 270 UJ | NA | 1200 U | 290 UJ | NA | 2200 U | 2600 UJ | NA | 600 U | 290 UJ | NA | 280 U | 58 U | NA | 2300 UJ | 57 UJ | NA (5) |
| 2,4-Dichlorophenol | 800 UJ | 120 UJ | NA | 270 U | 130 U | NA | 720 UJ | 210 UJ | NA | 560 U | 680 UJ | NA | 1200 U | 740 UJ | NA | 2200 U | 6500 UJ | NA | 600 U | 720 UJ | NA | 280 U | 140 U | NA | 2300 UJ | 140 UJ | NA (1) |
| Naphthalene | 46 JEB | 71 J | 43 | 4 UJ | 52 UJ | NA (1) | 74 JEB | 82 UJ | NA | 200 JEB | 270 UJ | NA | 930 JEB | 870 J | * 6.7 | 5800 | 12000 J | 70 | 630 | 1300 J | 69 * | 50 JEB | 58 U | NA | 1100 JEB | 520 J | 72 * |
| 4-Chloroaniline | R | R | NA (3) | 270 UJ | 52 UJ | NA | R | 82 UJ | NA (3) | 560 UJ | 270 UJ | NA | 1200 UJ | 290 UJ | NA | 2200 UJ | 2600 UJ | NA | 600 UJ | 290 UJ | NA | 280 UJ | 58 UJ | NA | R | 57 UJ | NA (3) |
| Hexachlorobutadiene | 800 UJ | 50 UJ | NA (1) | 270 U | 52 U | NA | 720 UJ | 82 UJ | NA | 560 U | 270 UJ | NA | 1200 U | 290 UJ | NA | 2200 U | 2600 UJ | NA | 600 U | 290 UJ | NA | 280 U | 58 U | NA | 2300 UJ | 57 UJ | NA (1) |
| Caprolactam | 800 UJ | 50 UJ | NA (1) | 270 U | 52 UJ | NA | 720 UJ | 82 UJ | NA | 560 U | 270 UJ | NA | 1200 U | 290 UJ | NA | 2200 U | 2600 UJ | NA | 600 U | 290 UJ | NA | 280 U | 58 UJ | NA | 2300 UJ | 57 UJ | NA (1) |
| 4-Chloro-3-Methylphenol | 800 UJ | 120 UJ | NA | 270 U | 130 UJ | NA | 720 UJ | 210 UJ | NA | 560 U | 680 UJ | NA | 1200 U | 740 UJ | NA | 2200 U | 6500 UJ | NA | 600 U | 720 UJ | NA | 280 U | 140 UJ | NA | 2300 UJ | 140 UJ | NA (5) |
| 2-Methylnaphthalene | 800 UJ | 50 UJ | NA (2) | 270 U | 52 U | NA | 720 UJ | 82 UJ | NA | 130 J | 270 UJ | NA | 550 J | 470 J | 16 | 10000 | 20000 J | 67 * | 410 J | 1200 J | 98 * | 280 U | 58 U | NA | 590 J | 280 J | 71 * |
| Hexachlorocyclopentadiene | 800 UJ | 50 UJ | NA (1) | 270 UJ | 52 UJ | NA | 720 UJ | 82 UJ | NA | 560 UJ | 270 UJ | NA | 1200 UJ | 290 UJ | NA | 2200 UJ | 2600 UJ | NA | 600 UJ | 290 UJ | NA | 280 UJ | 58 UJ | NA | 2300 UJ | 57 UJ | NA (1) |
| 2,4,6-Trichlorophenol | 800 UJ | 120 UJ | NA | 270 UJ | 130 UJ | NA | 720 UJ | 210 UJ | NA | 560 UJ | 680 UJ | NA | 1200 UJ | 740 UJ | NA | 1400 J | 6500 UJ | NA | 600 UJ | 720 UJ | NA | 280 UJ | 140 UJ | NA | 2300 UJ | 140 UJ | NA (1) |
| 2,4,5-Trichlorophenol | 800 UJ | 120 UJ | NA | 270 UJ | 130 UJ | NA | 720 UJ | R | NA (3) | 560 UJ | 680 UJ | NA | 1200 UJ | 740 UJ | NA | 390 J | 6500 UJ | NA | 600 UJ | 720 UJ | NA | 280 UJ | 140 UJ | NA | 2300 UJ | 140 UJ | NA (1) |
| 1,1'-Biphenyl | 800 UJ | 50 UJ | NA (1) | 270 U | 52 UJ | NA | 720 UJ | 82 UJ | NA | 560 U | 270 UJ | NA | 1200 U | 290 UJ | NA | 2900 | 5600 J | 64 | 130 J | 620 J | 131 | 280 U | 58 UJ | NA | 2300 UJ | 110 | NA |
| 2-Chloronaphthalene | 800 UJ | 50 UJ | NA (1) | 270 U | 52 U | NA | 720 UJ | 82 UJ | NA | 560 U | 270 UJ | NA | 1200 U | 290 UJ | NA | 2200 U | 2600 UJ | NA | 600 U | 290 UJ | NA | 280 U | 58 UJ | NA | 2300 UJ | 57 UJ | NA (1) |
| 2-Nitroaniline | 800 UJ | 50 UJ | NA (1) | 270 UJ | 52 U | NA | 720 UJ | 82 UJ | NA | 560 UJ | 270 UJ | NA | 1200 UJ | 290 UJ | NA | 2200 UJ | 2600 UJ | NA | 600 UJ | 290 UJ | NA | 280 UJ | 58 UJ | NA | 2300 UJ | 57 UJ | NA (1) |
| Dimethyl phthalate | 800 UJ | 50 UJ | NA (1) | 270 U | 52 U | NA | 720 UJ | 82 UJ | NA | 560 U | 270 UJ | NA | 1200 U | 290 UJ | NA | 2200 U | 2600 UJ | NA | 600 U | 290 UJ | NA | 280 U | 58 UJ | NA | 2300 UJ | 57 UJ | NA (1) |
| 2,6-Dinitrotoluene | 800 UJ | 50 UJ | NA (1) | 270 U | 52 U | NA | 720 UJ | 82 UJ | NA | 560 U | 270 UJ | NA | 1200 U | 290 UJ | NA | 2200 U | 2600 UJ | NA | 600 U | 290 UJ | NA | 280 U | 58 UJ | NA | 2300 UJ | 57 UJ | NA (1) |
| Acenaphthylene | 800 UJ | 35 J | NA | 270 U | 2.6 U | NA (1) | 720 UJ | 25 J | NA | 200 J | 280 J | 33 | 1200 U | 300 J | NA | 2200 U | 13 UJ | NA (1) | 200 J | 350 J | 55 | 280 U | 19 | NA | 2300 UJ | 400 J | NA |
| 3-Nitroaniline | 800 UJ | 50 UJ | NA (5) | 270 UJ | 52 U | NA | 720 UJ | 82 UJ | NA | 560 UJ | 270 UJ | NA | 1200 UJ | 290 UJ | NA | 2200 UJ | 2600 UJ | NA | 600 UJ | 290 UJ | NA | 280 UJ | 58 UJ | NA | 2300 UJ | 57 UJ | NA (5) |
| Acenaphthene | 800 UJ | 64 J | NA | 270 U | 2.6 U | NA (1) | 150 J | 69 J | 74 | 620 | 680 J | 9.2 | 2000 | 1600 J | 22 | 2400 | 8200 J | 109 * | 2300 | 7900 J | 110 * | 220 J | 310 J | 34 | 3200 J | 2100 J | 42 |
| 2,4-Dinitrophenol | R | 120 UJ | NA (3) | 270 UJ | 130 UJ | NA | R | 210 UJ | NA (3) | 560 UJ | 680 UJ | NA | 1200 UJ | 740 UJ | NA | 2200 UJ | 6500 UJ | NA | 600 UJ | 720 UJ | NA | 280 UJ | 140 UJ | NA | R | 140 UJ | NA (3) |
| 4-Nitrophenol | 800 UJ | R | NA (3) | 270 UJ | 130 UJ | NA | 720 UJ | 210 UJ | NA | 560 UJ | 680 UJ | NA | 1200 UJ | 740 UJ | NA | 2200 UJ | 6500 UJ | NA | 600 UJ | 720 UJ | NA | 280 UJ | 140 UJ | NA | 2300 UJ | 140 UJ | NA (1) |
| Dibenzofuran | 800 UJ | 50 UJ | NA (1) | 270 U | 52 U | NA | 720 UJ | 82 UJ | NA | 260 J | 460 J | 56 | 1200 J | 1000 J | 18 | 2200 U | 2600 UJ | NA | 4100 | 4600 J | 11 | 110 J | 58 UJ | NA | 1800 J | 770 J | 80 * |
| 2,4-Dinitrotoluene | 800 UJ | 50 UJ | NA (2) | 270 U | 52 UJ | NA | 720 UJ | 82 UJ | NA | 560 U | 270 UJ | NA | 1200 U | 290 UJ | NA | 2200 U | 2600 UJ | NA | 600 U | 290 UJ | NA | 280 U | 58 UJ | NA | 2300 UJ | 57 UJ | NA (2) |
| Diethyl phthalate | 800 UJ | 50 UJ | NA (1) | 270 U | 52 U | NA | 720 UJ | 82 UJ | NA | 560 U | 270 UJ | NA | 1200 U | 290 UJ | NA | 2200 U | 2600 UJ | NA | 600 U | 290 UJ | NA | 280 U | 58 UJ | NA | 2300 UJ | 57 UJ | NA (1) |
| Fluorene | 800 UJ | 43 J | NA | 270 U | 2.6 U | NA (1) | 140 J | 69 J | 68 | 570 | 450 J | 24 | 2100 | 1200 J | 55 * | 2200 U | 13 UJ | NA (1) | 2200 | 9800 J | 127 * | 290 | 570 J | 65 * | 2900 J | 1700 J | 52 * |
| 4-Chlorophenyl phenyl ether | 800 UJ | 50 UJ | NA (5) | 270 U | 52 U | NA | 720 UJ | 82 UJ | NA | 560 U | 270 UJ | NA | 1200 U | 290 UJ | NA | 2200 U | 2600 UJ | NA | 600 U | 290 UJ | NA | 280 U | 58 UJ | NA | 2300 UJ | 57 UJ | NA (5) |
