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Final
Site Characterization and Cleanup Action Summary Report for Building 84 PCB Mezzanine Site
Investigation Area D1.3
Eastern Early Transfer Parcel

Prepared for:

California Environmental Protection Agency, Department of Toxic Substances Control

On behalf of:

Lennar Mare Island, LLC
690 Walnut Avenue, Suite 100
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October 2010

Prepared by:

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Subject: Final Site Characterization and Cleanup Action Summary Report for Building 84 PCB Mezzanine Site, Investigation Area D1.3, Eastern Early Transfer Parcel, Mare Island, Vallejo, California

Dear Ms. Naito:

Remedy Engineering, Inc. is submitting this report entitled *Final Site Characterization and Cleanup Action Summary Report for Building 84 PCB Mezzanine Site* (Final Report) on behalf of Lennar Mare Island, LLC. Remedy Engineering, Inc. submitted the *Draft Site Characterization and Cleanup Action Summary Report for Building 84 PCB Mezzanine Site* (Draft Report) on March 30, 2010. The California Environmental Protection Agency, Department of Toxic Substances Control (DTSC) submitted comments on the Draft Report on September 3, 2010. Initial responses to comments were submitted to DTSC on September 24, 2010. DTSC approved the final version of the responses to comments on October 6, 2010. DTSC comments have been incorporated into this Final Report. The United States Environmental Protection Agency (USEPA) had no comments on the Draft Report.

If you have any questions, please feel free to call me at 530-241-7658.

Sincerely,
Remedy Engineering, Inc.

Thomas E. Corontzos, P.E.
Project Manager

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Final
Site Characterization and Cleanup Summary Report for
Building 84 PCB Mezzanine Site
Investigation Area D1.3, Eastern Early Transfer Parcel
Mare Island, Vallejo, California

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Remedy Engineering, Inc.

October 2010

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Contents

Section		Page
Certification		**I**
Contents		**II**
Acronyms and Abbreviations		**IV**
1.0	**Introduction**	**1-1**
2.0	**Site Identification and Background**	**2-1**
	2.1 Background	2-1
	2.1.1 Nature of Contamination in Building 84	2-2
	2.1.2 Summary of Previous Sampling for Building 84 AL#01	2-3
	2.1.3 Summary of Previous Sampling for Building 84 PCB Mezzanine Site	2-6
3.0	**Cleanup Action Summary**	**3-1**
	3.1 Objectives	3-1
	3.2 Scope of Work	3-1
	3.3 Removal of Mezzanine Floor Surface	3-1
	3.4 Concrete Verification Sampling	3-2
	3.5 Indoor Air Sampling for Building 84 AL#01	3-3
4.0	**Conclusions**	**4-1**
5.0	**References**	**5-1**

Figures

1. Site Location Map
2. Building 84 Layout
3. Locations of February 5, 2009 Concrete Chip Samples
4. Locations of October 6, 2009 Concrete Chip Samples
5. Indoor Air Sampling Locations, January 11 to 13, 2010
6. Total PCB Concentrations in Air, May 2004 through January 2010

Tables

2-1 Summary of Past Activities in Building 84
2-2 Analytical Results for PCB in Concrete Chip Samples, February 5, 2009
3-1 Analytical Results for PCB in Concrete Chip Samples, October 6, 2009
3-2 Indoor Air Sampling Run Times and Flow Rates, January 11 to 13, 2010
3-3 PCB Homologue Masses in Air Samples, January 11 to 13, 2010
3-4 PCB Homologue Concentrations in Air Samples, January 11 to 13, 2010
3-5 Filter Weights for Total Suspended Particulate Samples, January 11 to 12, 2010
4-1 Historic Homologue Data for PCB Concentrations in Air, May 2004 through January 2010

Appendices

A. Previous Sampling Data and Figures
B. Field Notes
C. Laboratory Analytical and Data Validation Reports
D. Waste Disposal Receipt
E. Response to Agency Comments on the Draft Site Characterization and Cleanup Action Summary Report

Acronyms and Abbreviations

AL	assessment location
CERCLA	Comprehensive Environmental Response, Compliance, and Liability Act of 1980
DOT	Department of Transportation
DTSC	California Environmental Protection Agency, Department of Toxic Substance Control
EETP	Eastern Early Transfer Parcel
ft	feet
ft-bgs	feet below ground surface
IA	Investigation Area
L/min	liter per minute
LMI	Lennar Mare Island, LLC
mg	milligrams
mg/kg	milligram per kilogram
Navy	United States Department of the Navy
NFA	no further action
ng	nanograms
ng/m^3	nanograms per cubic meter
PCB	polychlorinated biphenyls
PRG	preliminary remediation goal
PUF	polyurethane foam
QA/QC	Quality Assurance/Quality Control
QAPP	Quality Assurance Project Plan
RSL	regional screening level
SSPORTS	Supervisor of Shipbuilding, Conversion and Repair, Portsmouth, Virginia
TSCA	Toxic Substances Control Act
TSP	total suspended particulates

TtEMI	Tetra Tech Environmental Management, Inc.
TWDs	technical work documents
$\mu g/100\ cm^2$	micrograms per 100 square centimeter
USEPA	United States Environmental Protection Agency

1.0 Introduction

Remedy Engineering, Inc. (Remedy Engineering) has prepared this *Draft Site Characterization and Cleanup Summary Report for Building 84 PCB Mezzanine Site* on behalf of Lennar Mare Island, LLC (LMI). Building 84 is located in Investigation Area (IA) D1.3 of the Eastern Early Transfer Parcel (EETP) of Mare Island in Vallejo, California. This report has been prepared under Contract No. 10092833. This report has been prepared in compliance with the Consent Agreement signed April 16, 2001, by LMI, the City of Vallejo, and the California Environmental Protection Agency, Department of Toxic Substances Control (DTSC) (LMI et al., 2001). The Consent Agreement specifies requirements for obtaining regulatory closure of sites of environmental concern in a manner that is consistent with the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA).

Remedy Engineering performed cleanup actions at the Building 84 PCB Mezzanine Site including sampling the mezzanine surface, removal of the mezzanine surface, verification sampling of the newly exposed mezzanine floor, and indoor air sampling of Building 84.

This document is organized into the following sections:

Section 1.0 – Introduction. Provides an introduction to this report.

Section 2.0 – Site Identification and Background. Provides site background and a description of previous sampling efforts.

Section 3.0 – Cleanup Action Summary. Provides a description of the cleanup actions performed by Remedy Engineering at the Building 84 PCB Mezzanine Site.

Section 4.0 – Conclusions. Provides conclusions for this report.

Section 5.0 – References. Provides references for documents used to prepare this report.

2.0 Site Identification and Background

2.1 Background

Building 84 is located west of Flagship Drive (formerly Suisun Avenue) and south of Sargo Avenue (formerly Mesa Road) within IA D1.3 (see Figure 1). According to the *Preliminary Land Use Plan* (SWA Group, 2000), the proposed future land use for Building 84 is residential.

Building 84 was built in three phases between 1890 and 1909. From 1890 to 1954, the building was used as the marine prison. From 1954 to 1977, the building was used as the Navy publication and printing office. In the 1980s to the early 1990s, Building 84 was used for storage. Building 84 is currently vacant.

Based on review of historical records, building closure reports, databases of electrical equipment, and on visual site surveys, the United States Department of the Navy (Navy) identified sites where PCB-containing equipment was located, where PCB spills were documented, or where PCB contamination was suspected because of building history or visible stains (Tetra Tech Environmental Management [TtEMI], 1998).

One PCB site on the ground floor of Building 84 is listed in the Consent Agreement (LMI et al., 2001). This site is identified as Building 84 Assessment Location (AL) #01. Sampling efforts at PCB Site Building 84 AL#01 began in 1995 as part of the Navy's PCB interim assessment program. Navy personnel from Supervisor of Shipbuilding, Conversion and Repair, Portsmouth, Virginia, Environmental Detachment (SSPORTS) conducted interim PCB assessments and performed cleanup actions (i.e., washing, scabbling) in accordance with Technical Work Documents (TWDs), where necessary. Following the SSPORTS interim PCB assessments and any necessary and related cleanup actions, TtEMI personnel collected confirmation samples either to confirm SSPORTS findings that no cleanup was necessary or to determine the effectiveness of the SSPORTS cleanup actions.

Since the end of the interim assessment program, a number of investigative and remedial activities have been conducted to address PCB contamination within and under PCB Site Building 84 AL#01. These activities are detailed below. Although PCBs in building materials (e.g., bulk floor material and light ballasts), floor surfaces, and soil under the original ground floor have been successfully remediated to concentrations below the cleanup goal of 0.22 milligram per kilogram (mg/kg), indoor air concentrations of PCBs remain above both residential and commercial/industrial risk-based levels.

During one of the remedial action phases completed by CH2M HILL for Building 84 AL#01, an additional PCB Site was identified in the building; PCB Site Building 84-Mezzanine is a raised mezzanine measuring approximately 36 feet (ft) by 60 ft and is located in the northeast corner of Building 84. Figure 2 shows a layout, including the location of the mezzanine, of Building 84. Sampling efforts were subsequently undertaken in 2007 and 2009 in the Building 84-Mezzanine

in order to assess whether PCBs in the floor of the Building 84-Mezzanine area might require remediation. Those sample results (discussed in detail below) indicated PCB concentrations in concrete chip samples were greater than the cleanup goal of 0.22 mg/kg.

The *Final Polychlorinated Biphenyl Work Plan* (CH2M HILL, 2003a) describes the process for PCB site closure under the CERCLA and the Toxic Substance Control Act (TSCA) regulations. Under CERCLA, no further action (NFA) is appropriate at a PCB site if there is no potential source, and no PCB contamination present at the site (CH2M HILL, 2003a). Even if there is a potential source or PCB contamination present in machinery or building materials, NFA under CERCLA is appropriate at the site if there is no release to soil or groundwater, nor any visible pathway for migration of PCBs to soil and/or groundwater (CH2M HILL, 2003a). If there is a known release to soil or groundwater, then NFA is appropriate if the detected PCB concentrations in soil, groundwater, and indoor air do not exceed the applicable regional screening levels (RSLs), or results of a site specific risk evaluation demonstrate that potential risks associated with exposure to residual PCBs are within the risk management range generally used to determine if cleanup is necessary.

On behalf of LMI, Remedy Engineering submitted the *Cleanup Plan for a Polychlorinated Biphenyl Site at the Mezzanine Level of Building 84 in Investigation Area D1.3* (cleanup plan) on July 23, 2009. The cleanup plan included the nature, location, and extent of PCB contamination in Building 84 and the Building 84-Mezzanine area; summary of previous sampling and cleanup actions in the main building area; and a cleanup plan to address remaining PCB concentrations in the Building 84-Mezzanine. Sections 2.1.1 and 2.1.2 summarize the nature of contamination and previous sampling.

The scope of work proposed in the cleanup plan included the scarification to a depth of 0.25 inches of the entire floor of the Building 84-Mezzanine area.

2.1.1 Nature of Contamination in Building 84

The source of PCB contamination inside Building 84 is unknown. There are no recorded oil spills or transformers associated with the interior of this building. Sampling of the main building floor (concrete and asphalt media) was initiated because stains were evident during a Navy facility closure site inspection in 1995.

Historically, the maximum PCB concentrations detected in floor samples inside Building 84 (main floor) were 23.5 mg/kg in concrete samples and 11.3 micrograms per 100 square centimeters (μg/100 cm^2) in wipe samples. During five remedial action phases from January 2004 to April 2007, all of the concrete and pavement sections of the building floor were removed. In addition, the soil beneath the pavement was also removed, varying from one to five feet below ground surface (ft-bgs).

On four occasions from May 2004 to June 2007, air sampling was performed in Building 84, and each time the results were consistently above the allowable level (3.4 nanograms per cubic meter of air [ng/m^3]) with a maximum concentration of 140 ng/m^3. Each air sampling event was performed following a remedial action at Building 84 AL#01 to determine if the source of the indoor air contamination had been eliminated.

2.1.2 Summary of Previous Sampling for Building 84 AL#01

Table A-1 (included in Appendix A) provides a summary of the available sampling data collected from the ground floor/underlying soil at Building 84 AL#01 between 1995 and mid-2002. This table includes the sample numbers, matrix, sample date, and total PCB concentrations (laboratory reporting limit when PCBs were not detected). All samples were analyzed for PCBs using USEPA Methods SW8080, SW8081, or SW8082. Figure A-1 (included in Appendix A) shows the sample locations and cleanup action areas at Building 84 AL#01 between 1995 and mid-2002. A summary of historic cleanup activities is included in Table 2-1.

As part of the interim assessment, SSPORTS personnel collected 42 stain-specific solid and wipe samples from the ground floor of Building 84 in February 1995 (SSPORTS, 1997a). PCBs were not detected in 33 of these samples above laboratory reporting limits. The other nine samples had PCB concentrations ranging from 0.113 mg/kg to 23.5 mg/kg in asphalt/concrete media and 11.3 μg/100 cm^2 in a wipe sample (Table A-1).

SSPORTS issued TWD 95-0070 (SSPORTS, 1995) to wash a 31-inch by 33-inch stained area of the asphalt floor where the initial assessment sample result was 11.3 μg/100 cm^2, because this value exceeded the screening level used by the Navy at that time. SSPORTS personnel collected two asphalt verification samples from this area on January 7, 1997 following this cleanup action. These two samples had PCB concentrations of 5.7 mg/kg and 8.4 mg/kg (Table A-1).

SSPORTS issued TWD 97-1472 (SSPORTS, 1997b) to scabble six areas of the Building 84 ground floor where the PCB concentrations detected in the interim assessment samples exceeded the screening level values used by the Navy of 1 mg/kg and 10 μg/100 cm^2. The interim assessment results for these six areas were: 1.11 mg/kg, 1.17 mg/kg, 1.37 mg/kg, 3.77 mg/kg, 11.3 μg/100 cm^2, and 23.5 mg/kg (SSPORTS, 1997a). The work specified in this TWD was never performed. Instead, SSPORTS issued TWD 97-1472 Revision A (SSPORTS, 1998a), which was amended to specify for cleanup actions in only the two areas that had PCB concentrations exceeding 10 mg/kg and 10 μg/100 cm^2. Therefore, four sample locations inside Building 84 with PCB concentrations greater than 1 mg/kg (1.11 mg/kg to 3.77 mg/kg) were not abated by the Navy.

TWD 97-1472 Revision A provided instruction to scabble a 10- by 10-foot section of the concrete floor to a depth of 0.25 inch where the initial assessment PCB concentration was 23.5 mg/kg and to remove a 10- by 10-foot section of the asphalt floor from the area initially abated by TWD 95–0070 (SSPORTS,1998a). The results of samples collected after these cleanup actions are unknown. However, SSPORTS issued TWD 97-1472 Revision B (SSPORTS, 1998b) to remove additional concrete and asphalt from the same two floor areas as TWD 97-1472 Revision A. Following these cleanup actions, SSPORTS personnel collected nine verification samples, but these data were not located in the Navy files. SSPORTS Yard Route Slip does state, however, that "the final laboratory analyses were all non-detect" (SSPORTS, 1999).

TtEMI personnel collected three concrete confirmation samples from the floor of Building 84 on December 10, 1998. One concrete sample was collected from the exposed surface within the western abated areas where the floor had been removed to a depth of approximately 6 inches below the original surface (TtEMI, 1998). PCBs were detected in this sample at a concentration

of 0.02J mg/kg (TtEMI, 1998). The other two confirmation samples were collected from the exposed surface within the eastern abated area where the floor had been removed to approximately four and six inches below the original surface (TtEMI, 1998). PCBs were not detected in these two samples at a concentration greater than the laboratory reporting limit (Table A-1).

In accordance with the *Draft Polychlorinated Biphenyl Work Plan* (CH2M HILL, 2002), CH2M HILL collected eight soil samples on June 25, 2002 at Building 84 AL#01 to replace the missing verification data following TWD 97-1472 Revision B. PCBs were not detected in these soil samples at a concentration greater than the laboratory reporting limit of 0.037 mg/kg (Table A–1).

A letter requesting no further action was submitted to DTSC on October 22, 2003 (CH2M HILL, 2003b). DTSC concurred with the no further action determination in a letter dated November 6, 2003, provided that the USEPA also concurred (DTSC, 2003). CH2M HILL submitted a notification to USEPA in October 2003 proposing remedial activities at sample locations where PCBs were detected at concentrations greater than 1 mg/kg (CH2M HILL, 2003c). USEPA responded in November 2003 that it did not concur with the proposed remedial action and that further characterization was required (USEPA, 2003). CH2M HILL staff collected three additional samples (B84-CH100 through B84-CH102) from unstained areas of the asphalt floor at PCB Site Building 84 AL#01 in December 2003. Total PCBs were detected in these samples at concentrations from 0.13 to 0.86 mg/kg (Figure A-2 and Table A-2, included in Appendix A). A revised notification was submitted to USEPA in July 2004 that included the additional characterization data (CH2M HILL, 2004a). USEPA concurred with the proposed remedial action in August 2004 (USEPA, 2004).

In January 2004, CH2M HILL removed portions of the ground floor and underlying soil in four areas, as described in the revised notification (CH2M HILL, 2004a). After the removal actions were complete, CH2M HILL collected four verification samples (B84-0801 through B84-0804). Total PCBs were detected in three samples, at concentrations from 0.17 to 1.2 mg/kg (Table A-2 and Figures A-4 through A-6, included in Appendix A). Sample location B84-0802 was over excavated by one foot because total PCBs were detected at a concentration of 1.2 mg/kg. Another verification sample was collected after the over excavation; PCBs were detected in this sample at a concentration of 0.11 mg/kg.

In March 2004, DTSC directed that air samples be collected inside PCB Site Building 84 AL#01 because its future use was intended to be residential (condominiums) (CH2M HILL 2004b). In May 2004, CH2M HILL collected six, 24-hour air samples (Table A-3, included in Appendix A). One sample from each of the two wings of the building, one duplicate sample, and one tent sample (collected in a 10- by 10- by 8-foot enclosed space) were collected inside PCB Site Building 84 AL#01 (Figure A-3, included in Appendix A). In addition to these four samples, two samples were collected outside the building as background samples. One field blank sample was also collected. The samples were analyzed for individual congeners using modified USEPA Method 1668A. The detected congeners were sorted and grouped by homologue, and converted from mass (nanograms) to concentration (ng/m^3) according to the volume of air

sampled. The results of these air samples are presented in Table A-3. PCBs were not detected in the outdoor air samples (84-AIR-105 and 84-AIR-106) or the field blank (84-AIR-107) at concentrations above the reporting limit for each respective congener (Table A-3). Total PCB concentrations in the indoor air samples ranged from 21 to 69 ng/m^3. These values are higher than the then current USEPA Region 9 ambient air preliminary remediation goal (PRG) of 3.4 ng/m^3 (the current USEPA Region 9 residential RSL is 4.3 ng/m^3). The ambient air PRG is based on a residential exposure scenario and a target cancer risk level of 1×10^{-6}.

In June 2004, four wall wipe samples (B84-WP0200 through B84-WP0203) and three dust samples (B84-SS0204 through B84-SS0206) were collected to attempt to better understand the presence of PCBs in particulate matter inside PCB Site Building 84 AL#01. PCBs were not detected in the wall wipe samples (Table A-2), but were detected in the dust samples at concentrations from 0.86 to 5.8 mg/kg (Table A-2).

In May 2005, all the light ballasts were removed from Building 84 because they were considered possible sources of PCBs in air inside Building 84. In June 2005, two additional 24-hour indoor air samples were collected and analyzed for individual congeners, and the results converted from mass to concentration as previously described. Total PCBs were detected in these two indoor air samples at concentrations of 100 and 110 ng/m^3 (Table A-4, included in Appendix A) (CH2M HILL, 2007).

Because PCBs were detected in the three dust samples collected in June 2004, all horizontal surfaces in Building 84 were cleaned in August 2005 by vacuuming the surfaces and then wiping them down.

In September 2006, the asphalt, concrete, and brick floor in two large areas of PCB Site Building 84 AL#01 (referred to as Cells A and D) were removed along with approximately 1 foot of soil below the floor (Figures A-4 and A-6, included in Appendix A). The total excavation depth of the removal footprints was approximately 16- to 20-inches bgs. The two areas were subdivided for excavation confirmation sampling on 3- by 3-meter grids. Also in September 2006, 45 soil verification samples were collected from the removal area (Table A-2). Total PCBs were detected in 11 samples at concentrations from 0.070 to 3.0 mg/kg (Table A-2). Of these 11 samples, six samples contained concentrations of total PCBs greater than the USEPA Region 9 residential PRG for soil, 0.22 mg/kg (Table A-2). Sample locations B84AL01-CS0825, B84AL01-CS0827, B84AL01-CS0828, B84AL01-CS0842, B84AL01-CS0843, and B84AL01-CS0846 were over excavated to depths ranging from 3.5- to 6-ft-bgs (Figures A-4 and A-6).