| 4-Nitroaniline | 800 UJ | 50 UJ | NA (5) | 270 UJ | 52 U | NA | 720 UJ | 82 UJ | NA | 560 UJ | 270 UJ | NA | 1200 UJ | 290 UJ | NA | 2200 UJ | 2600 UJ | NA | 600 UJ | 290 UJ | NA | 280 UJ | 58 UJ | NA | 2300 UJ | 57 UJ | NA (5) |
| 4,6-Dinitro-2-methylphenol | 800 UJ | 120 UJ | NA | 270 UJ | 130 UJ | NA | 720 UJ | 210 UJ | NA | 560 UJ | 680 UJ | NA | 1200 UJ | 740 UJ | NA | 2200 UJ | 6500 UJ | NA | 600 UJ | 720 UJ | NA | 280 UJ | 140 UJ | NA | 2300 UJ | 140 UJ | NA (5) |
| N-Nitrosodiphenylamine | 800 UJ | 50 UJ | NA (1) | 270 U | 52 UJ | NA | 720 UJ | 82 UJ | NA | 560 U | 270 UJ | NA | 1200 U | 290 UJ | NA | 2200 U | 2600 UJ | NA | 600 U | 290 UJ | NA | 280 U | 58 UJ | NA | 2300 UJ | 57 UJ | NA (1) |
| 4-Bromophenyl phenyl ether | 800 UJ | 50 UJ | NA (5) | 270 UJ | 52 U | NA | 720 UJ | 82 UJ | NA | 560 UJ | 270 UJ | NA | 1200 UJ | 290 UJ | NA | 2200 UJ | 2600 UJ | NA | 600 UJ | 290 UJ | NA | 280 UJ | 58 UJ | NA | 2300 UJ | 57 UJ | NA (5) |
| Hexachlorobenzene | 8 UJ | 50 UJ | NA | 2 J | 52 U | NA | 7.2 UJ | 82 UJ | NA (1) | 28 U | 270 UJ | NA | 31 U | 290 UJ | NA | 54 UJ | 2600 UJ | NA (2) | 60 U | 290 UJ | NA | 14 U | 58 UJ | NA | 23 UJ | 57 UJ | NA |
| Atrazine | 800 UJ | 50 UJ | NA (1) | 270 UJ | 52 UJ | NA | 720 UJ | 82 UJ | NA | 560 UJ | 270 UJ | NA | 1200 UJ | 290 UJ | NA | 2200 UJ | 2600 UJ | NA | 600 UJ | 290 UJ | NA | 280 UJ | 58 UJ | NA | 2300 UJ | 57 UJ | NA (2) |
| Pentachlorophenol | R | 50 UJ | NA (3) | 140 J | 52 UJ | NA | R | 82 UJ | NA (3) | 560 UJ | 270 UJ | NA | 1200 UJ | 290 UJ | NA | 2200 UJ | 2600 UJ | NA | 600 UJ | 290 UJ | NA | 280 UJ | 58 UJ | NA | R | 57 UJ | NA (3) |
| Phenanthrene | 530 J | 840 J | 45 | 7.4 J | 52 U | NA | 1800 J | 870 J | 70 * | 4800 | 5700 J | 17 | 15000 | 13000 J | 14 | 4700 | 2600 UJ | NA | 19,000 | 68,000 J | 113 * | 2700 | 2300 J | 16 | 32000 J | 19000 | 51 * |
| Anthracene | 800 UJ | 130 J | NA (6) | 270 U | 52 U | NA | 400 J | 230 J | 54 | 1400 | 1800 J | 25 | 3900 | 3700 J | 5.3 | 2200 U | 2600 UJ | NA | 6000 | 19,000 J | 104 * | 830 | 610 J | 31 | 6900 J | 2000 | 110 * |
| Carbazole | 800 UJ | R | NA (3) | 270 U | 52 UJ | NA | 230 J | 120 J | 63 | 510 J | 3800 J | 153 * | 2300 | 6900 J | 100 * | 2200 U | 2600 UJ | NA | 2800 | 13,000 J | 129 * | 280 J | 1300 U | NA | 3500 J | 2400 J | 37 |
| Di-n-butyl phthalate | 800 UJ | 350 UJ | NA | 270 U | 210 UJ | NA | 720 UJ | 82 UJ | NA | 150 J | 420 UJ | NA | 1200 U | 370 UJ | NA | 2200 U | 9500 UJ | NA | 410 J | 380 UJ | NA | 120 J | 570 UJ | NA | 2300 UJ | 190 J | NA |
| Fluoranthene | 1200 J | 990 J | 19 | 15 | 52 U | NA | 3500 J | 1500 J | 80 * | 8400 | 7700 J | 8.7 | 16000 | 14000 J | 13 | 2900 | 2700 J | 7.1 | 40,000 | 76,000 J | 62 * | 4600 | 3100 J | 39 | 40000 J | 23000 | 54 * |
| Pyrene | 1100 J | 1400 J | 24 | 15 | 52 U | NA | 3200 J | 1100 J | 98 * | 8100 | 8300 J | 2.4 | 15000 | 13000 J | 14 | 4400 | 4600 J | 4.4 | 31,000 | 84,000 J | 92 * | 3800 | 2300 J | 49 | 28000 J | 20000 | 33 |
| Butyl benzyl phthalate | 800 UJ | 50 UJ | NA (1) | 270 U | 52 U | NA | 720 UJ | 82 UJ | NA | 1700 | 3500 J | 69 * | 1200 U | 290 UJ | NA | 3900 | 2600 UJ | NA | 1300 | 290 UJ | NA | 280 U | 58 UJ | NA | 2300 UJ | 57 UJ | NA (1) |
| 3,3'-Dichlorobenzidine | R | 50 UJ | NA (3) | R | 52 UJ | NA (3) | R | 82 UJ | NA (3) | R | 270 UJ | NA (3) | R | 290 UJ | NA (3) | R | 2600 UJ | NA (3) | R | 290 UJ | NA (3) | R | 58 UJ | NA (3) | R | 57 UJ | NA (3) |
| Benzo(a)Anthracene | 460 J | 740 J | 47 | 9 | 52 U | NA | 1600 J | 810 J | 66 * | 4300 | 4200 J | 2.4 | 7200 | 6900 J | 4.3 | 970 J | 2600 UJ | NA | 18,000 | 38,000 J | 71 * | 1800 | 1300 J | 32 | 15000 J | 10000 | 40 |
| Chrysene | 470 J | 680 J | 37 | 12 | 52 U | NA | 1800 J | 650 J | 94 * | 4500 | 3400 J | 28 | 7200 | 5600 J | 25 | 1200 J | 2600 UJ | NA | 18,000 | 28,000 J | 43 | 1900 | 1400 J | 30 | 14000 J | 9400 | 39 |
| Bis(2-ethylhexyl) phthalate | 640 J | 1200 J | 61 (6) | 100 J | 120 UJ | NA | 360 J | 82 UJ | NA | 840 | 800 UJ | NA | 1200 J | 910 UJ | NA | 200000 | 440000 J | 75 * | 4,800 | 4,300 J | 11 | 400 | 1100 UJ | NA | 470 J | 160 J | 98 |
| Di-n-octyl phthalate | 800 UJ | 50 UJ | NA (1) | 270 U | 52 U | NA | 720 UJ | 82 UJ | NA | 560 U | 270 UJ | NA | 1200 U | 290 UJ | NA | 12000 J | 5600 J | 73 * | 600 UJ | 290 UJ | NA | 280 U | 58 UJ | NA | 2300 UJ | 57 UJ | NA (1) |
| Benzo(b)Fluoranthene | 380 J | 700 J | 59 * | 11 | 52 U | NA | 1600 J | 1000 J | 46 | 4400 J | 5400 J | 20 | 6100 J | 8600 J | 34 | 870 J | 2600 UJ | NA | 17,000 J | 40,000 J | 81 * | 1800 J | 1700 J | 5.7 | 10000 J | 12000 | 18 |
| Benzo(k)Fluoranthene | 320 J | 690 J | 69 (6) | 9.3 | 52 U | NA | 1600 J | 190 J | 158 * | 4200 | 1200 J | 111 * | 8800 | 970 J | 150 * | 690 J | 2600 UJ | NA | 18,000 J | 9,600 J | 61 * | 1800 | 290 J | 144 * | 9100 J | 3800 | 82 * |
| Benzo(a)Pyrene | 380 J | 560 J | 38 | 9.9 | 52 U | NA | 1500 J | 860 J | 54 * | 4800 J | 4100 J | 16 | 6500 J | 5600 J | 15 | 780 J | 2600 UJ | NA | 18,000 J | 29,000 J | 47 | 1800 J | 1200 J | 40 | 11000 J | 9000 | 20 |
| Indeno(1,2,3-cd)pyrene | 230 J | 120 J | 63 (6) | 8.1 | 52 U | NA | 760 J | 330 J | 79 * | 1400 | 3300 J | 81 * | 1900 | 4300 J | 77 * | 400 J | 2600 UJ | NA | 5,200 | 18,000 J | 110 * | 710 | 790 J | 11 | 5800 J | 3100 J | 61 * |
| Dibenz(a,h) anthracene | 110 J | 9 UJ | NA | 3.9 | 6.2 J | 46 | 220 J | 68 J | 106 | 590 | 1100 J | 60 * | 780 | 1400 J | 57 * | 170 J | 150 J | 13 | 2,100 | 5,300 J | 86 * | 190 J | 300 J | 45 | 1800 J | 1200 J | 40 |
| Benzo(g,h,i)perylene | 240 J | 140 J | 53 | 11 | 52 U | NA | 680 J | 350 J | 64 * | 1300 | 3200 J | 84 * | 1700 | 3600 J | 72 * | 460 J | 2600 UJ | NA | 4400 | 14,000 J | 104 * | 560 | 700 J | 22 | 5300 J | 2500 | 72 * |

U = Analyte was not detected at the concentration listed.
J = Estimated value due to limitations identified during data validation.
UJ = Estimated nondetect due to limitations identified during data validation.
R = Value was rejected due to laboratory quality control problems.
RPD = Relative percent difference; RPD is calculated only when analytes are detected in both samples.
* = Results outside the quantitative comparability goal for split samples -- RPD > 50%
NA = Not Applicable; RPD cannot be calculated when one or both results are nondetects.
(1) = Difference between QLs exceeds 10; therefore no basis for comparison. Since both QLs are below project action limits, data usability not adversely affected.
(2) = Difference between QLs exceeds 10; therefore no basis for comparison. Since one of the reported QLs was below project action limits, overall data usability not adversely affected.
(3) = No basis for comparison due to rejected result(s).
(4) = Analyte was detected by one party at >3x the QL and was not detected by the other party; results not comparable. Both results were below the project action limits; data usability not adversely affected.
(5) = Difference between QLs exceeds 10; therefore no basis for comparison. Since no project action limit exists for affected compound, overall data usability not affected.
(6) = No basis for comparison as RPD in corresponding field duplicate pair exceeds the acceptance criteria.
(7) = Analyte was detected by one party with a result >3x its own QL and above the project action limit and was not detected by the other party; results not comparable.
Not comparable
No basis for comparison