On October 31, 2006, six verification samples were collected from the removal area. Total PCBs were detected in two of the six samples, at concentrations from 0.11 to 1.9J mg/kg (Table A-2). Because total PCBs were detected at sample location B84AL01-CS0843 at a concentration greater than 0.22 mg/kg, this sample location was over excavated to a depth of 5.0 ft-bgs (Table A-2). On November 21, 2006, another verification sample was collected from former sample location B84AL01-CS0843. Total PCBs were detected in this verification sample at a concentration of 0.13 mg/kg (Table A-2 and Figure A-4, included in Appendix A).

In December 2006, after excavation activities were complete, four indoor air samples were collected from PCB Site Building 84 AL#01. Concentrations of total PCBs in these samples ranged from 91 to 140 ng/m^3 (Table A-5 and Figure A-3, included in Appendix A). These detected concentrations, which were similar to those detected in the June 2005 samples, exceeded the ambient air PRG of 3.4 ng/m^3. These results suggest that cleaning the horizontal surfaces inside the building and removing large portions of asphalt, concrete, and brick flooring in two locations did not reduce indoor air levels of PCBs. (CH2M HILL, 2007).

In April 2007, the asphalt, concrete, and brick floors in the remaining areas of PCB Site Building 84 AL#01 (referred to as Cells B, C, E, and F, see Figure 2) were removed along with approximately 1 foot of soil below the floor (Figures A-4 and A-5, included in Appendix A). After these removal actions were complete, 78 verification samples were collected (Table A-2). Total PCBs were detected in one of the 78 samples (B84AL01-CS0874) at a concentration of 0.14 mg/kg. The remaining verification samples did not contain PCBs at concentrations above the reporting limit.

In June 2007, prior to collecting indoor air samples, the entryways to Building 84 were opened and the building was aired out for 24 hours. After 24 hours, the entryways and windows were sealed and the building sat for 72 hours. After the 72-hour wait, four 24-hour indoor air samples were collected. Total PCB concentrations in these samples ranged from 120 to 130 ng/m^3 (Table A-6 and Figure A-3). These detected concentrations, which are similar to those detected in the December 2006 samples, exceeded the ambient air PRG of 3.4 ng/m^3. These results demonstrate that removing the entire ground floor and underlying soil, in addition to the previous cleanup activities, did not reduce indoor air levels of PCBs. These results are summarized in the report titled *PCB Site Building 84 AL#01 Cleanup Activities and Indoor Air Polychlorinated Biphenyl Screening, Lennar Mare Island, Vallejo, California* (CH2M HILL, 2007), however a closure request for PCB site Building 84 AL#01 has not been submitted to the agencies.

2.1.3 Summary of Previous Sampling for Building 84 PCB Mezzanine Site

In March 2007, CH2M HILL collected four concrete chip samples (B84MEZZCH0101-C0 through B84MEZZCH0104-C0) from stained areas on the Building 84-Mezzanine floor. Total PCB concentrations in these samples ranged from 4.0 mg/kg to 4.3 mg/kg. Locations of these samples are shown on Figure 3. An initial scope of work for remedial activities of the mezzanine floor consisted of scarifying seven 3 foot by 3 foot areas on the mezzanine floor of Building 84 to a depth of 2 inches. However, following discussions with DTSC and USEPA, it was determined that additional sampling of the mezzanine floor, on a 3-meter grid pattern was required. The mezzanine floor was sampled in February 2009. Following receipt of the analytical results, the July 2009 cleanup plan was submitted to the DTSC detailing the cleanup and disposal of the PCB contaminated mezzanine floor.

On February 5, 2009, Remedy Engineering collected 20 discrete concrete samples (B84MEZZRE0101 through B84MEZZRE0120), and 2 duplicates (B84MEZZRE0108D and B84MEZZRE0120D) from the surface of the mezzanine floor. Samples were collected from an

approximate 3-meter grid. Figure 3 shows the grid and location of each sample collected. Samples were not collected from areas where samples were previously collected by CH2M HILL in March 2007. Field notes are included in Appendix B.

Chip samples from the floor were collected using a hammer and chisel. Chips from each discrete point were placed in laboratory supplied containers, properly labeled, and stored in a cooler before being transported, under proper chain of custody documentation to Curtis & Tompkins, LTD, a certified analytical laboratory located in Berkeley, California. Results of the sampling are presented in Table 2-2. As shown on the table, PCB concentrations in these samples ranged from 5.8 to 22 mg/kg as Aroclor 1242 and from non-detect to 0.48 mg/kg as Aroclor 1260. No other Aroclors were detected above laboratory detection limits. These results are above the 0.22 mg/kg cleanup goal for concrete in Building 84. Complete laboratory analytical reports are included in Appendix C.

Trihydro Corporation (Trihydro) conducted data validation of the analytical results. Validation of the data indicated that the chain-of-custody was complete from the field to the laboratory and that custody was maintained with proper signatures. However, the sample collection date was not listed on the chain-of-custody. The laboratory found this error during the cooler check-in process and contacted the field sampler. The field sampler sent an affidavit confirming the sample date; the affidavit is included with the chain-of-custody. All data were validated and deemed acceptable; the data validation report is also included in Appendix C.

Following receipt of the analytical data, Remedy Engineering prepared the *Cleanup Plan for a Polychlorinated Biphenyl Site at the Mezzanine Level of Building 84 in Investigation Area D1.3*. This cleanup plan was submitted to DTSC for comment and approval on July 23, 2009. The cleanup plan summarized the results of the sampling of the original mezzanine floor surface and recommended that the entire floor of the Building 84 mezzanine area be scarified to a depth of 0.25 inches. Following completion of the scarification process, 9-point verification samples were to be collected on a 1.5-meter by 1.5-meter grid. No comments were received and the plan was approved on August 23, 2009.

3.0 Cleanup Action Summary

3.1 Objectives

The primary objective of the scope of work was to remove the concrete surface of the mezzanine level in Building 84, which was known to be contaminated with PCBs. Indoor air has historically been contaminated with PCBs above the PRG, and potential sources of PCBs have been removed from Building 84 over the past several years. Following removal of the PCB contaminated concrete of the mezzanine, indoor air samples were to be collected in order to determine if removal of the mezzanine concrete affected the quality of the indoor air for the Building 84 AL#01 site.

3.2 Scope of Work

Based on the results of the February 2009 sampling, the cleanup plan recommended that the entire floor of the Building 84 Mezzanine Site be scarified to a depth of 0.25 inches. After removal of the mezzanine floor surface, eight 9-point composite samples were collected. Three indoor air samples were collected once the results of the concrete chip verification samples were less than the 0.22 mg/kg cleanup goal. The scope of work activities were completed between September 2009 and January 2010.

3.3 Removal of Mezzanine Floor Surface

From September 22 to 29, 2009 Remedy Engineering supervised the scarification of the mezzanine floor. The cleanup activities were performed in accordance with the *Final Polychlorinated Biphenyl Work Plan* (CH2M HILL, 2003a). Clean Harbors Environmental Services conducted the scarification using a concrete scarification machine. Prior to removing the concrete surface, paint flakes which were known to contain lead and had accumulated on the mezzanine floor after flaking from the walls and ceiling, were wetted down using a light mist of water and swept up by Clean Harbors personnel. Dust left behind after sweeping was removed using a shop-vacuum with a HEPA filter. Lead paint chip waste was stored in a 55-gallon Department of Transportation (DOT) 17E/H drum.

Health and safety precautions were implemented according the Remedy Engineering *Health and Safety Plan for Environmental Activities, Lennar Mare Island* (Trihydro, 2009). In order to control any dust created during the remedial activities, water was used during the scarification process and the mezzanine was sealed from the rest of the building with plastic sheeting. In order to control the exhaust from the scarification machine, a four-inch hose connected to a large vacuum truck with a HEPA filter was connected directly to the exhaust of the scarification machine and discharged outside the building. A carbon monoxide monitor was used to monitor the atmosphere of the work area.

During the scarification, it was determined that a grout overlay covered the concrete floor. The thickness of the overlay varied across the floor, ranging from about 0.25 inches up to 1.5 inches. Although initially the process of scarification was to only remove 0.25 inches of the floor surface (approximately 36- by 60-feet), the grout overlay easily sheared away from the underlying concrete floor, and it was not possible to control the depth of removal within the overlay. It was therefore determined that removal of the entire overlay would be necessary. The underlying concrete was not scarified or removed during the activities. The vacuum truck was used to remove the concrete and water waste from the mezzanine floor after the scarification process was complete. All waste was stored in 55-gallon DOT 17E/H drums. Approximately 5.8 cubic yards, or 8.25 tons of material was removed from the mezzanine floor. Field notes are included in Appendix B.

Following completion of the verification sampling, Clean Harbors transported 29 drums of concrete waste and one drum of lead waste to the Clean Harbors Buttonwillow Landfill, a fully permitted hazardous waste facility located in Buttonwillow, California. A disposal receipt is included in Appendix D.

3.4 Concrete Verification Sampling

On October 6, 2009, Remedy Engineering collected eight composite verification concrete samples (B84MEZZRE0121 through B84MEZZRE0128), one duplicate (B84MEZZRE0124D), and a matrix spike sample (B84MEZZRE0127MS) for laboratory quality assurance and quality control (QA/QC) from the newly exposed concrete surface, which was underlying the grout overlay. A 1.5-meter by 1.5-meter grid was mapped on the floor. Each sample consisted of a 9-point composite collected from each of the grid areas. Figure 4 shows the grid and the location of each sample. Field notes are included in Appendix B.

Chip samples from the newly exposed concrete floor were collected using a drill hammer with a chisel bit. All drills, chisels, and other sampling equipment were decontaminated using Simple Green and distilled water prior to and between the collection of each concrete sample. One point was chiseled within each grid area. Chips from each of nine adjacent points were placed in a laboratory supplied container, properly labeled, and stored in a cooler before being transported, under proper chain-of-custody documentation to Curtis & Tompkins, LTD, a certified analytical laboratory located in Berkeley, California. Each concrete sample was analyzed for PCBs in accordance with the *Quality Assurance Project Plan* (QAPP) (CH2M HILL, 2001) using USEPA Method SW8082. Analytical results are presented in Table 3-1. As shown in Table 3-1, PCB concentrations in the verification samples ranged from 0.020 to 0.20 mg/kg as Aroclor 1242. No other Aroclors were detected above laboratory detection limits. These results are below the 0.22 mg/kg cleanup goal for concrete in Building 84. Complete laboratory analytical reports are included in Appendix C.

Trihydro Corporation (Trihydro) conducted data validation of the analytical results. The data validation report indicates that the samples were received at the lab above the recommended 4°C +/- 2°C. The cooler temperature upon arrival at the lab was at 17°C. Before the samples were removed from inside the building where they were collected, the sample jars were placed

back inside the cardboard box they were originally shipped in and the box was placed in the cooler on top of the packing and ice. This packing arrangement may have inhibited a more rapid cooling of the samples. The data validation report concluded that the temperature was acceptable because the sample matrix was concrete and because the samples were hand delivered to the laboratory by the field sampler following sample collection. In addition, the laboratory noted on the "cooler receipt checklist" form that the "samples were received on ice directly from the field" and that the "cooling process had begun". The data validation report found no other issues with the analytical results. All data were validated and deemed acceptable; the data validation report is also included in Appendix C.

3.5 Indoor Air Sampling for Building 84

In order to determine the effects of the removal of the PCB contaminated mezzanine concrete on the air quality of the building, indoor air samples were collected and analyzed for PCBs. From January 6 through January 13, 2010, Remedy Engineering conducted indoor air sampling for PCBs in Building 84. Indoor air samples were collected in general accordance with USEPA Method TO-10A low volume sampling. Ventilation of the building started on January 6, 2010. The bay doors on the north and south ends of the building were opened in addition to the door on the east side of the building. Two industrial size fans were set up in each of the north and south bay doors. The fans remained on and the doors open for a 48-hour period in order to ensure that the building was well ventilated prior to sealing the building. Following ventilation, the building was sealed for a period of 72 hours. Windows and doors in the building were covered in plastic and the building remained closed.

After the building was ventilated for 48 hours and sealed for 72 hours, sampling equipment was setup in three locations where previous indoor air samples have been collected in a similar manner. The sample locations are shown in Figure 5. Three PCB samples (B84IARE1 through B84IARE3), one duplicate (B84IARE3D), and one trip blank (B84IARETB) were collected over a 24-hour collection period. Polyurethane foam (PUF) cartridges were suspended approximately 4 feet above the ground surface on tripods. High volume Aircon2 pumps were used to draw air through the PUF cartridges over the 24-hour period. The pumps were each powered by two 12-volt marine batteries. The pumps were calibrated onsite by Remedy Engineering personnel using a Gilibrator pump calibrator (a soap film gas flow meter) prior to the initiation of collection of samples; each pump was calibrated to approximately 5.0 liter per minute (L/min). Pump rates were checked at least every 8 hours during the sampling period and if necessary, were recalibrated. In addition, local temperatures, barometric pressure, and humidity were also monitored throughout the sampling period.

Two PCB samplers (B84IARE1 and B84IARE3) ran for a continuous 24 hours, except for minimal stops to check flow rates during the sampling process (no more than 4 minutes total for each sampler). Two samplers required additional time to complete a 24-hour sample collection period. Samplers for B84IARE2 and B84IARE3D stopped during the sample period because of dead batteries and bad samplers (pumps). Batteries and the samplers were replaced to finish the 24-hour sample period. Sample B84IARE2 required a total elapsed time of 35 hours and 29 minutes to complete the 24-hour sample collection period; B84IARE3D required a total

elapsed time of 31 hours and 15 minutes to complete the 24-hour sample collection period. Table 3-2 summarizes the stoppage time, run time, average flow rate, and calculated volume of air for each sample.

After each sampler completed the 24-hour sample period, the PUF cartridges were removed from the sampler, wrapped in the original laboratory foil and bubble wrap, then placed in individual glass jars and labeled with the sample identification, sample date and time, and the field sampler's name. The samples were stored in a cooler with ice and shipped overnight, following collection of all samples, under proper chain-of-custody documentation to CH2M HILL's Applied Sciences Laboratory, located in Corvallis, Oregon. Each sample was analyzed for PCBs in accordance with the QAPP using USEPA Method E1668A, Modified.

Following receipt of the analytical results, the detected congeners were sorted and grouped by homologue, and converted from mass (nanograms) to concentration (ng/m^3) according to the volume of air sampled. Tables 3-3 and 3-4 summarize the mass and concentration of each homologue as well as the total PCB mass and concentration, respectively. The laboratory analytical report is included in Appendix C. All data were validated and deemed acceptable; the data validation report is also included in Appendix C.

Total PCB concentration results ranged from 46.8 to 51.8 ng/m^3. These values are higher than the USEPA Region 9 residential RSL of 4.3 ng/m^3. The residential RSL is based on a residential exposure scenario and a target cancer risk level of 1×10^{-6}.

In addition to the PCB samples, two total suspended particulates (TSP) samples (B84TSPRE100 and B84TSPRE101) and one duplicate (B84TSPRE101D) were also collected over the same 24-hour sample period. The purpose of the TSP samples is to assess the amount of dust present inside the building during the sampling. MiniVol portable samplers were supplied by Airmetrics of Eugene, Oregon. The samplers were setup approximately 6 feet above the ground surface on ladders. The samplers were precalibrated by Airmetrics to approximately 5 L/min; calibration sheets are included with the field notes in Appendix B. Each of the TSP samplers ran for a continuous 24 hours without any stoppages. After the 24-hour sample time, filters were removed from the samplers and placed in individual filter holders for return to Airmetrics to be weighed. TSP weights are included in Table 3-5. Sample weights ranged from 0.111 to 0.137 milligrams (mg). The relatively low weights of the TSP samples confirm that minimal dust was present during the sampling event. The interpretation of this data is that the air sample results are more indicative of PCBs in air than PCBs attached to dust particles suspended inside the building.

4.0 Conclusions

Results from the verification concrete sampling indicate that the scarification on the mezzanine floor has reduced the PCB concentrations in concrete to below the cleanup goal. The results for the eight verification samples were all below the 0.22 mg/kg cleanup goal for PCBs in Building 84. No further sampling or cleanup is necessary at the Building 84 PCB Mezzanine Site. Following the cleanup activities at Building 84 PCB Mezzanine Site, the maximum remaining detected PCB concentration was 0.20 mg/kg, which is less than the residential cleanup goal of 0.22 mg/kg.

The results of the indoor air sampling indicate that the removal action on the mezzanine may have had an impact on the air quality inside Building 84. Total PCB concentrations are about half the concentrations detected in the previous indoor air sampling event that occurred in June 2007. However, they are still within the range of the historic air quality data that have been collected in Building 84. In addition, the results are an order-of-magnitude higher than the 2009 USEPA residential and industrial RSLs (4.3 and 21 ng/m^3, respectively). Table 4-1 is a summary of historic total PCB concentrations in air for Building 84. In addition, Figure 6 presents the total PCB concentrations over time for each of the three air sampling areas. The data presented in Table 4-1 and Figure 6 indicates that no significant trends are present in the data. The lack of trends in the total PCB concentrations indicate that removal actions conducted since 2004 may not be significantly impacting the indoor air quality of Building 84.

The PCB contamination in bulk floor material and soil has been successfully remediated to below the residential cleanup goal of 0.22 mg/kg within Building 84. However, indoor air concentrations of PCBs remain above acceptable levels. After multiple targeted remedial actions, results from indoor air sampling events continue to show that total PCBs are detected in indoor air at concentrations significantly higher than the residential RSL of 4.3 ng/m^3. The results from this evaluation show that, although the PCB contamination in Building 84 (PCB Site Building 84 AL#01 and Building 84 Mezzanine) has been successfully remediated to below residential cleanup goals, total PCB concentrations in indoor air for PCB Site Building 84 AL#01 remain at levels exceeding those acceptable to DTSC for residential or commercial/industrial uses.

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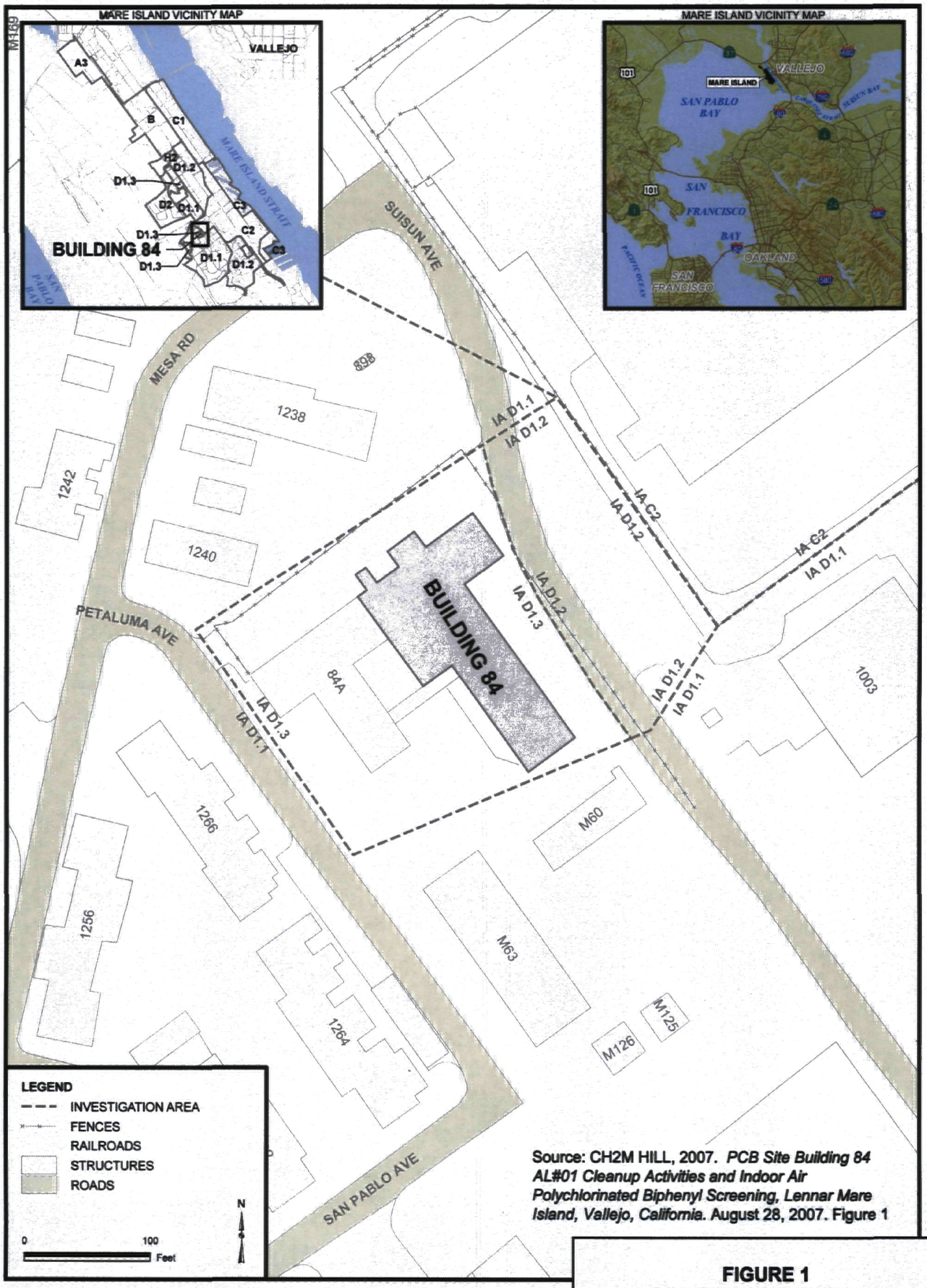
Figures



Source: CH2M HILL, 2007. *PCB Site Building 84 AL#01 Cleanup Activities and Indoor Air Polychlorinated Biphenyl Screening, Lennar Mare Island, Vallejo, California.* August 28, 2007. Figure 1

FIGURE 1
LOCATION OF BUILDING 84
Lennar Mare Island, Vallejo, California

REMEDY ENGINEERING, INC.

MI-BUILDING84LOCATION.DWG

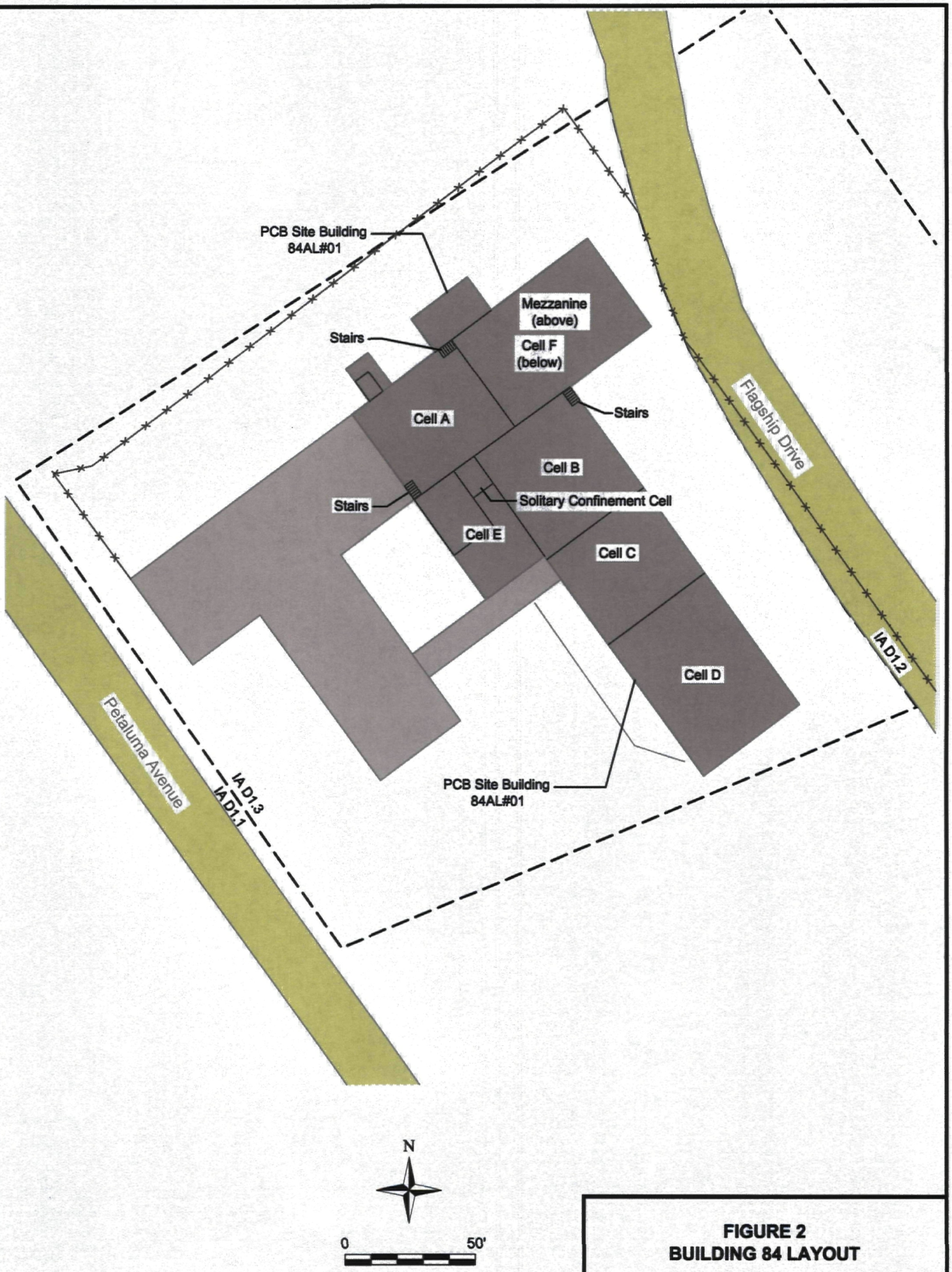
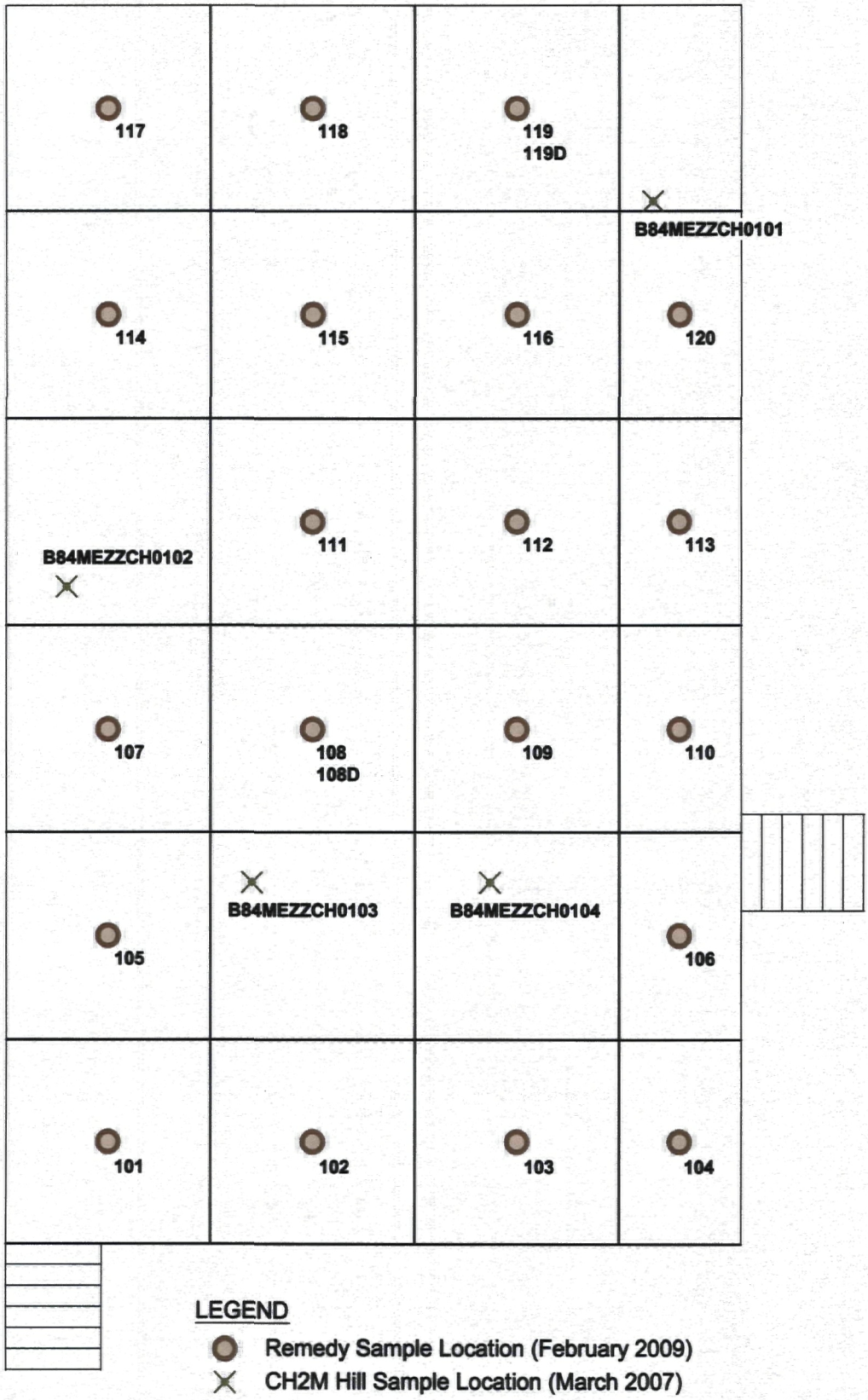


FIGURE 2
BUILDING 84 LAYOUT

Lennar Mare Island, Vallejo, California

REMEDY ENGINEERING, INC.

MI-BLDG84FIG2.DWG



LEGEND

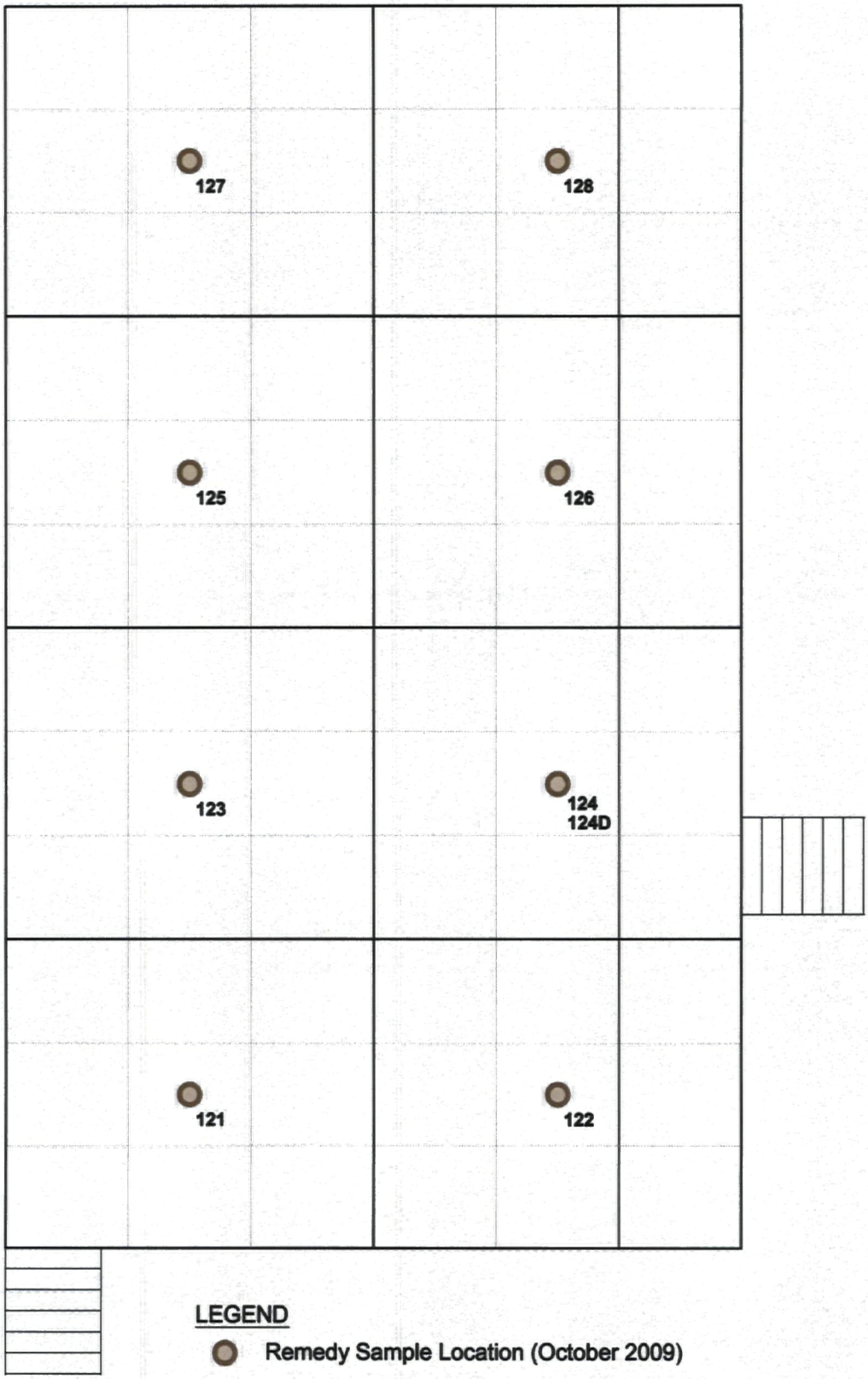
- Remedy Sample Location (February 2009)
- CH2M Hill Sample Location (March 2007)

Note: Remedy sample names are prefixed by B84MEZZREø###
'D' indicates a duplicate sample was collected at this location

FIGURE 3
LOCATION OF FEBRUARY 5, 2009 CONCRETE CHIP SAMPLES, BUILDING 84 MEZZANINE
Lennar Mare Island, Vallejo, California

REMEDY ENGINEERING, INC.

MI-BUILDING84SCHEMA.DWG



Note: Remedy sample names are prefixed by B84MEZZREø###
Each sample consisted of 9-point composite samples collected on a 5'x5' grid
'D' indicates a duplicate sample was collected at this location

FIGURE 4
LOCATION OF OCTOBER 6, 2009 CONCRETE CHIP SAMPLES, BUILDING 84 MEZZANINE
Lennar Mare Island, Vallejo, California

REMEDY ENGINEERING, INC.

MI-BLDG84SAMP_10-09.DWG

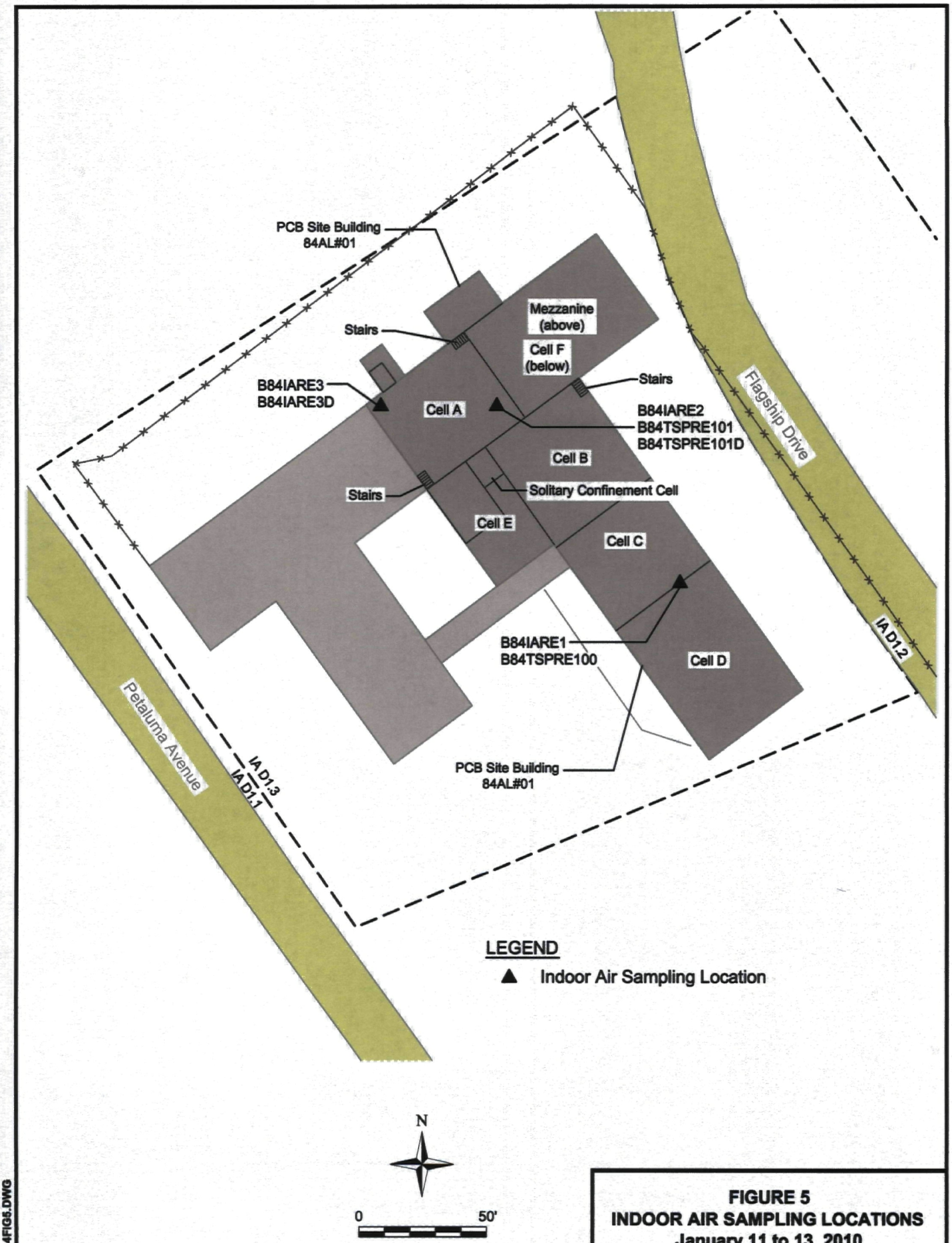


FIGURE 5
INDOOR AIR SAMPLING LOCATIONS
January 11 to 13, 2010
Lennar Mare Island, Vallejo, California

REMEDY ENGINEERING, INC.

MI-BLDG84FIG5.DWG

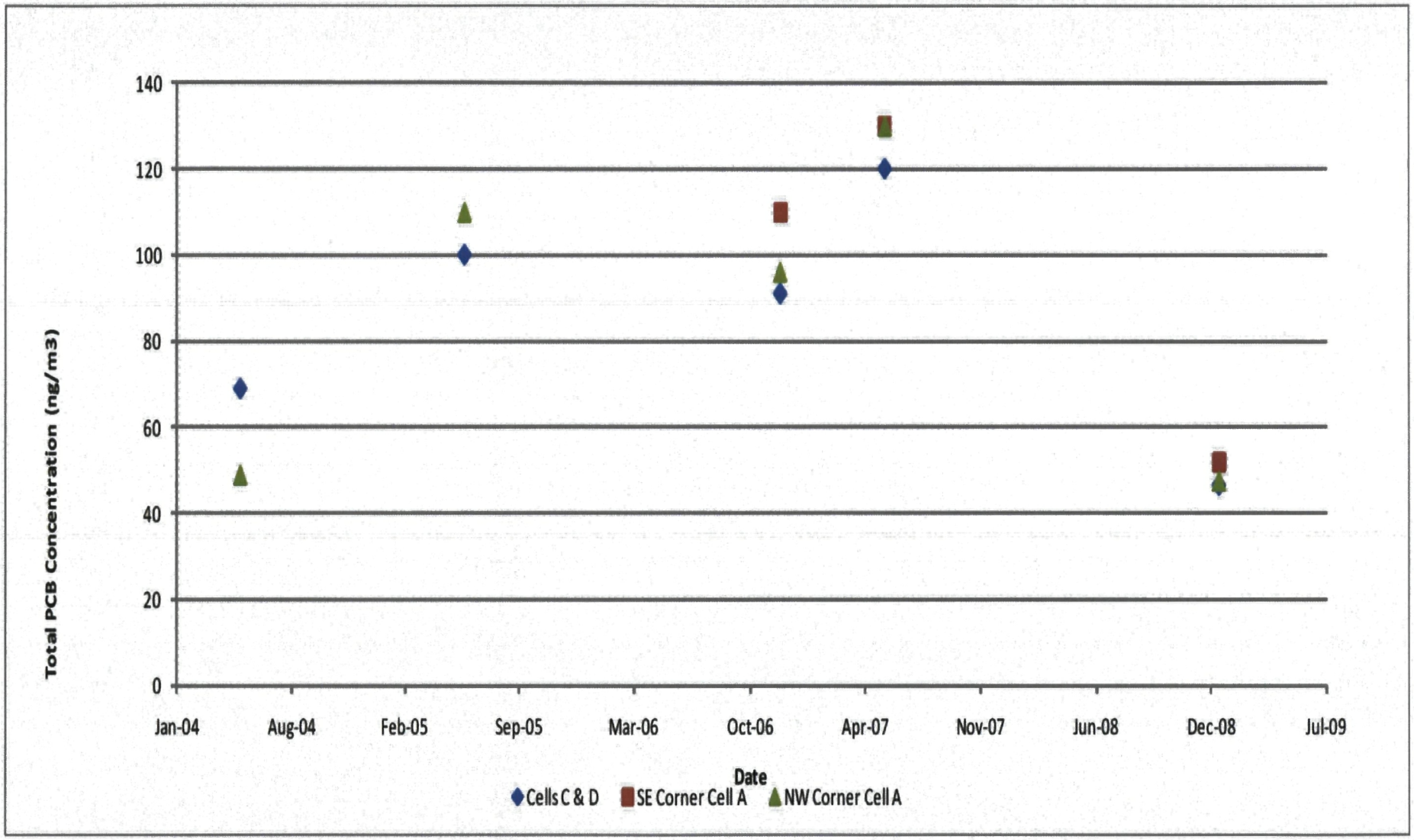


FIGURE 6
TOTAL PCB CONCENTRATIONS IN AIR
MAY 2004 THROUGH JANUARY 2010

Lennar Mare Island, Vallejo, California

REMEDY ENGINEERING, INC.