## TABLE A-3a - SPLIT SAMPLE COMPARISON - Wells G&H - Southwest Properties
## PCB CONGENERS & PCB AROCLORS IN GROUNDWATER (ug/L)

| Analyte | RETEC field duplicate | | RPD | | | RPD | TRC field duplicate | | RPD |
|---|---|---|---|---|---|---|---|---|---|
| | EPA/TRC AB-2SS | RETEC AB2SS | | EPA/TRC MW-4S | RETEC MW4S | | EPA/TRC MW-6S | RETEC MW6S | |
| PCB Congener TEQ (Humans)* | | | | | | | 1.265E-06 | 1.402E-06 J | 10.3 |
| Aroclor-1016 | 0.02 UJ | 0.1 U | NA (1) | 0.02 U | 0.1 U | NA (1) | 0.02 UJ | 0.1 U | NA (1) |
| Aroclor-1221 | 0.02 U | 0.1 U | NA (1) | 0.02 U | 0.1 U | NA (1) | 0.02 U | 0.1 U | NA (1) |
| Aroclor-1232 | 0.02 U | 0.1 U | NA (1) | 0.02 U | 0.1 U | NA (1) | 0.02 U | 0.1 U | NA (1) |
| Aroclor-1242 | 0.02 U | 0.1 U | NA (1) | 0.02 U | 0.1 U | NA (1) | 0.02 U | 0.1 U | NA (1) |
| Aroclor-1248 | 0.02 U | 0.1 U | NA (1) | 0.02 U | 0.1 U | NA (1) | 0.02 U | 0.1 U | NA (1) |
| Aroclor-1254 | 0.02 U | 0.1 U | NA (1) | 0.02 U | 0.1 U | NA (1) | 0.02 U | 0.1 U | NA (1) |
| Aroclor-1260 | 0.02 UJ | 0.1 U | NA (1) | 0.02 U | 0.1 U | NA (1) | 0.02 UJ | 0.1 U | NA (1) |

U = Analyte was not detected at the concentration listed.
J = Estimated value due to limitations identified during data validation.
UJ = Estimated nondetect due to limitations identified during data validation.
RPD = Relative percent difference; RPD is calculated only when analytes are detected in both samples.
* = RPD of individual congeners not evaluated since only the TEQs were used in the final decision-making process
NA = Not Applicable; RPD cannot be calculated when one or both results are nondetects.
(1) = Difference between QLs exceeds 10; therefore no basis for comparison. Since one of the reported QLs was below project action limits, overall data usability not adversely affected.
Not comparable
No basis for comparison

## TABLE A-3b - SPLIT SAMPLE COMPARISON - Wells G&H - Southwest Properties
## PCB CONGENERS & PCB AROCLORS IN SOIL/SEDIMENT (ug/kg)