MI-BLDG84FIG6-PCB.DWG

Tables

TABLE 2-1
Summary of Past Activities in Building 84
Building 84, Lennar Mare Island, Vallejo, California

Date	Action	Location	Results
February 1995	42 solid and wipe samples)	Building 84 ground floor	33 samples: <10 µg/100 cm^2 or <2 mg/kg 8 solid samples: 0.113 – 23.5 mg/kg 1 wipe sample: 11.3 µg/cm^2
1995 – 1997	Wash asphalt floor, sample asphalt	Where an 11.3 µg/cm^2 wipe sample result was found	2 solid samples: 5.7 and 8.4 mg/kg
1997 – 1998	Scabble floor, sample floor	2 areas, ground floor	Lab results not available, Navy notes "final laboratory analyses were all non-detect"
December 1998	Sample 3 areas	Building 84 floor	3 solid samples: Less than 0.036 to 0.2J mg/kg
June 2002	Sample 8 locations	Locations where 1997 – 1998 results were not available	All samples were less than 0.037 mg/kg
December 2003	Sample 3 locations	Asphalt floor, unstained areas	0.13 – 0.86 mg/kg
January 2004	Remove portions of ground floor and underlying soil, collect verification samples after excavation	4 areas	4 soil samples: 1 less than 0.054 mg/kg; 3 at 0.17 – 1.2 mg/kg The location where 1.2 mg/kg had been detected was overexcavated re-sampled: result is 0.11 mg/kg
May 2004	Indoor air sampling	6 locations, 4 inside, 2 outside/ 1 background	<0.30 ng/m^3 for outdoor samples 21 – 69 ng/m^3 in indoor air samples
June 2004	Wall wipe samples Dust samples	Wipe samples: 4 areas Dust samples: 3 locations	Wipe samples: <0.5J µg/wipe Dust samples: 0.86 – 5.8 mg/kg
May and June 2005	Light ballasts removed; 2 indoor air samples		100 – 110 ng/m^3
August 2005	All horizontal surfaces cleaned via vacuum, then wiped down	All horizontal surfaces	
September 2006	Floor cells, plus 1 foot of underlying soil removed from Cells A and D. 45 verification samples collected	Cells A and D	11 samples with PCBs, 6 sample results greater than USEPA residential regulations (0.22 mg/kg), up to 3.0 mg/kg 28 samples <0.32 mg/kg
October 2006	Six sample result areas overexcavated	Cells A and D	PCBs in 2 of 6 samples: 0.11 – 1.9J mg/kg <0.060 mg/kg in remaining 4 samples
November 2006	Over excavation and sampling	One sample location in Cell A	0.13 mg/kg
December 2006	4 indoor air samples collected		91 – 140 ng/m^3
April and May 2007	Building floor and approximately one foot of underlying soil removed. 78 verification samples collected	Cells B, C, E, and F	77 results less than <0.30 mg/kg One verification sample at 0.14 mg/kg
June 2007	Four 24-hour indoor air samples collected following ventilation and sealing of building		120 – 130 ng/m^3
March 2007	4 concrete chip samples	Mezzanine floor	4.0 – 4.3 mg/kg

TABLE 2-1
Summary of Past Activities in Building 84
Building 84, Lennar Mare Island, Vallejo, California

Date	Action	Location	Results
February 2009	20 concrete chip samples	Mezzanine floor	5.8 – 22 mg/kg for Aroclor 1242 <0.17 mg/kg for Aroclor 1260
September 2009	Scabble	Mezzanine floor	
October 2009	8 concrete chip samples	Mezzanine floor	0.020 – 0.20 mg/kg for Aroclor 1242 <0.012 mg/kg for Aroclor 1260

Notes:
SSPORTS: Supervisor of Shipbuilding, Conversion and Repair, Portsmouth, Virginia
ND: Not detected
µg/100 cm^2: micrograms per 100 square centimeter
mg/kg: milligrams per kilogram
ng/m^3: nanograms per cubic meter

Ambient air PRG = 3.4 ng/m^3 (USEPA Region 9 2004 value for unspeciated PCB mixture).

TABLE 2-2
Analytical Results for PCB in Concrete Chip Samples, February 5, 2009
Building 84 PCB Mezzanine Site, Lennar Mare Island, Vallejo, California

Sample Name	Aroclor 1242 (mg/kg)	Aroclor 1260 (mg/kg)	All Other Aroclors (mg/kg)
B84MEZZRE0101	12	0.37	ND
B84MEZZRE0102	16	0.40	ND
B84MEZZRE0103	22	0.48	ND
B84MEZZRE0104	8.2	0.42	ND
B84MEZZRE0105	11	0.46	ND
B84MEZZRE0106	6.6	0.20	ND
B84MEZZRE0107	5.9	ND (0.083)	ND
B84MEZZRE0108	9.7	0.31	ND
B84MEZZRE0108D	5.8	0.19	ND
B84MEZZRE0109	8.0	0.26	ND
B84MEZZRE0110	8.3	ND (0.13)	ND
B84MEZZRE0111	9.6	0.29	ND
B84MEZZRE0112	8.4	0.18	ND
B84MEZZRE0113	7.7	0.26	ND
B84MEZZRE0114	9.2	0.20	ND
B84MEZZRE0115	11	0.26	ND
B84MEZZRE0116	9.3	ND (0.17)	ND
B84MEZZRE0117	12	0.19	ND
B84MEZZRE0118	10	0.18	ND
B84MEZZRE0119	8.3	ND (0.17)	ND
B84MEZZRE0119D	11	0.21	ND
B84MEZZRE0120	5.8	0.20	ND

Notes:
All samples analyzed for PCB Aroclors using EPA Method 8082
D – Field duplicate sample
ND – Not detected with the laboratory reporting limit in parenthesis, where applicable
mg/kg – milligrams per kilogram

TABLE 3-1
Analytical Results for PCB in Concrete Chip Samples, October 6, 2009
Building 84 PCB Mezzanine Site, Lennar Mare Island, Vallejo, California

Sample Name	Aroclor 1242 (mg/kg)	Aroclor 1260 (mg/kg)	All Other Aroclors (mg/kg)
B84MEZZRE0121	0.065	ND (0.012)	ND
B84MEZZRE0122	0.14	ND (0.012)	ND
B84MEZZRE0123	0.11	ND (0.012)	ND
B84MEZZRE0124	0.16	ND (0.012)	ND
B84MEZZRE0124D	0.20	ND (0.012)	ND
B84MEZZRE0125	0.10	ND (0.012)	ND
B84MEZZRE0126	0.18	ND (0.012)	ND
B84MEZZRE0127	0.071	ND (0.012)	ND
B84MEZZRE0128	0.020	ND (0.012)	ND

Notes:
All samples analyzed for PCB Aroclors using EPA Method 8082
D – Field duplicate sample
ND – Not detected with the laboratory reporting limit in parenthesis, where applicable
mg/kg – milligrams per kilogram

TABLE 3-2
Indoor Air Sampling Run Times and Flow Rates, January 11 to 13, 2010
Building 84 PCB Mezzanine Site, Lennar Mare Island, Vallejo, California

Sample Name	Sample Start Date & Time	Sample End Date & Time	Total Stoppage Time (min)	Total Run Time (min)	Average Flow Rate during Sample Period (L/min)	Volume of Air (m^3)
B84IARE1	1/11/10 13:41	1/12/10 13:49	4	1,441	4.936	7.13
B84IARE2	1/11/10 13:43	1/13/10 1:14	689	1,440	4.796	6.91
B84IARE3	1/11/10 13:45	1/12/10 13:55	4	1,441	4.708	6.81
B84IARE3D	1/11/10 13:45	1/12/10 21:03	438	1,440	4.849	6.98
B84IARETB	NA	NA	NA	NA	NA	NA

Notes:
All samples analyzed for PCBs using USEPA Method E1668A MOD.
Total PCB Masses and Concentrations include 90 PCB congeners.
D – Field duplicate sample
L/min – Liters per minute
m^3 – cubic meters

TABLE 3-3
PCB Homologue Masses in Air Samples, January 11 to 13, 2010
Building 84 PCB Mezzanine Site, Lennar Mare Island, Vallejo, California

Analyte	B84IARE1	B84IARE2	B84IARE3	B84IARE3D (duplicate of B84IARE3)
Total monoCB	<0.0494	<0.0494	<0.0494	<0.0494
Total diCB	47.1	54.5	50.8	54.8
Total triCB	188	208	189	203
Total tetraCB	85.4	81	72.8	80.6
Total pentaCB	9.83	11.9	9.14	9.54
Total hexaCB	2.2	2.48	1.76	2.04
Total heptaCB	0.12	<0.0615	<0.0615	0.315
Total octaCB	<0.101	<0.101	<0.101	<0.101
Total nonaCB	<0.0604	<0.0604	<0.0604	<0.0604
Total decaCB	<0.0424	<0.0424	<0.0424	<0.0424
Total PCBs	**333**	**358**	**323**	**350**

Notes:
All samples analyzed for PCBs using USEPA Method E1668A MOD.
Total PCB mass includes 90 PCB congeners.
Air sample mass results are presented as nanograms (ng)
CB – chlorinated biphenyl
PCB – polychlorinated biphenyl

TABLE 3-4
PCB Homologue Concentrations in Air Samples, January 11 to 13, 2010
Building 84 PCB Mezzanine Site, Lennar Mare Island, Vallejo, California

Analyte	B84IARE1	B84IARE2	B84IARE3	B84IARE3D (duplicate of B84IARE3)
Total monoCB	<0.00693	<0.00715	<0.00725	<0.00708
Total diCB	6.60	7.89	7.45	7.84
Total triCB	26.4	30.1	27.7	29.1
Total tetraCB	12.0	11.7	10.7	11.5
Total pentaCB	1.38	1.72	1.34	1.38
Total hexaCB	0.308	0.358	0.258	0.292
Total heptaCB	0.0168	<0.00891	<0.00903	0.0451
Total octaCB	<0.0142	<0.0146	<0.0148	<0.0145
Total nonaCB	<0.00847	<0.00874	<0.00887	<0.00865
Total decaCB	<0.00594	<0.00614	<0.00622	<0.00607
Total PCBs	**46.8**	**51.8**	**47.6**	**50.1**

Notes:
All samples analyzed for PCBs using USEPA Method E1668A MOD.
Total PCB Concentrations include 90 PCB congeners.
Air sample concentration results are presented as nanograms per cubic meter (ng/m^3)
CB – chlorinated biphenyl
PCB – polychlorinated biphenyl

Ambient air PRG = 3.4 ng/m^3 (USEPA Region 9 2004 value for unspeciated PCB mixture).

TABLE 3-5
Filter Weights for Total Suspended Particulate Samples, January 11 to 12, 2010
Building 84 PCB Mezzanine Site, Lennar Mare Island, Vallejo, California

Sample Name	Initial Filter Weight (mg)	Final Filter Weight (mg)	Weight of Particulates (mg)
B84TSPRE100	66.339	66.450	0.111
B84TSPRE101	65.483	65.617	0.134
B84TSPRE101D	68.003	68.140	0.137

Notes:
mg – milligrams

Table 4-1
Historic Homologue Data for PCB Concentrations in Air, May 2004 through January 2010
Building 84 PCB Mezzanine Site, Lennar Mare Island, Vallejo, California

Sample Locations	Sample Name	Sample Date	Total monoCB	Total diCB	Total triCB	Total tetraCB	Total pentaCB	Total hexaCB	Total heptaCB	Total octaCB	Total nonaCB	Total decaCB	Total PCB
Main Room of Building (Cell C and D)	B84IARE1	Jan-09	<0.00693	6.6	26.4	12	1.38	0.308	0.0168	<0.0142	<0.00847	<0.00594	**46.8**
	B84AIR0819-A	Jun-07	0.37	25	61	32	3.9	0.87	0.11	<0.13 or <0.25	<0.13	<0.13	**120**
	B84A719	Dec-06	0.54	17	50	20	3.6	0.68	0.07	<0.13 or <0.25	<0.13	NA	**91**
	84-AIR-208	Jun-05	0.69	17	58	22	2.3	0.54	0.08	<0.10	<0.10	<0.10	**100**
	84-AIR-104	May-04	0.62	11	38	17	1.6	0.3	0.02	<0.15	<0.15	<0.15	**69**
Southeast Corner of Cell A	B84IARE2	Jan-09	<0.00715	7.89	30.1	11.7	1.72	0.358	<0.00891	<0.0146	<0.00874	<0.00614	**51.8**
	B84AIR0818-A	Jun-07	0.37	26	69	34	4.1	0.9	0.15	<0.13 or <0.25	<0.13	<0.13	**130**
	B84AIR0818-AFD	Jun-07	0.32	24	69	31	5.1	1.1	0.12	<0.13 or <0.25	<0.13	<0.13	**130**
	B84A718	Dec-06	0.71	20	60	23	4.9	0.92	0.11	<0.13 or <0.25	<0.13	NA	**110**
Northwest Corner of Cell A	B84IARE3	Jan-09	<0.00725	7.45	27.7	10.7	1.34	0.258	<0.00903	<0.0148	<0.00887	<0.00622	**47.6**
	B84IARE3D	Jan-09	<0.00708	7.84	29.1	11.5	1.38	0.292	0.0451	<0.0145	<0.00865	<0.00607	**50.1**
	B84AIR0817-A	Jun-07	0.36	27	70	33	4.4	0.85	0.11	<0.13 or <0.25	<0.13	<0.13	**130**
	B84A717	Dec-06	0.5	19	53	19	4.1	0.83	0.05	<0.13 or <0.25	<0.13	NA	**96**
	B84717A-AIR	Dec-06	0.6	26	73	29	9.2	1.8	0.14	<0.13 or <0.25	<0.13	NA	**140**
	84-AIR-202	Jun-05	0.68	17	61	26	2.6	0.65	0.13	<0.10	<0.10	<0.10	**110**
	84-AIR-101	May-04	0.44	8.3	27	12	1.3	0.26	<0.10	<0.15	<0.15	<0.15	**49**
	84-AIR-102	May-04	0.43	8.3	27	12	1.3	0.24	0.02	<0.15	<0.15	<0.15	**49**

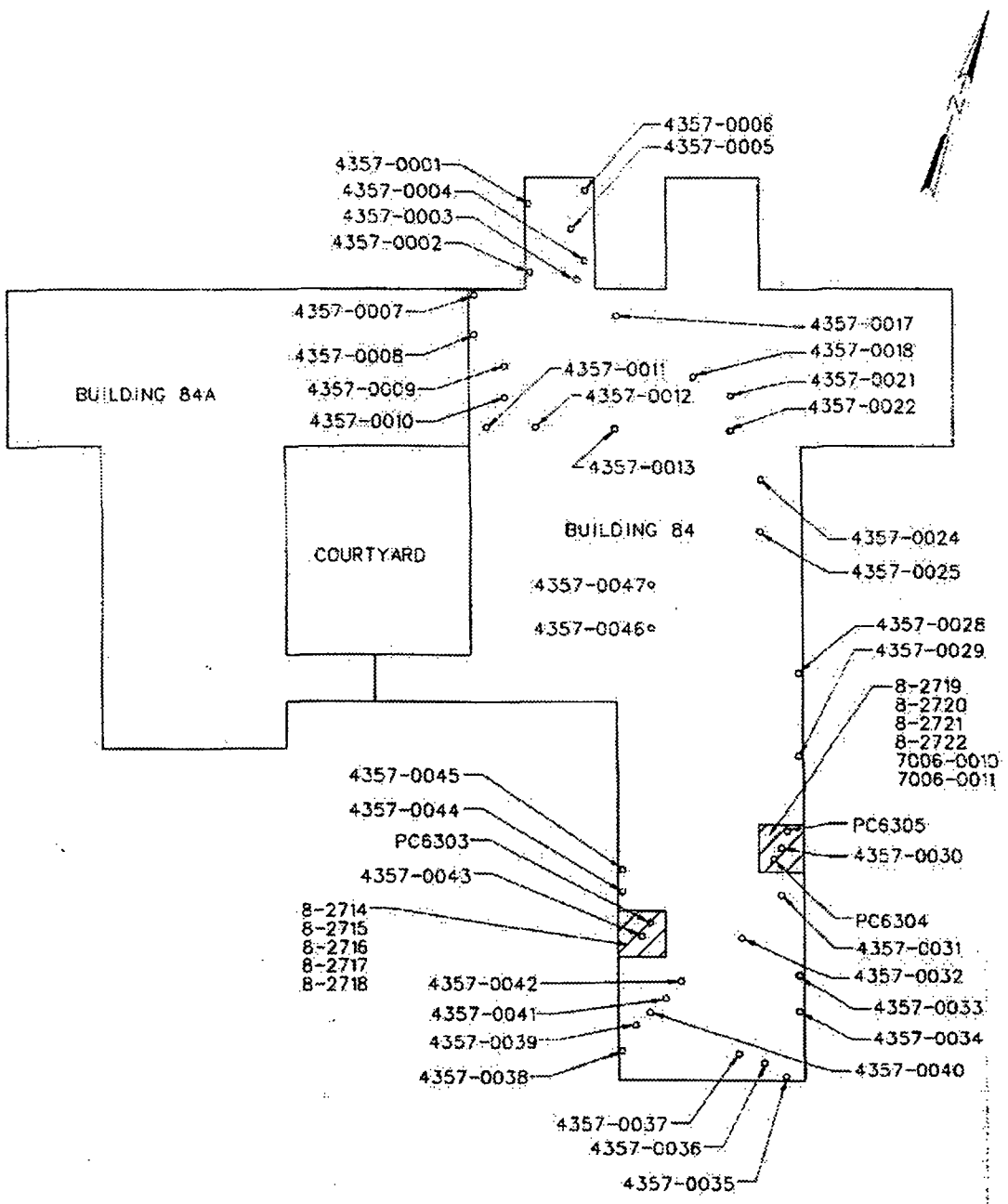
APPENDIX A

Previous Sampling Data and Figures

Note: Tables and Figures included in this Appendix are taken from the following reports. They are presented as originally prepared; however a revised table/figure number has been added for clarity.

CH2M HILL, 2003. "Notification Regarding Self-implementing Onsite Cleanup and Disposal of Polychlorinated Biphenyl Remediation Waste Inside Building 84 in Investigation Area D1, Eastern Early Transfer Parcel, Mare Island, Vallejo, California." October 22, 2003.

CH2M HILL, 2007. PCB Site Building 84 AL#01 Cleanup Activities and Indoor Air Polychlorinated Biphenyl Screening, Lennar Mare Island, Vallejo, California. August 28, 2007.



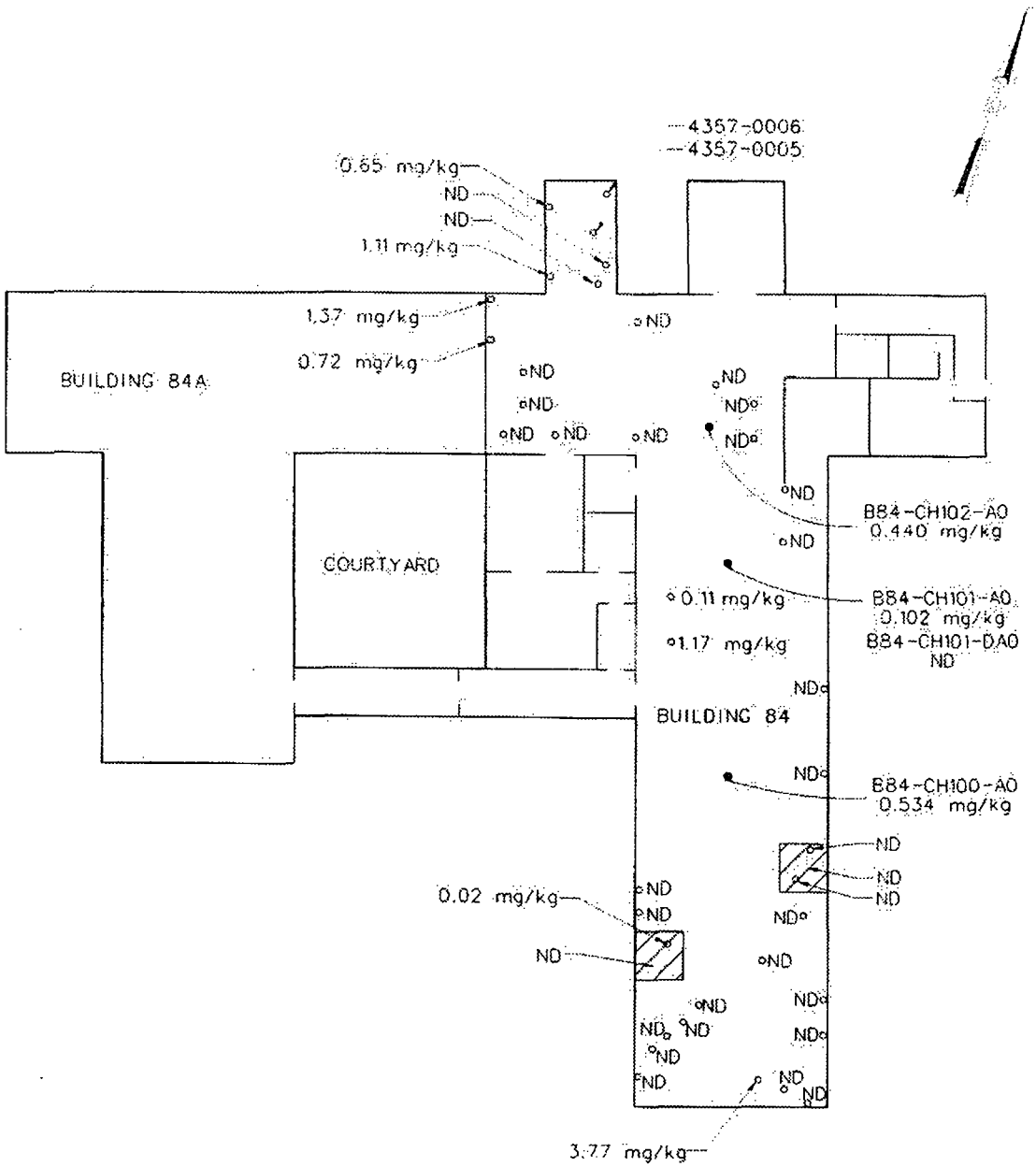
PREVIOUS CLEANUP ACTION AREAS

Figure A-1

FIGURE 3
BUILDING 84 AL#01
PREVIOUS SAMPLE LOCATIONS
LENNAR MARE ISLAND, Vallejo, California

CH2MHILL

MI-ATTACHA-1.DWG



EBS Parcel 08-B7

PREVIOUS CLEANUP ACTION AREAS

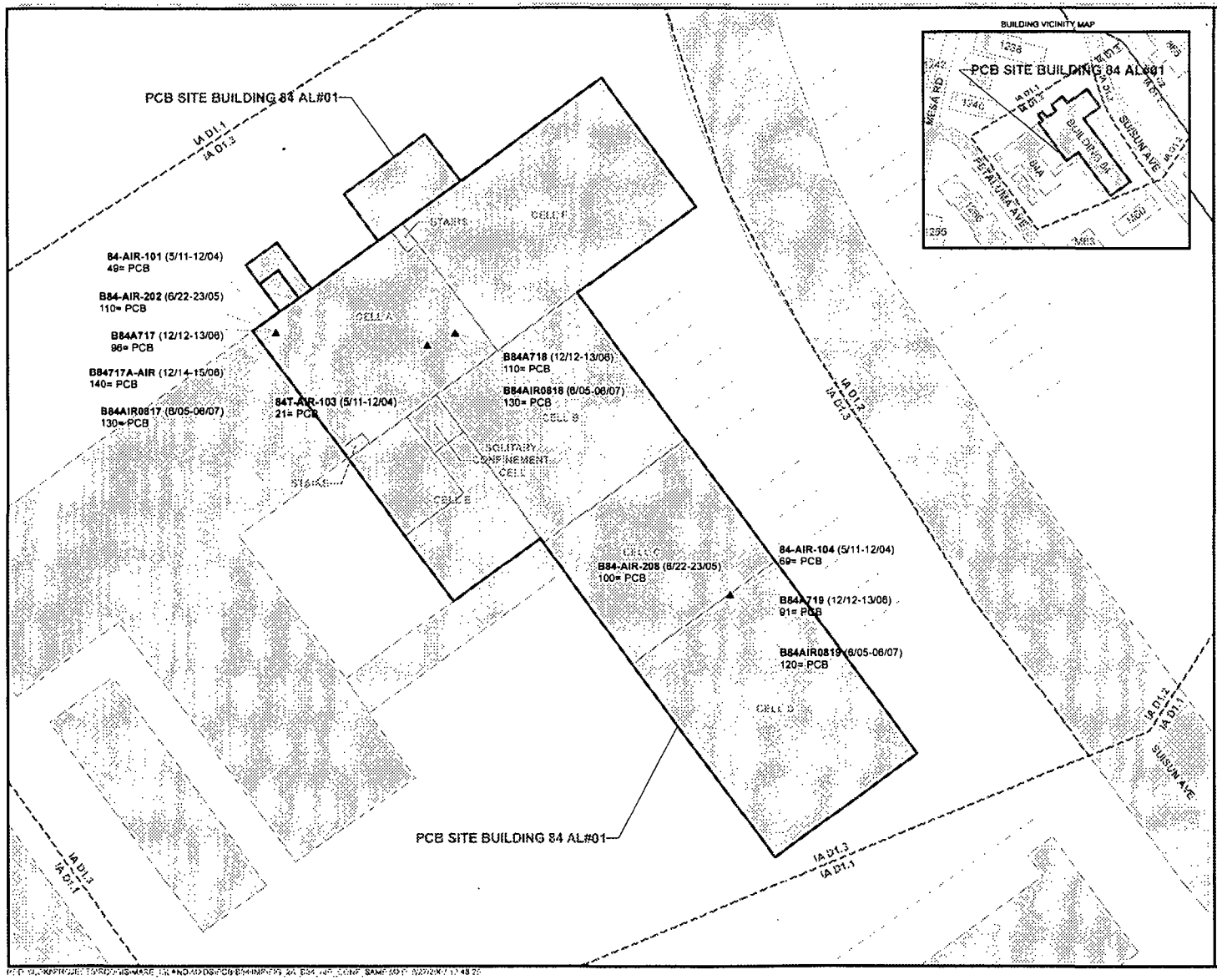
ND- NON DETECT

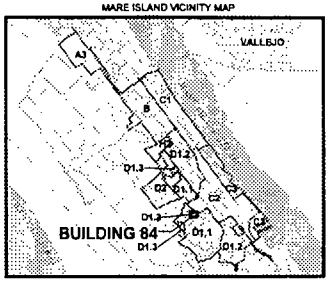
Figure A-2

FIGURE 1
BUILDING 84 AL#01
REMAINING PCB CONCENTRATIONS
LENNAR MARE ISLAND, Vallejo, California

CH2MHILL

MI-ATTACHA-2.DWG





LEGEND

- ▲ AIR SAMPLE LOCATION
- RAILROAD
- INVESTIGATION AREA
- REMOVAL AREA
- STRUCTURE
- ROAD

SAMPLE LOCATION — IR14VB219 (5/17-18/04)
TOTAL PCB CONCENTRATION (ng/m³) — 66 01= PCB
ANALYTE ABBREVIATION
MONTH/DAYS/YEAR

NOTES.
1 "=" = ANALYTE WAS DETECTED

Figure A-3

0 25 Feet

N

FIGURE 2A
PCB SITE BUILDING 84 AL#01
AIR SAMPLING LOCATIONS AND TOTAL PCB CONCENTRATIONS
LENNAR MARE ISLAND, VALLEJO, CALIFORNIA

CH2MHILL

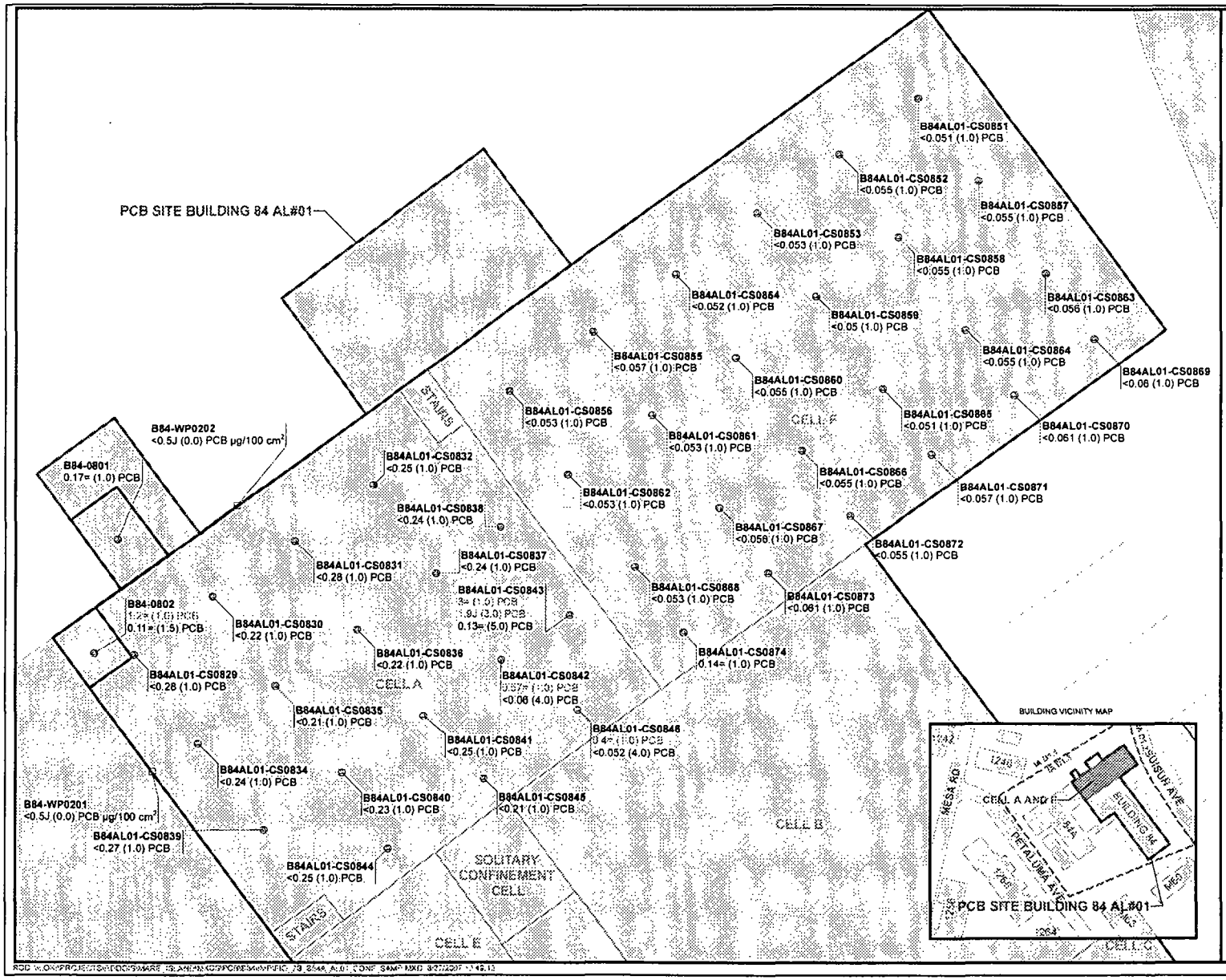


Figure A-4

FIGURE 2B - CELL A AND F PCB SITE BUILDING 84 AL#01 SAMPLING LOCATIONS AND TOTAL PCB CONCENTRATIONS

LENNAR MARE ISLAND, VALLEJO, CALIFORNIA

MI-ATTACHA-4.DWG

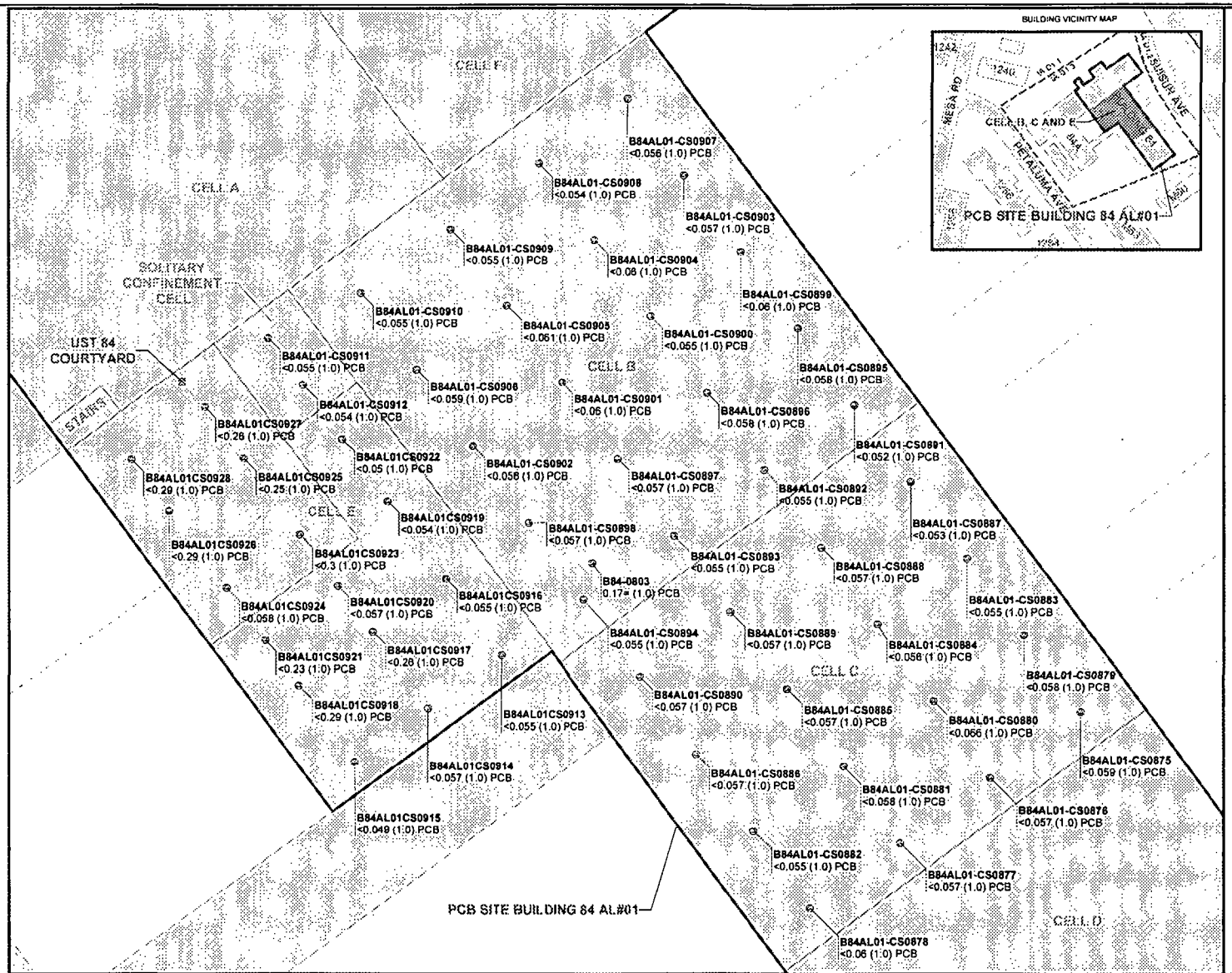


Figure A-5

FIGURE 2C - CELL B, C AND E PCB SITE BUILDING 84 AL#01 SAMPLING LOCATIONS AND TOTAL PCB CONCENTRATIONS

LENNAR MARE ISLAND, VALLEJO, CALIFORNIA

CH2MHILL

I-ATTACHA-5.DWG

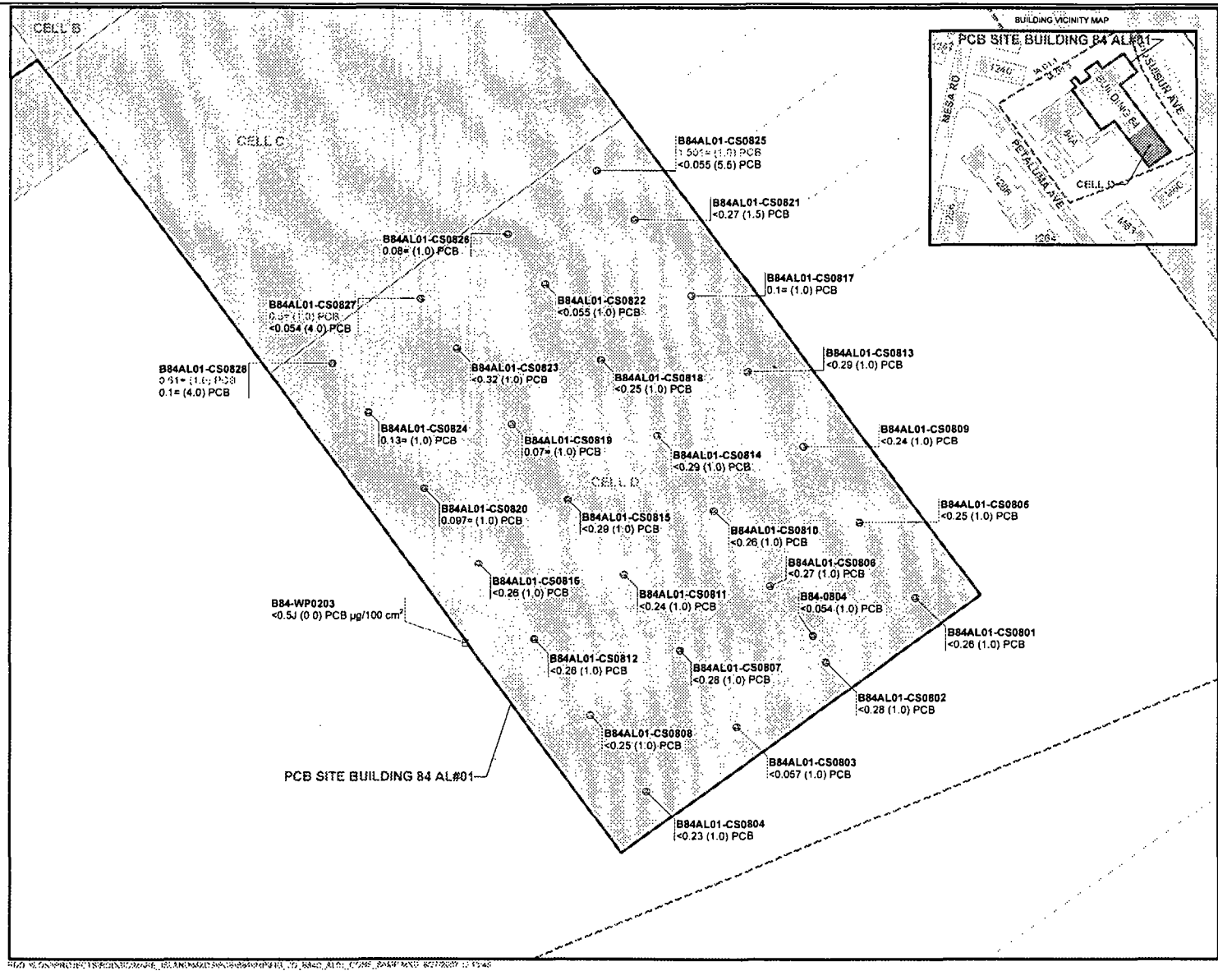


Figure A-6

FIGURE 2D - CELL D
PCB SITE BUILDING 84 AL#01
SAMPLING LOCATIONS AND
TOTAL PCB CONCENTRATIONS
LENNAR MARE ISLAND, VALLEJO, CALIFORNIA

CH2MHILL

MI-ATTACHA-6.DWG

TABLE 1
Sample Results for Building 84 AL#01
PCB Sites, Lennar Mare Island, Vallejo, California

PCB Site Name	Site Description	Sample Number	Sample Matrix	Sample Date	PCB Concentration (mg/kg)	Comments
Building 84 AL#01	Floor of the building	4357-0001	Asphalt	2/22/95	0.653	
		4357-0002	Asphalt	2/22/95	1.11	
		4357-0007	Asphalt	2/22/95	1.37	
		4357-0008	Asphalt	2/22/95	0.716	
		4357-0030	Concrete	2/22/95	11.3 µg/100 cm²	Removed
		4357-0037	Asphalt	2/22/95	3.77	
		4357-0043	Concrete	2/22/95	23.5	Removed
		4357-0046	Asphalt	2/22/95	1.17	
		4357-0047	Asphalt	2/22/95	0.113	
		7006-0010	Concrete	1/7/97	8.4	Removed
		7006-0011	Concrete	1/7/97	5.7	Removed
		PC6303	Concrete	12/10/98	0.02 J	
		PC6304	Concrete	12/10/98	ND (< 0.036)	
		PC6305	Concrete	12/10/98	ND (< 0.036)	
		8-2714-CH2M	Soil	6/25/02	ND (< 0.04)	
		8-2715-CH2M	Soil	6/25/02	ND (< 0.04)	
		8-2716-CH2M	Soil	6/25/02	ND (< 0.04)	
		8-2717-CH2M	Soil	6/25/02	ND (< 0.04)	
		8-2718-CH2M	Soil	6/25/02	ND (< 0.04)	
		8-2719-CH2M	Soil	6/25/02	ND (< 0.04)	
		8-2720-CH2M	Soil	6/25/02	ND (< 0.04)	
		8-2721-CH2M	Soil	6/25/02	ND (< 0.04)	

Notes:

Sample numbers beginning with PC were collected by TtEMI. Sample numbers beginning with B were collected by CH2M HILL. All other samples were collected by SSPORTS.