| Analyte | EPA/TRC AB-13 (0-2) | RETEC AB-13SS (0-2) | RPD | EPA/TRC AB-13 (5-7) | RETEC AB-13D (5-7) | RPD | RETEC field duplicate EPA/TRC MR-11 (0-0.5) | RETEC field duplicate RETEC MR-11SS (0-0.5) | RPD | EPA/TRC MR-11 (0.75-1.75) | RETEC MR-11D (0.75-1.75) | RPD | TRC field duplicate EPA/TRC MR-12 (0-0.5) | TRC field duplicate RETEC MR-12SS (0-0.5) | RPD | EPA/TRC WB-6 (0-2) | RETEC WB-6SS (0-2) | RPD | EPA/TRC WB-7 (0-2) | RETEC WB-7SS (0-2) | RPD | EPA/TRC WB-10 (0-2) | RETEC WB-10SS (0-2) | RPD |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| PCB Congener TEQ (Humans)+ | 0.000478 J | 0.000689 J | 36 | 0.00765 J | 0.00135 J | 140 * | 0.119 | 0.284 J | 82 * | 0.147 | 0.165 J | 12 | 0.0389 | 0.0154 J | 87 * | | | | 0.018084 J | 0.005415 J | 108 * | 0.045691 J | 0.065045 J | 35 |
| Aroclor-1016 | 6.55 UJ | 6.2 UJ | NA | | | | 32.8 UJ | 5 UJ | NA | | | | 6.61 UJ | 16 UJ | NA | 65.4 UJ | 11.3 UJ | NA | 65.2 UJ | 5.8 UJ | NA (1) | 65 UJ | 9.3 UJ | NA |
| Aroclor-1221 | 13.1 U | 6.2 UJ | NA | | | | 65.6 U | 5 UJ | NA (1) | | | | 13.2 U | 16 UJ | NA | 131 U | 11.3 UJ | NA (1) | 130 U | 5.8 UJ | NA (1) | 130 U | 9.3 UJ | NA (1) |
| Aroclor-1232 | 6.55 U | 6.2 UJ | NA | | | | 32.8 U | 5 UJ | NA | | | | 6.61 U | 16 UJ | NA | 65.4 U | 11.3 UJ | NA | 65.2 U | 5.8 UJ | NA (1) | 65 U | 9.3 UJ | NA |
| Aroclor-1242 | 6.55 U | 6.2 UJ | NA | | | | 32.8 U | 5 UJ | NA | | | | 6.61 U | 16 UJ | NA | 65.4 U | 11.3 UJ | NA | 143 J | 5.8 UJ | NA | 65 U | 9.3 UJ | NA |
| Aroclor-1248 | 6.55 U | 6.2 UJ | NA | | | | 32.8 U | 5 UJ | NA | | | | 6.61 U | 16 UJ | NA | 65.4 U | 11.3 UJ | NA | 65.2 U | 5.8 UJ | NA (1) | 65 U | 9.3 UJ | NA |
| Aroclor-1254 | 31 J | 12 J | 88 * | | | | 4240 J | 304 J | 173 (3) | | | | 310 J | 16 UJ | NA (4) | 3640 J | 42500 J | 168 * | 1900 J | 1590 J | 18 | 2720 J | 9.3 UJ | NA (4) |
| Aroclor-1260 | 21.3 J | 6.2 UJ | NA (2) | | | | 1460 J | 121 FBJ | 169 (3) | | | | 324 J | 283 FBJ | 14 | 1370 J | 11.3 UJ | NA (4) | 2000 J | 5.8 UJ | NA (4) | 2700 J | 6020 J | 76 * |
| Total PCB Aroclors | 52.3 J | 12 J | 125 (2) | | | | 5700 J | 425 J | NA (3) | | | | 634 J | 283 FBJ | 77 * | 5010 J | 42500 J | 158 * | 4043 J | 1590 J | 87 * | 5420 J | 6020 J | 10 |

U = Analyte was not detected at the concentration listed.
J = Estimated value due to limitations identified during data validation.
UJ = Estimated nondetect due to limitations identified during data validation.
RPD = Relative percent difference; RPD is calculated only when analytes are detected in both samples.
+ = RPD of individual congeners not evaluated since only the TEQs were used in the final decision-making process.
* = Results outside the quantitative comparability goal for split samples -- RPD > 50%
NA = Not Applicable; RPD cannot be calculated when one or both results are nondetects.
(1) = Difference between QLs exceeds 10; therefore no basis for comparison. Since both QLs are below project action limits, data usability not adversely affected.
(2) = Analyte was detected by one party at >3x the QL and was not detected by the other party; results not comparable. Both results were below the project action limits; data usability not adversely affected.
(3) = No basis for comparison as RPDs in corresponding field duplicate pair did not meet criteria.
(4) = Analyte was detected by one party with a result >3x its own QL and above the project action limit and was not detected by the other party; results not comparable.
Not comparable
No basis for comparison

## TABLE A-4a - SPLIT SAMPLE COMPARISON - Wells G&H - Southwest Properties
## INORGANICS IN GROUNDWATER (ug/L)

| Analyte | | | RPD | | | RPD | | | RPD | TRC field duplicate | | RPD | | | RPD |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | EPA/TRC | RETEC | | EPA/TRC | RETEC | | EPA/TRC | RETEC | | EPA/TRC | RETEC | | EPA/TRC | RETEC | |
| | AB-6SS | AB6SS | | MW-1 | MW1 | | MW-4S | MW4S | | MW-18S | MW18S | | WB-1R | WB1R | |
| Aluminum | 74.7 J | 478 | 146 * | | | | | | | | | | 55.9 J | 126 U | NA |
| Antimony | 0.019 UJ | 1.3 UJ | NA (1) | | | | | | | | | | 0.019 UJ | 1.3 UJ | NA (1) |
| Arsenic | 0.37 UJ | 2.5 UJ | NA | | | | | | | | | | 0.15 UJ | 2.5 UJ | NA |
| Barium | 15.5 J | 37 | 82 * | | | | | | | | | | 11.9 J | 12 | 0.8 |
| Beryllium | 0.008 UJ | 1.3 U | NA (1) | | | | | | | | | | 0.008 UJ | 1.3 U | NA (1) |
| Cadmium | 0.03 J | 1.3 U | NA | | | | | | | | | | 0.18 J | 1.3 U | NA |
| Calcium | 8680 | 28500 | 107 * | | | | | | | | | | 48200 | 41500 | 15 |
| Chromium | 1.2 | 1.9 U | NA | | | | | | | | | | 6.1 | 7.8 | 24 |
| Cobalt | 0.568 J | 1.3 U | NA | | | | | | | | | | 7.76 J | 7.9 | 1.8 |
| Copper | 1.39 UJ | 5 U | NA | | | | | | | | | | 11.4 J | 15 U | NA (3) |
| Cyanide | 3 U | 3 U | NA | 3.6 J | 3 | 18 | 3 J | 3 U | NA | 3 U | 3 U | NA | 5.8 J | 3 U | NA |
| Iron | 118 | 407 | 110 * | | | | | | | | | | 297 | 323 | 8.4 |
| Lead | 0.064 UJ | 1.4 U | NA (1) | | | | | | | | | | 0.227 UJ | 3.2 U | NA (1) |
| Magnesium | 4600 | 4780 | 3.8 | | | | | | | | | | 11500 | 10800 | 6.3 |
| Manganese | 398 J | 415 | 4.2 | | | | | | | | | | 198 J | 204 | 3.0 |
| Mercury | 0.1 U | 0.2 U | NA | 0.1 U | 0.2 | NA | 0.1 U | 0.2 U | NA | 0.1 U | 0.2 U | NA | 0.1 U | 0.2 U | NA |
| Nickel | 1.22 UJ | 2.2 | NA | | | | | | | | | | 7.91 UJ | 8.5 | NA (2) |
| Potassium | 4580 | 7130 J | 44 * | | | | | | | | | | 3790 | 6450 J | 52 * |
| Selenium | 0.3 J | 2.5 UJ | NA | | | | | | | | | | 0.2 UJ | 2.5 UJ | NA (1) |
| Silver | 0.003 UJ | 1.3 UJ | NA (1) | | | | | | | | | | 0.269 UJ | 1.3 UJ | NA |
| Sodium | 1010000 | 51000 J | 181 * | | | | | | | | | | 77800 | 77500 | 0 |
| Thallium | 0.016 J | 2 UJ | NA | | | | | | | | | | 0.025 J | 2 UJ | NA |
| Vanadium | 0.6 U | 1.3 U | NA | | | | | | | | | | 0.6 U | 1.3 U | NA |
| Zinc | 0.97 UJ | 15 U | NA (1) | | | | | | | | | | 8.6 J | 22 U | NA |