The following wipe and/or solid samples were collected from the floor of Building 84 on 2/22/95 and had PCB results <10 µg/100 cm² or <2 mg/kg: 4357-0003 through 0006 (asphalt); 4357-0009 through 0010 (painted asphalt); 4357-0011 (soil); 4357-0012 through 0013 (painted asphalt); 4357-0017 (asphalt); 4357-0018 through 0020 (painted asphalt); 4357-0021 through 0023 (asphalt); 4357-0024 through 0025 (painted asphalt); 4357-0028 (asphalt); 4357-0029 (painted concrete); 4357-0031 through 0036 (painted concrete); 4357-0038 through 0042 (painted concrete); 4357-0044 (painted concrete); 4357-0045 (painted asphalt).

AL Assessment Location.
J estimated concentration.
mg/kg milligrams per kilogram.
ND not detected (laboratory reporting limit in parentheses).
PCB polychlorinated biphenyl.

Table A-1

RDD/032940086 (B84_EPA1.DOC)

MITABLEA-1.DWG

TABLE 1
Sample Results for PCB Site Building 84 AL#01
PCB Site Building 84 AL#01 Cleanup Activities and Indoor Air Polychlorinated Biphenyl Screening, Lennar Mare Island, Vallejo, California

Sample Number	Sample Date	Sample Depth (feet bgs)	Sample Matrix	Total PCB Concentration[a]
B84AL1GB0162	06/25/2002	1.5	Soil	<0.060 mg/kg
B84AL1GB0163	06/25/2002	1.5	Soil	<0.056 mg/kg
B84AL1GB0164	06/25/2002	1.5	Soil	<0.057 mg/kg
B84AL1GB0165	06/25/2002	1.5	Soil	<0.056 mg/kg
B84AL1GB0166	06/25/2002	1.5	Soil	<0.057 mg/kg
B84AL1GB0167	06/25/2002	1.5	Soil	<0.055 mg/kg
B84AL1GB0168	06/25/2002	1.5	Soil	<0.056 mg/kg
B84AL1GB0169	06/25/2002	1.5	Soil	<0.059 mg/kg
B84-CH100	12/03/2003	0	Asphalt	0.86 mg/kg
B84-CH101	12/03/2003	0	Asphalt	0.13 mg/kg
B84-CH102	12/03/2003	0	Asphalt	0.75 mg/kg
B84-0801	01/08/2004	1.0	Soil	0.17 mg/kg
B84-0802	01/08/2004	1.0	Soil	1.2 mg/kg
B84-0803	01/08/2004	1.0	Soil	0.17 mg/kg
B84-0804	01/08/2004	1.0	Soil	<0.054 mg/kg
B84-0802	01/23/2004	2.0	Soil	0.11 mg/kg
B84-WP0200	06/02/2004	0	Wipe	<0.5J µg/wipe
B84-WP0201	06/02/2004	0	Wipe	<0.5J µg/wipe
B84-WP0202	06/02/2004	0	Wipe	<0.5J µg/wipe
B84-WP0203	06/02/2004	0	Wipe	<0.5J µg/wipe
B84-SS0204	06/03/2004	0	Dust	2.2 mg/kg
B84-SS0205	06/10/2004	0	Dust	5.8 mg/kg
B84-SS0206	06/10/2004	0	Dust	0.86 mg/kg
B84AL01-CS0801	09/26/2006	1.0	Soil	<0.26 mg/kg
B84AL01-CS0802	09/26/2006	1.0	Soil	<0.28 mg/kg
B84AL01-CS0803	09/26/2006	1.0	Soil	<0.057 mg/kg
B84AL01-CS0804	09/26/2006	1.0	Soil	<0.23 mg/kg
B84AL01-CS0805	09/26/2006	1.0	Soil	<0.25 mg/kg
B84AL01-CS0806	09/26/2006	1.0	Soil	<0.28 mg/kg
B84AL01-CS0807	09/26/2006	1.0	Soil	<0.28 mg/kg
B84AL01-CS0808	09/26/2006	1.0	Soil	<0.25 mg/kg
B84AL01-CS0809	09/26/2006	1.0	Soil	<0.25 mg/kg
B84AL01-CS0810	09/26/2006	1.0	Soil	<0.26 mg/kg

Table A-2

TABLE 1
Sample Results for PCB Site Building 84 AL#01
PCB Site Building 84 AL#01 Cleanup Activities and Indoor Air Polychlorinated Biphenyl Screening, Lennar Mare Island, Vallejo, California

Sample Number	Sample Date	Sample Depth (feet bgs)	Sample Matrix	Total PCB Concentration[a]
B84AL01-CS0811	09/26/2006	1.0	Soil	<0.24 mg/kg
B84AL01-CS0812	09/26/2006	1.0	Soil	<0.26 mg/kg
B84AL01-CS0813	09/26/2006	1.0	Soil	<0.29 mg/kg
B84AL01-CS0814	09/26/2006	1.0	Soil	<0.29 mg/kg
B84AL01-CS0815	09/26/2006	1.0	Soil	<0.29 mg/kg
B84AL01-CS0816	09/26/2006	1.0	Soil	<0.26 mg/kg
B84AL01-CS0817	09/26/2006	1.0	Soil	0.10 mg/kg
B84AL01-CS0818	09/26/2006	1.0	Soil	<0.25 mg/kg
B84AL01-CS0819	09/26/2006	1.0	Soil	0.070 mg/kg
B84AL01-CS0820	09/26/2006	1.0	Soil	0.097 mg/kg
B84AL01-CS0821	09/26/2006	1.5	Soil	<0.27 mg/kg
B84AL01-CS0822	09/26/2006	1.0	Soil	<0.055 mg/kg
B84AL01-CS0823	09/26/2006	1.0	Soil	<0.32 mg/kg
B84AL01-CS0824	09/26/2006	1.0	Soil	0.13 mg/kg
B84AL01-CS0825	09/26/2006	1.5	Soil	1.5 mg/kg
B84AL01-CS0826	09/26/2006	1.0	Soil	0.080 mg/kg
B84AL01-CS0827	09/26/2006	1.0	Soil	0.30 mg/kg
B84AL01-CS0828	09/26/2006	1.0	Soil	0.61 mg/kg
B84AL01-CS0829	09/28/2006	1.0	Soil	<0.28 mg/kg
B84AL01-CS0830	09/28/2006	1.0	Soil	<0.22 mg/kg
B84AL01-CS0831	09/28/2006	1.0	Soil	<0.28 mg/kg
B84AL01-CS0832	09/28/2006	1.0	Soil	<0.25 mg/kg
B84AL01-CS0834	09/28/2006	1.0	Soil	<0.24 mg/kg
B84AL01-CS0835	09/28/2006	1.0	Soil	<0.21 mg/kg
B84AL01-CS0836	09/28/2006	1.0	Soil	<0.22 mg/kg
B84AL01-CS0837	09/28/2006	1.0	Soil	<0.24 mg/kg
B84AL01-CS0838	09/28/2006	1.0	Soil	<0.24 mg/kg
B84AL01-CS0839	09/28/2006	1.0	Soil	<0.27 mg/kg
B84AL01-CS0840	09/28/2006	1.0	Soil	<0.23 mg/kg
B84AL01-CS0841	09/28/2006	1.0	Soil	<0.25 mg/kg
B84AL01-CS0842	09/28/2006	1.0	Soil	0.57 mg/kg
B84AL01-CS0843	09/28/2006	1.0	Soil	3.0 mg/kg
B84AL01-CS0844	09/28/2006	1.0	Soil	<0.25 mg/kg
B84AL01-CS0845	09/28/2006	1.0	Soil	<0.21 mg/kg

Table A-2

TABLE 1

Sample Results for PCB Site Building 84 AL#01

PCB Site Building 84 AL#01 Cleanup Activities and Indoor Air Polychlorinated Biphenyl Screening, Lennar Mare Island, Vallejo, California

Sample Number	Sample Date	Sample Depth (feet bgs)	Sample Matrix	Total PCB Concentration[a]
B84AL01-CS0846	09/28/2006	1.0	Soil	0.40 mg/kg
B84AL01-CS0825	10/31/2006	5.5	Soil	<0.055 mg/kg
B84AL01-CS0827	10/31/2006	4.0	Soil	<0.054 mg/kg
B84AL01-CS0828	10/31/2006	4.0	Soil	0.11 mg/kg
B84AL01-CS0842	10/31/2006	4.0	Soil	<0.060 mg/kg
B84AL01-CS0843	10/31/2006	3.0	Soil	1.9J mg/kg
B84AL01-CS0846	10/31/2006	4.0	Soil	<0.052 mg/kg
B84AL01-CS0843	11/21/2006	5.0	Soil	0.13 mg/kg
B84AL01-CS0851	05/01/2007	1.0	Soil	<0.051 mg/kg
B84AL01-CS0852	05/01/2007	1.0	Soil	<0.056 mg/kg
B84AL01-CS0853	05/01/2007	1.0	Soil	<0.053 mg/kg
B84AL01-CS0854	05/01/2007	1.0	Soil	<0.053 mg/kg
B84AL01-CS0855	05/01/2007	1.0	Soil	<0.057 mg/kg
B84AL01-CS0856	05/01/2007	1.0	Soil	<0.053 mg/kg
B84AL01-CS0857	05/01/2007	1.0	Soil	<0.055 mg/kg
B84AL01-CS0858	05/01/2007	1.0	Soil	<0.055 mg/kg
B84AL01-CS0859	05/01/2007	1.0	Soil	<0.050 mg/kg
B84AL01-CS0860	05/01/2007	1.0	Soil	<0.055 mg/kg
B84AL01-CS0861	05/01/2007	1.0	Soil	<0.053 mg/kg
B84AL01-CS0862	05/01/2007	1.0	Soil	<0.053 mg/kg
B84AL01-CS0863	05/01/2007	1.0	Soil	<0.056 mg/kg
B84AL01-CS0864	05/01/2007	1.0	Soil	<0.055 mg/kg
B84AL01-CS0865	05/01/2007	1.0	Soil	<0.051 mg/kg
B84AL01-CS0866	05/01/2007	1.0	Soil	<0.055 mg/kg
B84AL01-CS0867	05/01/2007	1.0	Soil	<0.056 mg/kg
B84AL01-CS0868	05/01/2007	1.0	Soil	<0.053 mg/kg
B84AL01-CS0869	05/01/2007	1.0	Soil	<0.060 mg/kg
B84AL01-CS0870	05/01/2007	1.0	Soil	<0.061 mg/kg
B84AL01-CS0871	05/01/2007	1.0	Soil	<0.057 mg/kg
B84AL01-CS0872	05/01/2007	1.0	Soil	<0.055 mg/kg
B84AL01-CS0873	05/01/2007	1.0	Soil	<0.061 mg/kg
B84AL01-CS0874	05/01/2007	1.0	Soil	0.14 mg/kg
B84AL01-CS0875	05/03/2007	1.0	Soil	<0.059 mg/kg
B84AL01-CS0876	05/03/2007	1.0	Soil	<0.057 mg/kg

Table A-2

TABLE 1
Sample Results for PCB Site Building 84 AL#01
PCB Site Building 84 AL#01 Cleanup Activities and Indoor Air Polychlorinated Biphenyl Screening, Lennar Mare Island, Vallejo, California

Sample Number	Sample Date	Sample Depth (feet bgs)	Sample Matrix	Total PCB Concentration[a]
B84AL01-CS0877	05/03/2007	1.0	Soil	<0.057 mg/kg
B84AL01-CS0878	05/03/2007	1.0	Soil	<0.060 mg/kg
B84AL01-CS0879	05/03/2007	1.0	Soil	<0.058 mg/kg
B84AL01-CS0880	05/03/2007	1.0	Soil	<0.066 mg/kg
B84AL01-CS0881	05/03/2007	1.0	Soil	<0.058 mg/kg
B84AL01-CS0882	05/03/2007	1.0	Soil	<0.055 mg/kg
B84AL01-CS0883	05/03/2007	1.0	Soil	<0.055 mg/kg
B84AL01-CS0884	05/03/2007	1.0	Soil	<0.056 mg/kg
B84AL01-CS0885	05/03/2007	1.0	Soil	<0.057 mg/kg
B84AL01-CS0886	05/03/2007	1.0	Soil	<0.057 mg/kg
B84AL01-CS0887	05/03/2007	1.0	Soil	<0.053 mg/kg
B84AL01-CS0888	05/03/2007	1.0	Soil	<0.057 mg/kg
B84AL01-CS0889	05/03/2007	1.0	Soil	<0.057 mg/kg
B84AL01-CS0890	05/03/2007	1.0	Soil	<0.057 mg/kg
B84AL01-CS0891	05/03/2007	1.0	Soil	<0.052 mg/kg
B84AL01-CS0892	05/03/2007	1.0	Soil	<0.055 mg/kg
B84AL01-CS0893	05/03/2007	1.0	Soil	<0.055 mg/kg
B84AL01-CS0894	05/03/2007	1.0	Soil	<0.056 mg/kg
B84AL01-CS0895	05/03/2007	1.0	Soil	<0.058 mg/kg
B84AL01-CS0896	05/03/2007	1.0	Soil	<0.058 mg/kg
B84AL01-CS0897	05/03/2007	1.0	Soil	<0.057 mg/kg
B84AL01-CS0898	05/03/2007	1.0	Soil	<0.057 mg/kg
B84AL01-CS0899	05/03/2007	1.0	Soil	<0.060 mg/kg
B84AL01-CS0900	05/03/2007	1.0	Soil	<0.056 mg/kg
B84AL01-CS0901	05/03/2007	1.0	Soil	<0.060 mg/kg
B84AL01-CS0902	05/03/2007	1.0	Soil	<0.056 mg/kg
B84AL01-CS0903	05/03/2007	1.0	Soil	<0.057 mg/kg
B84AL01-CS0904	05/03/2007	1.0	Soil	<0.060 mg/kg
B84AL01-CS0905	05/03/2007	1.0	Soil	<0.061 mg/kg
B84AL01-CS0906	05/03/2007	1.0	Soil	<0.059 mg/kg
B84AL01-CS0907	05/03/2007	1.0	Soil	<0.056 mg/kg
B84AL01-CS0908	05/03/2007	1.0	Soil	<0.054 mg/kg
B84AL01-CS0909	05/03/2007	1.0	Soil	<0.055 mg/kg
B84AL01-CS0910	05/03/2007	1.0	Soil	<0.055 mg/kg

Table A-2

TABLE 1
Sample Results for PCB Site Building 84 AL#01
PCB Site Building 84 AL#01 Cleanup Activities and Indoor Air Polychlorinated Biphenyl Screening, Lennar Mare Island, Vallejo, California

Sample Number	Sample Date	Sample Depth (feet bgs)	Sample Matrix	Total PCB Concentration[a]
B84AL01-CS0911	05/03/2007	1.0	Soil	<0.055 mg/kg
B84AL01-CS0912	05/03/2007	1.0	Soil	<0.054 mg/kg
B84AL01CS0913	05/10/2007	1.0	Soil	<0.055 mg/kg
B84AL01CS0914	05/10/2007	1.0	Soil	<0.057 mg/kg
B84AL01CS0915	05/10/2007	1.0	Soil	<0.049 mg/kg
B84AL01CS0916	05/10/2007	1.0	Soil	<0.055 mg/kg
B84AL01CS0917	05/10/2007	1.0	Soil	<0.26 mg/kg
B84AL01CS0918	05/10/2007	1.0	Soil	<0.29 mg/kg
B84AL01CS0919	05/10/2007	1.0	Soil	<0.054 mg/kg
B84AL01CS0920	05/10/2007	1.0	Soil	<0.057 mg/kg
B84AL01CS0921	05/10/2007	1.0	Soil	<0.23 mg/kg
B84AL01CS0922	05/10/2007	1.0	Soil	<0.050 mg/kg
B84AL01CS0923	05/10/2007	1.0	Soil	<0.30 mg/kg
B84AL01CS0924	05/10/2007	1.0	Soil	<0.058 mg/kg
B84AL01CS0925	05/10/2007	1.0	Soil	<0.25 mg/kg
B84AL01CS0926	05/10/2007	1.0	Soil	<0.29 mg/kg
B84AL01CS0927	05/10/2007	1.0	Soil	<0.26 mg/kg
B84AL01CS0928	05/10/2007	1.0	Soil	<0.29 mg/kg

[a]For samples collected by CH2M HILL, total PCBs are calculated by summing all of the detected Aroclors or by using a proxy value of one-half the reporting limit for historically detected Aroclors and adding this to detected Aroclors.

Notes:

µg/wipe = micrograms per wipe
bgs = below ground surface
J = estimated concentration
mg/kg = milligrams per kilogram
PCB = polychlorinated biphenyl

Table A-2

TABLE 2

PCB Site Building 84 AL#01 Air Sample Analytical Results – May 2004

PCB Site Building 84 AL#01 Cleanup Activities and Indoor Air Polychlorinated Biphenyl Screening, Lennar Mare Island, Vallejo, California

	Sample Numbers						
Analyte	**84-AIR-101**	**84-AIR-102 (duplicate of 84-AIR-101)**	**84T-AIR-103 (tent)**	**84-AIR-104**	**84-AIR-105 (background)**	**84-AIR-106 (background)**	**84-AIR-107 (field blank)**
Total monoCB	0.44	0.43	0.28	0.62	<0.05	<0.05	<0.05
Total diCB	8.3	8.3	4.3	11	<0.10	<0.10	<0.10
Total triCB	27	27	11	38	<0.05	<0.05	<0.05
Total tetraCB	12	12	4.8	17	<0.10	<0.10	<0.10
Total pentaCB	1.3	1.3	0.51	1.6	<0.10	<0.10	<0.10
Total hexaCB	0.26	0.24	0.08	0.30	<0.10	<0.10	<0.10
Total heptaCB	<0.10	0.02	<0.10	0.02	<0.10	<0.10	<0.10
Total octaCB	<0.15	<0.15	<0.15	<0.15	<0.15	<0.15	<0.15
Total nonaCB	<0.15	<0.15	<0.15	<0.15	<0.15	<0.15	<0.15
Total decaCB	<0.15	<0.15	<0.15	<0.15	<0.15	<0.15	<0.15
Total PCBs	**49**	**49**	**21**	**69**	**<0.30**	**<0.30**	**<0.30**

Notes:

Air sample results are presented as ng/m^3.

Ambient air PRG = 3.4 ng/m^3 (United States Environmental Protection Agency Region 9 2004 value for unspeciated PCB mixture, high risk). Calculated risk-based screening level (commercial/industrial land use scenario) = 7.2 ng/m^3.

CB = chlorinated biphenyl
ng/m^3 = nanograms per cubic meter
PCB = polychlorinated biphenyl
PRG = preliminary remediation goal

Table A-3

ITABLEA-3.DWG

TABLE 3

PCB Site Building 84 AL#01 Air Sample Analytical Results – June 2005

PCB Site Building 84 AL#01 Cleanup Activities and Indoor Air Polychlorinated Biphenyl Screening, Lennar Mare Island, Vallejo, California

Analyte	84-AIR-202	84-AIR-208
Total monoCB	0.68	0.69
Total diCB	17	17
Total triCB	61	58
Total tetraCB	26	22
Total pentaCB	2.6	2.3
Total hexaCB	0.65	0.54
Total heptaCB	0.13	0.08
Total octaCB	<0.10	<0.10
Total nonaCB	<0.10	<0.10
Total decaCB	<0.10	<0.10
Total PCBs	**110**	**100**

Notes:

Air sample results are presented as ng/m^3.

Ambient air PRG = 3.4 ng/m^3 (United States Environmental Protection Agency Region 9 2004 value for unspeciated PCB mixture, high risk). Calculated risk-based screening level (commercial/industrial land use scenario) = 7.2 ng/m^3.

CB = chlorinated biphenyl
ng/m^3 = nanograms per cubic meter
PCB = polychlorinated biphenyl
PRG = preliminary remediation goal

Table A-4

MITABLEA-4.DWG

TABLE 4
PCB Site Building 84 AL#01 Air Sample Analytical Results – December 2006
PCB Site Building 84 AL#01 Cleanup Activities and Indoor Air Polychlorinated Biphenyl Screening, Lennar Mare Island, Vallejo, California

Analyte	B84717A-AIR	B84A717	B84A718	B84A719
Total monoCB	0.60	0.50	0.71	0.54
Total diCB	26	19	20	17
Total triCB	73	53	60	50
Total tetraCB	29	19	23	20
Total pentaCB	9.2	4.1	4.9	3.6
Total hexaCB	1.8	0.83	0.92	0.68
Total heptaCB	0.14	0.05	0.11	0.07
Total octaCB[a]	<0.13 or <0.25	<0.13 or <0.25	<0.13 or <0.25	<0.13 or <0.25
Total nonaCB	<0.13	<0.13	<0.13	<0.13
Total decaCB	NA	NA	NA	NA
Total PCB	**140**	**96**	**110**	**91**

[a]Depending on the congener used, total octaCB reporting limit was 0.13 or 0.25.

Notes:

Air sample results are presented as ng/m^3.

Ambient air PRG (residential land use scenario) = 3.4 ng/m^3 (United States Environmental Protection Agency Region 9 2004 value for unspeciated PCB mixture, high risk). Calculated risk-based screening level (commercial/industrial land use scenario) = 7.2 ng/m^3.