U = Analyte was not detected at the concentration listed.
J = Estimated value due to limitations identified during data validation.
UJ = Estimated nondetect due to limitations identified during data validation.
R = Value was rejected due to laboratory quality control problems.
RPD = Relative percent difference; RPD is calculated only when analytes are detected in both samples.
* = Results outside the quantitative comparability goal for split samples -- RPD > 30%
NA = Not Applicable; RPD cannot be calculated when one or both results are nondetects.
(1) = Difference between QLs exceeds 10; therefore no basis for comparison. Since both QLs are below project action limits, data usability not adversely affected.
(2) = Analyte was detected by one party at >4x the QL and was not detected by the other party; results not comparable. Both results were below the project action limits; data usability not adversely affected.
(3) = Analyte was detected by one party at > 4x the QL with a result above the project action limit and was not detected by the other party; results not comparable.
Not comparable
No basis for comparison

## TABLE A-4b - SPLIT SAMPLE COMPARISON - Wells G&H - Southwest Properties
### INORGANICS IN SOIL/SEDIMENT (ug/Kg)

| Analyte | EPA/TRC AB-14 (0-2) | RETEC AB-14SS (0-2) | RPD | EPA/TRC AB-15 (0-2) | RETEC AB-15SS (0-2) | RPD | EPA/TRC AB-15 (4-4.5) | RETEC AB-15D (4-4.5) | RPD | EPA/TRC AB-16 (0-2) | RETEC AB-16SS (0-2) | RPD |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Aluminum | 1.3e+007 JEB | 8.01e+006 | 48 | 1e+007 JEB | 8.94e+006 | 11 | 8.6e+006 JEB | 4.88e+006 | 55 * | 1.3e+007 JEB | 1.11e+006 | 169 * |
| Antimony | 1800 J | 1440 | 22 | 200 UJ | 320 UJ | NA | 1200 UJ | 670 UJ | NA | 210 UJ | 330 UJ | NA |
| Arsenic | 6600 J | 5540 | 17 | 2100 J | 1530 J | 31 | 3600 J | 2400 | 40 | 2700 J | 850 J | 104 * |
| Barium | 140000 J | 87000 | 47 | 48000 J | 41000 | 16 | 130000 J | 64000 | 68 * | 63000 J | 50000 | 23 |
| Beryllium | 420 J | 340 | 21 | 380 J | 520 | 31 | 3100 J | 2130 | 37 | 270 J | 430 | 46 |
| Cadmium | 2900 J | 4020 | 32 | 270 J | 1390 U | NA (3) | 230 J | 2930 | 171 * | 1100 J | 2710 | 85 * |
| Calcium | 1e+007 J | 6.41e+006 J | 44 | 5.9e+006 J | 4.49e+006 J | 27 | 2.1e+007 J | 1.22e+007 J | 53 * | 7.8e+006 J | 6.76e+006 J | 14 |
| Chromium | 31000 J | 19000 | 48 | 5500 J | 5540 | 0.72 | 9700 J | 5050 | 63 * | 8200 J | 6280 | 27 |
| Cobalt | 12000 J | 11000 | 8.7 | 9000 J | 6390 | 34 | 2000 J | 1350 | 39 | 17000 J | 17000 | 0.0 |
| Copper | 160000 J | 95000 | 51 * | 17000 J | 18000 | 5.7 | 7400 J | 4650 U | NA (3) | 40000 J | 35000 | 13 |
| Cyanide | 80 U | 180 U | NA | 82 U | 180 U | NA | 190 | 880 | 129 | 77 U | 180 U | NA |
| Iron | 4.3e+007 J | 4.03e+007 | 6.5 | 2.3e+007 J | 1.91e+007 | 19 | 4.9e+006 J | 2.83e+006 | 54 * | 4e+007 J | 2.81e+007 | 35 |
| Lead | 1.6e+006 J | 1.38e+006 | 15 | 60000 J | 52000 J | 14 | 13000 J | 8710 J | 40 | 69000 J | 69000 J | 0.0 |
| Magnesium | 5.9e+006 J | 4.08e+006 | 36 | 5.2e+006 J | 3.78e+006 | 32 | 2e+006 J | 1.06e+006 | 61 * | 9.2e+006 J | 6.64e+006 | 32 |
| Manganese | 330000 J | 267000 | 21 | 230000 J | 228000 J | 0.87 | 92000 J | 46900 J | 65 * | 290000 J | 237000 J | 20 |
| Mercury | 61 J | 105 U | NA (3) | 30 J | 79 U | NA (3) | 41 J | 227 U | NA (3) | 7.6 J | 77 U | NA |
| Nickel | 180000 J | 96000 | 61 * | 6800 J | 7200 | 5.7 | 4500 J | 2330 | 64 | 18000 J | 17000 | 5.7 |
| Potassium | 270000 J | 863000 J | 105 * | 1e+006 J | 1.49e+006 J | 39 | 480000 J | 218000 J | 75 * | 1.5e+006 J | 1.71e+006 J | 13 |
| Selenium | 190 J | 620 UJ | NA | 85 UJ | 640 UJ | NA | 3200 | 1330 UJ | NA | 21 UJ | 660 UJ | NA (1) |
| Silver | 280 J | 310 UJ | NA (3) | 51 J | 320 UJ | NA (3) | 250 J | 670 UJ | NA (3) | 110 J | 330 UJ | NA (3) |
| Sodium | 110000 | 308000 U | NA | 70000 | 32000 U | NA | 1.1e+006 J | 1.11e+006 J | 0.90 | 84000 | 33000 U | NA |
| Thallium | 58 U | 130 U | NA | 40 U | 130 UJ | NA | 40 U | 300 UJ | NA | 37 U | 120 UJ | NA |
| Vanadium | 31000 J | 26000 | 18 | 23000 J | 27000 | 16 | 9600 J | 5290 | 58 * | 39000 J | 46000 | 16 |
| Zinc | 910000 J | 675000 | 30 | 170000 J | 411000 J | 83 * | 18000 J | 9040 J | 66 * | 190000 J | 119000 J | 46 |
| Hexavalent Chromium | | | | | | | | | | | | |