CB = chlorinated biphenyl
NA = not analyzed
ng/m^3 = nanograms per cubic meter
PCB = polychlorinated biphenyl
PRG = preliminary remediation goal

Table A-5

TABLE 5
PCB Site Building 84 AL#01 Air Sample Analytical Results – June 2007
PCB Site Building 84 AL#01 Cleanup Activities and Indoor Air Polychlorinated Biphenyl Screening, Lennar Mare Island, Vallejo, California

Analyte	B84AIR0817-A	B84AIR0818-A	B84AIR0818-AFD	B84AIR0819-A
Total monoCB	0.36	0.37	0.32	0.37
Total diCB	27	26	24	25
Total triCB	70	69	69	61
Total tetraCB	33	34	31	32
Total pentaCB	4.4	4.1	5.1	3.9
Total hexaCB	0.85	0.90	1.1	0.87
Total heptaCB	0.11	0.15	0.12	0.11
Total octaCB[a]	<0.13 or <0.25	<0.13 or <0.25	<0.13 or <0.25	<0.13 or <0.25
Total nonaCB	<0.13	<0.13	<0.13	<0.13
Total decaCB	<0.13	<0.13	<0.13	<0.13
Total PCBs	**130**	**130**	**130**	**120**

[a]Depending on the congener used, total octaCB reporting limit was 0.13 or 0.25.

Notes:

Air sample results are presented as ng/m^3.

Ambient air PRG (residential land use scenario) = 3.4 ng/m^3 (United States Environmental Protection Agency Region IX 2004 value for unspeciated PCB mixture, high risk). Calculated risk-based screening level (commercial/industrial land use scenario) = 7.2 ng/m^3.

CB = chlorinated biphenyl
ng/m^3 = nanograms per cubic meter
PCB = polychlorinated biphenyl
PRG = preliminary remediation goal

Table A-6

APPENDIX B

Field Notes

2/5/09 | MARE ISLAND BAY | PCB SAMPLING

TAILGATE H+S MTG

✓ WEATHER: CLOUDY/COOL

✓ PPE – BOOTS, SAFETY GLASSES, LONG SLEEVES

✓ WELL RESTED – READY TO SAMPLE

✓ READ HASP

✓ NO ALERGIES

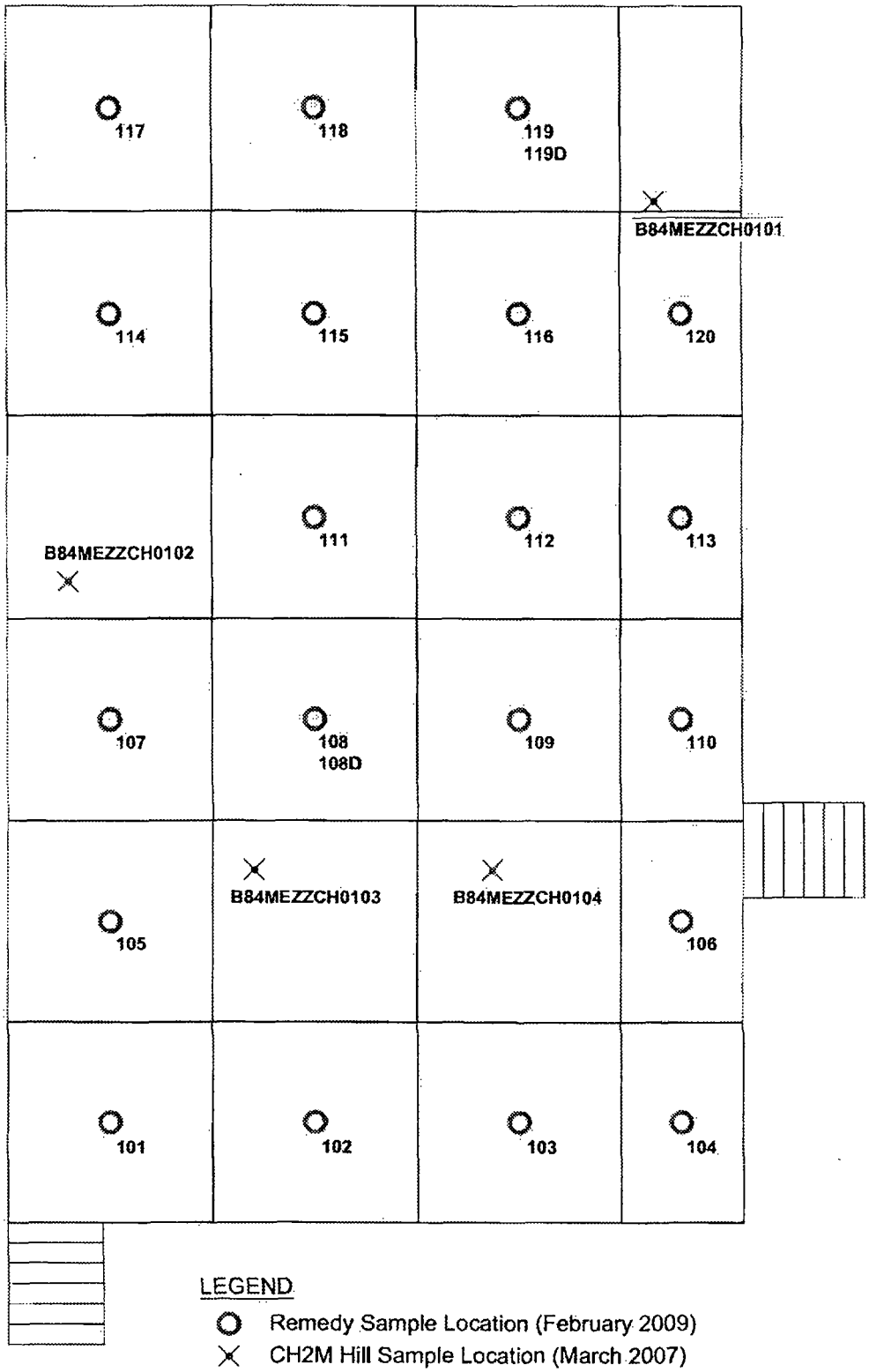
✓ SAMPLING PROCEDURES

✓ POTENTIAL HAZARDS DISCUSSED

SIGNED [signature] 2/5/09

[signature]

STAEDTLER® No. 937 811E Engineer's Computation Pad



Note: Remedy sample names are prefixed by B84MEZZRE
'D' indicates a duplicate sample was collected at this location

FIGURE 3
LOCATION OF FEBRUARY 5, 2009 CONCRETE CHIP SAMPLES, BUILDING 84 MEZZANINE
Lennar Mare Island, Vallejo, California

REMEDY ENGINEERING, INC.

MI-BUILDING84SCHEMA.DWG

Curtis & Tompkins, Ltd.
Analytical Laboratory Since 1878
2323 Fifth Street
Berkeley, CA 94710
(510) 486-0900 Phone
(510) 486-0532 Fax

CHAIN OF CUSTODY

C & T LOGIN #: _____

Sampler: TC/DW

Project No.: 101204

Report To: Tom Cyrowzak

Project Name: L84 Mezzanine

Company: Armed Forces

Project P.O.: _____

Telephone: (530) 241-9658

Turnaround Time: Normal

Fax: (530) 241-9659

Lab No.	Sample ID.	Sampling Date Time	Matrix: Soil	Matrix: Water	Matrix: Waste	Matrix: Air	# of Containers	Preservative: HCL	Preservative: H_2SO_4	Preservative: HNO_3	Preservative: ICE	Preservative: None	Analysis: PCBs - 8082
	L84MEZZANINE	09 57				X	1					X	X
	" 0102	10 08				X	1					X	X
	" 0103	10 20				X	1					X	X
	" 0104	10 25				X	1					X	X
	" 0105	10 30				X	1					X	X
	" 0106	10 45				X	1					X	X
	" 0107	10 50				X	1					X	X
	" 0108	11 00				X	1					X	X
	" 0108D	11 02				X	1					X	X
	" 0109	11 05				X	1					X	X
	" 0110	11 10				X	1					X	X
	" 0111	11 17				X	1					X	X
	" 0112	11 20				X	1					X	X

Notes:

SAMPLE RECEIPT
☐ Intact ☐ Cold
☐ On Ice ☐ Ambient

Preservative Correct?
☐ Yes ☐ No ☐ N/A

RELINQUISHED BY:

Dave Woodard — DATE / TIME

DATE / TIME

DATE / TIME

RECEIVED BY:

DATE / TIME

DATE / TIME

DATE / TIME

SIGNATURE

Curtis & Tompkins, Ltd.
Analytical Laboratory Since 1878
2323 Fifth Street
Berkeley, CA 94710
(510) 486-0900 Phone
(510) 486-0532 Fax

CHAIN OF CUSTODY

C & T LOGIN #: _____

Sampler: TC/JW

Project No.: 101204

Report To: Tom Corontzos

Project Name: B84 Mezzanine

Company: Ramsey Engineering

Project P.O.:

Telephone: (530) 241-7658

Turnaround Time: Normal

Fax: (530) 241-7659

Lab No.	Sample ID.	Sampling Date Time	Matrix: Soil	Matrix: Water	Matrix: Waste	Matrix: Concrete	# of Containers	Preservative: HCL	Preservative: H_2SO_4	Preservative: HNO_3	Preservative: ICE	Preservative: None	Analysis: DCB S 8082
	B84MF77RF0113	11:27				X						X	X
	0114	11:35				X						X	X
	0115	12:35				X						X	X
	0116	13:40				X						X	X
	0120	13:45				X						X	X
	0117	13:50				X						X	X
	0118	14:00				X						X	X
	0119	14:10				X						X	X
	0119D	14:12				X						X	X

Notes:

SAMPLE RECEIPT
☐ Intact ☐ Cold
☐ On Ice ☐ Ambient

Preservative Correct?
☐ Yes ☐ No ☐ N/A

RELINQUISHED BY:

[signature] 3/9/04 15:00
DATE / TIME

DATE / TIME

DATE / TIME

RECEIVED BY:

DATE / TIME

DATE / TIME

DATE / TIME

SIGNATURE

February 26, 2009

Joshua Woodard
Remedy Engineering
1567 Yuba Street
Redding, CA 96001

Affidavit of Confirmation

I, Joshua Woodard, representing the B84 Mezzanine Project for Mare Island Project, confirm the following information was inadvertently left off the chain-of-custody (COC) provided with data set 209794 from Curtis and Thompkins, Ltd. The information identified in bold italics will be used to further clarify the COC documentation.

Samples were collected on February 5, 2009.

To the best of my knowledge, the above information is correct.

JOSHUA WOODARD

02/26/09
DATE

This affidavit is an amendment to the chain-of-custody accompanying the B84 Mezzanine Project for Mare Island, Curtis and Thompkins data set 209794.

REMEDY
ENGINEERING, INC.
CIVIL AND ENVIRONMENTAL SOLUTIONS

Daily Field Report

Date	9-22-09
Project Name & Number	B84 PCB MEZZANINE SCABBLING
Client	LMI
Work Description	SCABBLING CONCRETE ON MEZZANINE
Weather	Sunny, Warm
Field Crew	N. BAISH
Pages	1

TIME	DESCRIPTION
8:05	ONSITE, T. CORONADOS (REMEDY), D. KLEESATEL & DANIEL (TRIHYDRO), NEAL SILER & OTHERS (LMI), SCOTT POUSARD & OTHERS (CLEAN HARBORS), PRE-CONSTRUCTION MEETING, SITE LOGISTICS, COMING & GOING FROM MARE ISLAND (SEE MAP FROM LMI), PROJECT DETAILS, EXAMINE MEZZANINE,
~~8:00~~	~~SIS~~ LMI OFFSITE
9:00	CLEAN HARBORS OFFSITE
	TRIHYDRO OFF
	REMEDY OFFSITE
14:00	ONSITE
14:05	CLEAN HARBORS ONSITE TO DROP OFF EQUIPMENT/SUPPLIES
14:30	CLEAN HARBORS OFFSITE TO PICK UP MORE EQUIPMENT/SUPPLIES
15:40	CLEAN HARBORS ONSITE
15:55	CLEAN HARBORS OFFSITE
	OFFSITE

REMEDY
ENGINEERING, INC.
CIVIL AND ENVIRONMENTAL SOLUTIONS

Daily Field Report

Date	9-23-09
Project Name & Number	MARE ISLAND B854 MEZZANINE SCABBLING
Client	LMI
Work Description	SCABBLING MEZZANINE FLOOR
Weather	SUNNY, WARM, MORNING FOG
Field Crew	N. BUSH
Pages	1 of 2

TIME	DESCRIPTION → LARRY (FOREMAN) → DANIEL
8:00	ONSITE, CLEAN HARBORS & TRIHYDRO ONSITE
	TAILGATE SAFETY MEETING
	SLIPS, TRIPS, FALLS, EAR PLUGS,
	HOSPITAL ROUTE HEAT STRESS / BREAKS
	LEAD SAFETY HARNESSES & LANYARDS
	~~REGULATORY~~ SMOKING
	LIGHTING RESPIRATORS / PPE
	WATER FROM METER AT CITY OF VALLEJO OR FROM
	CLEAN HARBORS SHOP - RETURN TO SHOP
8:35	SETTING UP LIGHTS
9:00	HANGING VISQUEEN ON ALL WALLS & FENCES
9:45	Clean HARBORS ONSITE W/ WATER
10:05	HALF WAY DONE HANGING VISQUEEN
11:15	FINISH HANGING ~~PLASTIC~~ VISQUEEN
11:45	START CLEANING UP PAINT CHIPS - 3 CH LABORERS
	PAINT CHIPS ARE BEING WETTED W/ A
	SMALL SPRAYER, SWEPT UP & PUT IN
	A BUCKET, THEN CARRIED DOWN &
	TRANSFERRED TO A 55-GALLON DRUM,
12:15	LET FLOOR DRY SO REMAINING "DUST" CAN
	BE VACUUMED INTO A SHOP VAC W/ A
	HEPA FILTER & TRANSFERRED TO THE 55-DRUM

REMEDY
ENGINEERING, INC.
CIVIL AND ENVIRONMENTAL SOLUTIONS

Daily Field Report

Date	9-23-09
Project Name & Number	B84 MEZZANINE SCABBLING
Client	LMI
Work Description	SCABBLING MEZZANINE FLOOR
Weather	SUNNY, WARM
Field Crew	N. Bousit
Pages	2 of 2

TIME	DESCRIPTION
12:35	~~FINISH~~ CONTINUE CLEANING UP LEAD PAINT, ~~OFF~~ 2 CH LABORERS
	OTHER CH LABORERS PREPARING FOR
	SCABBLING
13:50	FINISH CLEANING UP LEAD PAINT
14:15	START SCARIFYING, MACHINE IS CONNECTED TO
	WATER TO CONTROL DUST & A HEPA TRUCK
	TO REMOVE DUST & FUMES.
	WORKING OUT KINKS IN SYSTEM TODAY
14:40	FINISH WORKING KINKS OUT; SYSTEM WORKS
	WELL BUT REQUIRES A LOT OF WATER,
	PROBABLY MORE THAN EXPECTED
14:45	CH LABORERS OFFSITE
	TRIHYDRO OFFSITE
14:50	UNITED RENTALS ONSITE W/ FENCE
15:40	UNITED RENTALS OFFSITE
	CH OFFSITE
	REMEDY ENGINEERING OFFSITE

REMEDY
ENGINEERING, INC.
CIVIL AND ENVIRONMENTAL SOLUTIONS

Daily Field Report

Date	9-24-09
Project Name & Number	B84 MEZZANINE SCABBLING
Client	LMI
Work Description	SCABBLING CONCRETE MEZZANINE FLOOR
Weather	Morning Fog, Cloudy, Warm, Breezy
Field Crew	N. Bush
Pages	1 of 4

TIME	DESCRIPTION
8:00	ONSITE, 5 CH GUYS, TRIHYDRO (DAVE KLEESATTLE)
	TAILGATE SAFETY MEETING
	SLIPS, TRIPS, FALLS — LIGHTING
	WATER ON MEZZ (SLIPPERY) — LEVEL D PPE
	NOISY
	HOSPITAL ROUTE
	DAVE & J INSPECT THE SURFACE, THEY MAY BE
	ABLE TO CONTROL THE DEPTH OF SCARIFICATION,
	BUT THERE'S A CHANCE THAT THE TOP INCH
	OF CONCRETE COULD FLAKE OFF TO AN OLD
	POLISHED CONCRETE SURFACE.
	ALSO, FLOOR IS RED PAINT, ~ 70-80% OF SURFACE
	IS PAINTED RED, COLLECT SAMPLE OF CHIPS
	CH GUYS SETTING UP HOSE & PREPARING AREA
	CALL JEFF/TOM TO LET THEM KNOW ABOUT
	PAINT ON FLOOR SURFACE, WILL CONTINUE
	AS PLANNED
	TELL KEN W/ CH THAT THE SURFACE HAS
	RED PAINT.
	LARRY W/ CH OFFSITE, RON JONES WILL BE HERE
	MID am AS CH FOREMAN
9:02	CH STARTING SCARIFYING

REMEDY
ENGINEERING, INC.
CIVIL AND ENVIRONMENTAL SOLUTIONS

Daily Field Report

Date	9-24-09
Project Name & Number	B84 MEZZANINE SCABBLING
Client	LMI
Work Description	SCABBLING MEZZANINE FLOOR
Weather	MORNING FOG, SUNNY, BREEZY, WARM
Field Crew	N. BUSH
Pages	2 of 4

TIME	DESCRIPTION
10:05	PAUL, REGIONAL HEALTH & SAFETY MANAGER W/
	CLEAN HARBORS ONSITE
	CH LABORERS TAKING A BREAK AFTER GENERATOR
	RUNS OUT OF FUEL, EXHAUST FROM SCARIFIER
	IS A LITTLE BAD SO THEY'RE LETTING IT
	AIR OUT
	SCOTT POUSARD & LARRY ONSITE
	KEN SAYS THE EXHAUST IS PRETTY BAD GUZZLER ISN'T WORKING EFFICIENTLY
	THAT MOVING THE MATERIAL DOWNSTAIRS
	ISN'T WORKING VERY WELL - IT'S HEAVIER
	THAN EXPECTED, VERY MUDDY, CONCRETE IS
	VERY FINE & ABSORBING LOTS OF WATER.
	THE SCARIFIER IS WORKING BUT IT'S
	A LITTLE DIFFICULT TO MONITOR THE THICKNESS
	& WHERE IT'S PASSED OVER
	PAUL & SCOTT DECIDE TO SEND FOR A COUPLE
	OF BLOWERS TO HELP CIRCULATE THE AIR &
	A CO MONITOR; THEY'LL ROLL UP THE
	CURTAINS TO GIVE MORE FRESH AIR TO THE
	AREA, SINCE LITTLE TO NO DUST IS BEING
	GENERATED. WITH THE EXHAUST ISSUE DEALT
	WITH, THEY'LL USE THE GUZZLER TO VAC THE

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CIVIL AND ENVIRONMENTAL SOLUTIONS

Daily Field Report

Date	9-24-09
Project Name & Number	B84 MEZZANINE SCABBLING
Client	LMI
Work Description	SCABBLING / SCARIFYING FLOOR
Weather	SUNNY, WARM, BREEZY, Morning fog
Field Crew	N. BUSH
Pages	3 of 4

TIME	DESCRIPTION
	WASTE DOWN TO DRUMS, RATHER THAN USING THE
	SHOP VAC ~~TO~~ & CARRYING THE MATERIAL
11:15	DANIEL ONSITE (TRIHYDRO)
	LARRY OFFSITE & SCOTT OFFSITE
11:30	DANIEL & DAVE OFFSITE
	CH LABORERS CLEANING UP CONCRETE "muck",
	WAITING FOR BLOWERS & OTHER EQUIPMENT
	TO ARRIVE BEFORE SCABBLING CONTINUES
12:45	CH GUYS BACK WITH EQUIPMENT FOR CIRCULATING
	AIR, ETC.
12:50	PAUL OFFSITE
13:00	Daniel & DAVE ~~OFF~~ ONSITE, ALLISON SAYS ACTION
13:25	DAVE OFFSITE LEVEL IS 35 ppm
	CH GUYS TURN ON GUZZLER TO CLEAN
	CONCRETE SCARIFIED THIS MORNING
13:55	CO CHECKED UPSTAIRS = 4 ppm
	CO CHECKED AT DOOR DOWNSTAIRS = 8 ppm
14:20	START SCARIFIER
14:35	KEN & CH LABORERS COME DOWN, THE CO
	MONITOR IS PICKING UP 20-40 ppm
	THROUGHOUT THE UPSTAIRS & 150 ppm
	~~the~~ IN THE BREATHING AREA OF THE GUY

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Daily Field Report

Date	9-24-09
Project Name & Number	384 MEZZANINE SCABBLING
Client	LMI
Work Description	SCARIFYING MEZZANINE SURFACE
Weather	MORNING FOG, SUNNY, WARM, BREEZE
Field Crew	N. BUSIT
Pages	4 of 4