| Analyte | EPA/TRC MR-10 (3-5) | RETEC MR-10D (3-5) | RPD | RETEC field duplicate EPA/TRC MR-11 (0-0.5) | RETEC MR-11SS (0-0.5) | RPD | EPA/TRC MR-11 (0.75-1.75) | RETEC MR-11D (0.75-1.75) | RPD | TRC field duplicate EPA/TRC MR-12 (0-0.5) | RETEC MR-12SS (0-0.5) | RPD | EPA/TRC WB-6 (0-2) | RETEC WB-6SS (0-2) | RPD |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Aluminum | | | | 1.5e+007 JEB | 1.26e+007 J | 17 | | | | 2.35e+00 JEB | 1.07e+007 J | 75 * | 7.8e+006 JEB | 5.91e+006 | 28 |
| Antimony | | | | 1100 J | 1940 J | 55 * | | | | 3000 J | 1480 J | 68 * | 420 UJ | 1060 U | NA |
| Arsenic | | | | 7200 J | 10100 | 34 | | | | 7400 J | 5600 | 28 | 6400 J | 5210 | 20 |
| Barium | | | | 500000 | 426000 J | 16 | | | | 340000 J | 135000 J | 86 * | 70000 J | 55000 | 24 |
| Beryllium | | | | 580 J | 650 | 11 | | | | 1000 J | 670 U | NA (4) | 360 J | 350 U | NA (3) |
| Cadmium | | | | 1100 J | 2360 J | 73 * | | | | 4500 J | 3640 | 21 | 1100 J | 3120 | 96 |
| Calcium | | | | 4.4e+006 J | 3.94e+006 | 11 | | | | 2.3e+007 J | 1.29e+007 | 56 * | 1.5e+007 J | 1.03e+007 J | 37 |
| Chromium | | | | 86000 J | 72000 J | 18 | 190,000 J | 340,000 J | 57 * | 90000 J | 48000 J | 61 * | 42000 J | 32000 | 27 |
| Cobalt | | | | 8300 J | 10500 | 23 | | | | 9200 J | 8190 | 12 | 6200 J | 6930 | 11 |
| Copper | | | | 43000 J | 46500 | 7.8 | | | | 160000 J | 92000 | 54 * | 110000 J | 378000 | 110 * |
| Cyanide | 77 U | 180 U | NA | 300 | 170 U | NA | | | | 810 | 1750 | 73 * | 190 | 190 U | NA |
| Iron | | | | 2.7e+007 J | 2.83e+007 | 4.7 | | | | 1.8e+007 J | 1.45e+007 | 22 | 2.7e+007 J | 2.68e+007 | 0.74 |
| Lead | | | | 2.6e+006 J | 2.50e+006 J | 3.9 | | | | 370000 J | 173000 J | 73 * | 290000 J | 238000 J | 20 |
| Magnesium | | | | 5.2e+006 J | 4.82e+006 | 7.6 | | | | 7e+006 J | 4.37e+006 | 46 | 4.5e+006 J | 3.19e+006 | 34 |
| Manganese | | | | 260000 J | 270000 | 3.8 | | | | 380000 J | 176000 | 73 * | 290000 J | 235000 J | 21 |
| Mercury | | | | 180 | 171 U | NA (3) | | | | 320 J | 328 U | NA (3) | 1100 J | 935 | 16 |
| Nickel | | | | 25000 J | 26500 | 5.8 | | | | 42000 J | 26000 | 47 | 30000 J | 92000 | 102 |
| Potassium | | | | 2.9e+006 | 3.88e+006 J | 29 | | | | 6.4e+006 J | 2.94e+006 J | 74 * | 1.3e+006 J | 1.2e+006 J | 8.0 |
| Selenium | | | | 510 | 850 UJ | NA | | | | 350 J | 1330 UJ | NA | 11 UJ | 690 UJ | NA (1) |
| Silver | | | | 170 J | 420 UJ | NA (3) | | | | 320 J | 670 UJ | NA (3) | 560 J | 350 UJ | NA (3) |
| Sodium | | | | 180000 | 51000 U | NA (2) | | | | 880000 | 832000 | 5.6 | 170000 | 69000 U | NA (2) |
| Thallium | | | | 190 | 250 UJ | NA | | | | 350 U | 320 UJ | NA | 83 U | 140 UJ | NA |
| Vanadium | | | | 36000 J | 36500 | 1.4 | | | | 68000 J | 39000 | 54 * | 27000 J | 22000 | 20 |
| Zinc | | | | 490000 J | 310000 | 45 | | | | 920000 J | 646000 | 35 | 240000 J | 194000 J | 21 |
| Hexavalent Chromium | | | | 1990 U | 1900 U | NA | | | | 2000 U | 6400 UJ | NA | | | |

U = Analyte was not detected at the concentration listed.
J = Estimated value due to limitations identified during data validation.
UJ = Estimated nondetect due to limitations identified during data validation.
RPD = Relative percent difference; RPD is calculated only when analytes are detected in both samples.
* = Results outside the quantitative comparability goal for split samples -- RPD > 50%
NA = Not Applicable; RPD cannot be calculated when one or both results are nondetects.
(1) = Difference between QLs exceeds 10; therefore no basis for comparison. Since both QLs are below project action limits, data usability not adversely affected.
(2) = Analyte was detected by one party at >4x the QL and was not detected by the other party; results not comparable. Since no project action limit exists for affected compound, overall data usability not affected.
(3) = Analyte was detected by one party at >4x the QL and was not detected by the other party; results not comparable. Both results were below the project action limits; data usability not adversely affected.
(4) = Analyte was detected by one party at > 4x the QL with a result above the project action limit and was not detected by the other party; results not comparable.
Not comparable
No basis for comparison

## TABLE A-4b - SPLIT SAMPLE COMPARISON - Wells G&H - Southwest Properties
## INORGANICS IN SOIL/SEDIMENT (ug/Kg)

| Analyte | EPA/TRC WB-7 (0-2) | RETEC WB-7SS (0-2) | RPD | EPA/TRC WB-8 (0-1) | RETEC WB-8SS (0-1) | RPD | EPA/TRC WB-9 (0-0.5) | RETEC WB-9SS (0-0.5) | RPD | EPA/TRC WB-10 (0-2) | RETEC WB-10SS (0-2) | RPD | EPA/TRC WB-13 (0-2) | RETEC WB-13SS (0-2) | RPD |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Aluminum | 6.4e+006 JEB | 6.06e+006 | 5.5 | 9.2e+006 JEB | 7.32e+006 | 23 | | | | 9e+006 JEB | 7.13e+007 | 155 * | 1.2e+007 JEB | 7.34e+006 | 48 |
| Antimony | 290 UJ | 370 UJ | NA | 1300 UJ | 6680 | NA (3) | | | | 360 UJ | 290 UJ | NA | 240 UJ | 380 UJ | NA |
| Arsenic | 5900 J | 2270 | 89 * | 7000 J | 5120 | 31 | | | | 5600 J | 5710 | 1.9 | 4000 J | 3420 | 16 |
| Barium | 180000 J | 74000 | 83 * | 39000 J | 31000 | 23 | | | | 160000 J | 223000 | 33 | 100000 J | 64000 | 44 |
| Beryllium | 400 J | 400 | 0.0 | 290 J | 480 U | NA (3) | | | | 360 J | 390 | 8.0 | 550 J | 380 | 37 |
| Cadmium | 700 J | 1000 | 35 | 700 J | 1300 | 60 * | | | | 1000 J | 1490 U | NA (3) | 380 J | 1160 U | NA (3) |
| Calcium | 3.7e+007 J | 3.63e+007 J | 1.9 | 2.6e+006 J | 2.4e+006 J | 8.0 | | | | 3e+007 J | 2.39e+007 J | 23 | 3.4e+007 J | 3.95e+007 J | 15 |
| Chromium | 25000 J | 16000 | 44 | 210000 J | 180000 | 15 | 380000 J | 382000 J | 0.52 | 55000 J | 31000 | 56 * | 21000 J | 12000 | 55 * |
| Cobalt | 4600 J | 3940 | 15 | 1900 J | 1810 | 4.9 | | | | 6200 J | 5740 | 7.7 | 4700 J | 4790 | 1.9 |
| Copper | 35000 J | 57000 | 48 | 24000 J | 19000 | 23 | | | | 53000 J | 51000 | 3.8 | 25000 J | 23000 | 8.3 |
| Cyanide | 300 | 190 U | NA | 300 | 260 U | NA | | | | 120 | 190 U | NA | 640 | 190 U | NA |
| Iron | 1.4e+007 J | 9.38e+006 | 40 | 1.8e+007 J | 1.3e+007 | 32 | | | | 2.1e+007 J | 1.28e+007 | 49 | 1e+007 J | 1.47e+007 | 38 |
| Lead | 240000 J | 161000 J | 39 | 62000 J | 52000 | 18 | | | | 250000 J | 194000 J | 25 | 240000 J | 159000 J | 41 |
| Magnesium | 5.1e+006 J | 3.19e+006 | 46 | 310000 J | 437000 | 34 | | | | 5.7e+006 J | 3.6e+006 | 45 | 6e+006 J | 4.34e+006 | 32 |
| Manganese | 330000 J | 187000 J | 55 * | 130000 J | 96000 | 30 | | | | 270000 J | 197000 J | 31 | 370000 J | 212000 J | 54 * |
| Mercury | 210 J | 292 | 33 | 98 J | 208 U | NA (3) | | | | 800 J | 606 | 28 | 94 J | 173 | 59 * |
| Nickel | 17000 J | 11000 | 43 | 8300 J | 7260 | 13 | | | | 18000 J | 14000 | 25 | 14000 J | 9030 | 43 |
| Potassium | 450000 J | 1.3e+006 J | 97 * | 150000 J | 152000 J | 1.3 | | | | 1.8e+006 J | 2.26e+006 J | 23 | 1.7e+006 J | 1.32e+006 J | 25 |
| Selenium | 12 UJ | 730 UJ | NA (1) | 840 | 970 UJ | NA | | | | 10 UJ | 590 UJ | NA (1) | 10 UJ | 760 UJ | NA (1) |
| Silver | 190 J | 370 UJ | NA (3) | 70 J | 480 UJ | NA (3) | | | | 350 J | 290 UJ | NA (3) | 69 J | 380 UJ | NA (3) |
| Sodium | 350000 | 991000 J | 96 * | 97000 | 98000 U | NA | | | | 190000 | 121000 U | NA (2) | 190000 | 286000 J | 40 |
| Thallium | 65 U | 140 UJ | NA | 99 U | 180 U | NA | | | | 91 U | 130 UJ | NA | 83 U | 150 UJ | NA |
| Vanadium | 23000 J | 17000 | 30 | 15000 J | 12000 | 22 | | | | 29000 J | 21000 | 32 | 29000 J | 24000 | 19 |
| Zinc | 350000 J | 190000 J | 59 * | 86000 J | 77000 | 11 | | | | 280000 J | 217000 J | 25 | 200000 J | 104000 J | 63 * |
| Hexavalent Chromium | | | | | | | | | | | | | | | |

U = Analyte was not detected at the concentration listed.
J = Estimated value due to limitations identified during data validation.
UJ = Estimated nondetect due to limitations identified during data validation.
RPD = Relative percent difference; RPD is calculated only when analytes are detected in both samples.
* = Results outside the quantitative comparability goal for split samples -- RPD > 50%
NA = Not Applicable; RPD cannot be calculated when one or both results are nondetects.
(1) = Difference between QLs exceeds 10; therefore no basis for comparison. Since both QLs are below project action limits, data usability not adversely affected.
(2) = Analyte was detected by one party at >4x the QL and was not detected by the other party; results not comparable. Since no project action limit exists for affected compound, overall data usability not affected.
(3) = Analyte was detected by one party at >4x the QL and was not detected by the other party; results not comparable. Both results were below the project action limits; data usability not adversely affected.
(4) = Analyte was detected by one party at > 4x the QL with a result above the project action limit and was not detected by the other party; results not comparable.
Not comparable
No basis for comparison