TIME	DESCRIPTION
	RUNNING THE SCARIFIER
	CALL TOM TO DISCUSS SHUTTING DOWN
	THE JOB FOR THE DAY
	DANIEL CALLS DAVE AS WELL DISCUSSES
	SHUTTING DOWN FOR THE DAY AS WELL
	AS OPTIONS OF REMOVING PLYWOOD
	FROM WINDOWS TO GET A CROSS BREEZE
	AND/OR GETTING AN ELECTRIC SCARIFIER
	TALK W/ KEN, SHUT DOWN FOR THE DAY,
	KEN SAYS CLEAN HARBORS ACTION LEVEL
	IS 12.5 ppm
14:45	CLEAN HARBORS CLEANS UP & OFFSITE
	SECURE SITE, CALL TOM & JEFF W/
	UPDATES
15:20	TRI-HYDRO & REMEDY OFFSITE

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CIVIL AND ENVIRONMENTAL SOLUTIONS

Daily Field Report

Date	9-25-09
Project Name & Number	B84 Mezzanine Scabbling
Client	LMI
Work Description	Scarifying Mezzanine Surface
Weather	Morning Fog
Field Crew	N. Bush
Pages	1 OF

TIME	DESCRIPTION
7:35	Trihydro & Remedy Onsite
7:55	CLEAN HARBORS ONSITE ; RON JONES (FOREMAN) & 5 OTHERS
	TAILGATE SAFETY MEETING (KEN IS SICK)
	HOSPITAL ROUTE PPE
	CO MONITORING "
	LIGHTING
	CH PLAN IS TO SWITCH TO 4" HOSES ON THE
	GUZZLER, & VAC UP THE WATER & EXHAUST,
	BUT LEAVE THE SOLIDS TO BE CLEANED UP
	LATER WHICH GIVES THEM MORE CAPACITY TO
	VENTILATE THE AREA, THEY'LL MONITOR
	CO & KEEP US UP TO DATE
8:25	CH STARTING TO SCARIFY THE SURFACE
8:30	CH STOPS GUZZLER
	CH CONNECTS GUZZLER DIRECTLY TO EXHAUST OF
	SCABBLER, CO ALL AROUND NOW READS 0 ppm,
	DANIEL CHECKED IT ALL OUT
8:45	CH SCARIFYING SURFACE AGAIN
9:30	CH TAKES BREAK, FIRST PASS ~ 70% COMPLETE
	CO = 0 ppm
	CH MAY STAGE A DRUM UPSTAIRS FOR MINOR
	CLEANUP WHEN NEEDED, WILL VAC OUT DRUM

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CIVIL AND ENVIRONMENTAL SOLUTIONS

Daily Field Report

Date	9-25-09
Project Name & Number	BS4 MEZZANINE SCABBLING
Client	LMI
Work Description	SCARIFYING MEZZANINE FLOOR
Weather	MORNING FOG
Field Crew	N. BRUSH
Pages	2 OF

TIME	DESCRIPTION
	DURING CLEANUP FOLLOWING FIRST PASS
9:50	STARTING SCABBLING AGAIN
	RON JONES OFFSITE, HE'LL BE BACK
10:05	DANIEL CHECKS CO = 0 ppm STILL
	SCOTT POUSARD ONSITE
10:50	CH TAKES A BREAK, SMALL PATCH LEFT (10 x 4 ft)
	THEY'LL SWEEP MATERIAL INTO PILES & SCOTT
	START SCARIFYING IN OTHER DIRECTION OFFSITE
11:00	CONTINUE SCARIFYING, CALL TOM W/ UPDATE
11:25	FINISH SCARIFYING LONG DIRECTION, HECTOR OFFSITE TO
	GET LUNCH; LABORERS SWEEPING UP, CO METER
	STILL READING 0 ppm
12:10	HECTOR ONSITE, GUY FINISHED CLEANING UP
	LOOKS LIKE THE REMAINING SURFACE LAYER
	WILL COME UP EASILY W/ NEXT PASS OF
	SCARIFIER, THEY WERE ABLE TO SCRAPE
	OFF A LARGE PORTION W/ A SHOVEL.
	QUESTION IS WHETHER TO SCARIFY INTO
	THE POLISHED CONCRETE UNDERNEATH
	CALL & LEAVE MESSAGE FOR TOM
	DECIDE FOR NOW TO JUST REMOVE THE
	LEVELING SURFACE, SCRAPING W/ SHOVELS &

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Daily Field Report

Date	9-25-09
Project Name & Number	P089 MEZZANINE SCABBLING
Client	LMI
Work Description	Scarifying Mezzanine Surface
Weather	Morning Fog
Field Crew	W. Bush
Pages	3

TIME	DESCRIPTION
	WETTING AS NECESSARY TO KEEP DUST DOWN.
12:40	REMEDY OFFSITE

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CIVIL AND ENVIRONMENTAL SOLUTIONS

Daily Field Report

Date	9-28-09
Project Name & Number	B84 Mezzanine Floor Scabbling
Client	LMI
Work Description	Scabbling Mezzanine Floor
Weather	Windy, Sunny, Cool
Field Crew	N Brush
Pages	1 of 2

TIME	DESCRIPTION
9:30	Remedy Onsite
	TRIHYDRO & CLEAN HARBORS ONSITE
	CH HAS BEEN REMOVING THE SURFACE
	LAYER OF CONCRETE USING CHISEL HAMMERS
	W/ WIDE FLAT TOOL (ie not a sharp chisel) &
	SCRAPING OFF THE MATERIAL. THE EAST
	END OF THE FLOOR, WHICH IS THINNER
	(~ 0.25 - 0.5 inches) IS MORE DIFFICULT TO
	REMOVE THAN THE WEST END (1 - 1.5 inches
	THICK). THEY HAVE ~ 5 FEET OF THE
	EAST END TO FINISH. CH IS USING THE
	HOSE FROM THE SCARIFIER TO KEEP THE
	MATERIAL WET.
	ALL MATERIAL IS STILL UPSTAIRS, CURRENT
	PLAN IS TO USE THE GUZZLER TO REMOVE
	WASTE FROM UPSTAIRS WHEN ALL THE
	FLOOR HAS BEEN REMOVED
10:45	FINISH REMOVING SURFACE LAYER, EXCEPT NEAR
	STAIRWAY AT WEST END OF FLOOR.
11:00	REMOVE SURFACE CONCRETE NEAR STAIRS & START
	VACCING OUT WASTE INTO DRUMS
12:10	LUNCH, FINISHED BREAKING UP/ REMOVING CONCRETE

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CIVIL AND ENVIRONMENTAL SOLUTIONS

Daily Field Report

Date	9-28-09
Project Name & Number	884 MEZZANINE SCABBLING
Client	LMI
Work Description	SCABBLING 884 MEZZANINE FLOOR
Weather	WINDY, SUNNY, COOL
Field Crew	N. BUSH
Pages	2 OF 2

TIME	DESCRIPTION
	PAUL, CH SAFETY GUY ONSITE
12:40	PAUL OFFSITE, HE TOLD DANIEL EVERYTHING
	LOOKED GOOD, LOOKED LIKE THEY COULD BE
	DONE TODAY BUT THEY MAY NOT HAVE ENOUGH
	DRUMS
13:30	CONTINUE VACCING WASTE OFF MEZZANINE
14:00	FINISH VACCING WASTE, 10 DRUMS FULL & 1 DRUM
	1/3 FULL WITH LEAD PAINT WASTE
	SURFACE NEAR STAIRS IS HARDER CONCRETE, WILL
	FINISH JACK HAMMERING TOMORROW
	CALL TOM W/ UPDATE
14:50	CLEAN HARBORS OFFSITE
	LOCK & SECURE SITE
15:00	TRIHYDRO & REMEDY OFFSITE
	NOTE: WATER DOES LEAK THROUGH FLOOR TO DRIP
	BELOW NOW THAT SURFACE LAYER HAS BEEN
	REMOVED

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CIVIL AND ENVIRONMENTAL SOLUTIONS

Daily Field Report

Date	9-29-09
Project Name & Number	B84 MEZZANINE SCABBLING
Client	LMI
Work Description	SCABBLING MEZZANINE FLOOR
Weather	WINDY, PARTLY CLOUDY, COOL
Field Crew	N. BUSH
Pages	1 of 2

TIME	DESCRIPTION
8:00	REMEDY ONSITE, CLEAN HARBORS ONSITE
	UNLOADING DRUMS
	TAILGATE SAFETY MEETING COMPLETED BY CH
	MOVING DRUMS TRASH
	DUST
	NOISE
8:25	DANIEL (TRIHYDRO) ONSITE
	CH MOVING / REARRANGING DRUMS
	START REMOVING LAST OF CONCRETE SURFACE
	SCOTT POUSARD ONSITE
	RON JONES ONSITE W/ PROFILES FOR DISPOSAL
	CHECK EPA GENERATOR #. CH APPEARS TO
	HAVE A GENERIC # (CACESQG99999), CONTRACT
	SAYS TO USE CAR000123117
	GAVE SCOTT POUSARD CORRECT #
9:15	SCOTT OFFSITE
9:30	START VACCING UP MATERIAL
10:45	CH DONE REMOVING LAST ON CONCRETE SURFACE NEAR
	STAIRS & DONE VACCING OUT MOST OF MATERIAL
	INTO DRUMS
12:00	CH DONE CLEANING FLOOR, RINSED FLOORS & LOWER WALLS
	TO REMOVE AS MUCH FINE MATERIAL AS POSSIBLE

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CIVIL AND ENVIRONMENTAL SOLUTIONS

Daily Field Report

Date	9-29-09
Project Name & Number	889 MEZZANINE SCABBLING
Client	LMI
Work Description	SCABBLING MEZZANINE FLOOR
Weather	WINDY, PARTLY CLOUDY, COOL
Field Crew	N. BRUSH
Pages	2 OF 2

TIME	DESCRIPTION
	12 FULL DRUMS, 2 DRUMS HALF FULL TODAY
	FLOOR LOOKS GOOD, MAY BE A VERY FINE
	PATCHY LAYER LEFT, BUT VERY LITTLE
	CLEANUP & PACKUP SUPPLIES, HOSES, TRASH, ETC
13:15	CH BIN FOR HOSES, VISQUEEN, & OTHER WASTE
	ONSITE
	CH GUYS ARE LOADING BIN & EQUIPMENT IN TRUCKS
	29 drums of concrete waste — DRUMS LABELED w/ SHARPIE
	1 drum of water
	1 drum (1/3 FULL) w/ lead paint chips
	RON JONES OFFSITE - LABELS FOR DRUMS AREN'T
	READY, BUT SHOULD BE LATE TODAY OR
	FIRST THING TOMORROW; THEY NEED AN APPT
	IN BUTTONWILLOW FOR DISPOSAL; WASTE SHOULD
	BE OFFSITE BY FRIDAY
	CHECK IN BUILDING FOR MISSED TOOLS, EQUIPMENT,
	TRASH
	LOCK BUILDING
14:50	CLEAN HARBORS OFFSITE
15:00	REMEDY & TRIHYDRO OFFSITE

REMEDY
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CIVIL AND ENVIRONMENTAL SOLUTIONS

Daily Field Report

Date	10-6-09
Project Name & Number	B84 Mezzanine PCB
Client	LMI
Work Description	CONCRETE SAMPLING
Weather	Sunny, Cool
Field Crew	N. Bush, T. Morris
Pages	1 OF 2

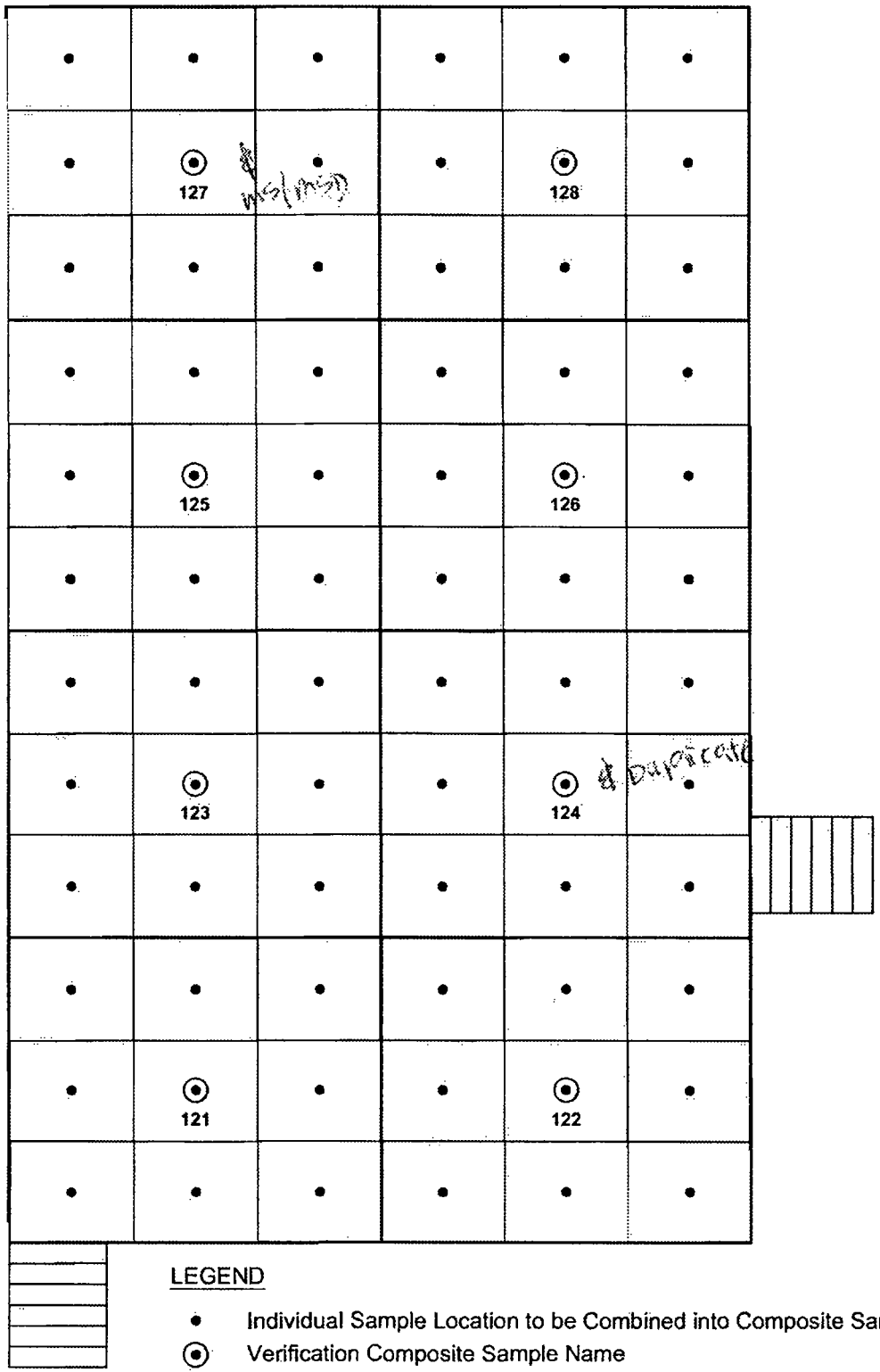
TIME	DESCRIPTION
9:20	REMEDY ONSITE
	- TAILGATE SAFETY MEETING
	- SETUP GENERATOR & LIGHTS ON MEZZANINE
	- MARK OFF 15 X 15 FOOT GRID (& 5 X 5 FT GRIDS W/IN LARGER FOR COLLECTING 9 POINT COMPOSITE SAMPLES)
	- USE DISTILLED WATER & PAPER TOWELS TO WIPE OFF ALL DRILL LOCATIONS
	- CHIP SAMPLES COLLECTED USEING A DRILL HAMMER W/ A CHISEL BIT
	- CHIPS COLLECTED FROM EACH OF THE 9 POINTS W/IN THE 15 X 15 FOOT GRID AREAS
	- CHIPS COLLECTED IN LAB SUPPLIED CONTAINERS
10:20	START DRILLING 9 POINTS FOR B84MEZZRE0121
	- JEFF CONTINUES DRILLING ALL POINTS, DECONNING CHISEL W/ SIMPLE GREEN & DISTILLED WATER BETWEEN EACH SAMPLE (GRID) AREA
10:40	COLLECT SAMPLE B84MEZZRE0121
10:55	COLLECT SAMPLE B84MEZZRE0122
11:05	COLLECT SAMPLE B84MEZZRE0123

REMEDY
ENGINEERING, INC.
CIVIL AND ENVIRONMENTAL SOLUTIONS

Daily Field Report

Date	10-6-09
Project Name & Number	B84 MEZZANINE PCB
Client	LMI
Work Description	CONCRETE SAMPLING
Weather	Sunny Cool
Field Crew	N. Bush, J. Morris
Pages	2 OF 2

TIME	DESCRIPTION
11:15	COLLECT SAMPLE B84MEZZRE0124 &
	DUPLICATE B84MEZZRE0124D
11:45	COLLECT SAMPLE ~~B84~~ B84MEZZRE0125
11:55	COLLECT SAMPLE B84MEZZRE0126
	NOTICE A POSSIBLE "OILY" STAIN IN
	MIDDLE OF MEZZANINE FLOOR, BTWN
	125 & 126; FLOOR IS DARKER IN
	COLOR & SLIGHTLY GLISTENS IN A
	2 x 2 FOOT AREA
12:05	COLLECT SAMPLE B84MEZZRE0127 &
	MS/MSD SAMPLE B84MEZZRE0127MS
12:15	COLLECT SAMPLE B84MEZZRE0128
	LUNCH
	CLEANUP, SWEEP UP REMAINING CHIPS & DUST
	LABEL SAMPLE LOCATIONS ON FLOOR
	ALL WASTE (CHIPS, DUST, PAPER TOWELS, ETC) PUT
	IN 55-GALLON DRUMS STILL ONSITE
	FROM REMOVAL OF FLOOR SURFACE
	JEFF TO DELIVER SAMPLES TO LAB IN BERKELEY
15:50	REMEDY OFFSITE



LEGEND

- Individual Sample Location to be Combined into Composite Sample
- Verification Composite Sample Name
- Composite Sampling Area

Notes: Individual sample areas measure approximately 1.5 by 1.5 meters
Sample names will be prefixed by B84MEZZRE

FIGURE 4
LOCATION OF COMPOSITE VERIFICATION SAMPLES, BUILDING 84 MEZZANINE
Lennar Mare Island, Vallejo, California

REMEDY ENGINEERING, INC.

MI-BUILDING84SAMPLING.DWG

Curtis & Tompkins, Ltd.
Analytical Laboratory Since 1878
2323 Fifth Street
Berkeley, CA 94710
(510) 486-0900 Phone
(510) 486-0532 Fax

CHAIN OF CUSTODY

C & T LOGIN #: _____

Sampler: [illegible]

Project No.: [illegible]

Report To: [illegible]

Project Name: [illegible]

Company: [illegible]

Project P.O.: [illegible]

Telephone: 530-241-7658

Turnaround Time: [illegible]

Fax: 530-241-7659

Lab No.	Sample ID.	Sampling Date Time	Matrix: Soil	Matrix: Water	Matrix: Waste		# of Containers	Preservative: HCL	Preservative: H_2SO_4	Preservative: HNO_3	Preservative: ICE		Analysis: PCB
	[illegible]	[illegible] 10:40			X		1				X		X
	[illegible]	[illegible] 10:55			X		1				X		X
	[illegible]	[illegible] 11:05			X		1				X		X
	[illegible]	[illegible] 11:15			X		1				X		X
	[illegible]	[illegible] 11:35			X		1				X		X
	[illegible]	[illegible] 11:45			X		1				X		X
	[illegible]	[illegible] 11:55			X		1				X		X
	[illegible]	[illegible] 12:05			X		1				X		X
	[illegible]	[illegible] 12:05			X		1				X		X
	[illegible]	[illegible] 12:15			X		1				X		X

Notes:
SAMPLES ARE CONCRETE [illegible]/DUST

SAMPLE RECEIPT
☐ Intact ☐ Cold
☑ On Ice ☐ Ambient

Preservative Correct?
☐ Yes ☐ No ☐ N/A

RELINQUISHED BY:
[signature] 10/6/09 13:40 DATE / TIME
[signature] 10/6/09 1700 DATE / TIME
DATE / TIME

RECEIVED BY:
[signature] 10/6/ DATE / TIME
[signature] 10/6/09 DATE / TIME
DATE / TIME

REMEDY
ENGINEERING, INC.
CIVIL AND ENVIRONMENTAL SOLUTIONS

Daily Field Report

Date	1-6-09 → 1-8-09
Project Name & Number	B84 INDOOR VENTILATION / 101204
Client	LENNAR MARE ISLAND
Work Description	BUILDING VENTILATION
Weather	CLOUDY COOL
Field Crew	N. BUSH
Pages	1 OF 2

TIME	DESCRIPTION
8:00	ERRG ONSITE, BUILDING OPENED (NORTH,
	SOUTH, & SMALL EAST DOOR)
	ERRG SETTING UP FANS
9:15	FANS UP & RUNNING FOR 48 HOUR
	VENTILATION
9:30	ERRG OFFSITE
	REMEDY REMAINS ONSITE TO MONITOR
	BUILDING SECURITY DURING DAY
19:00	ERRG ONSITE TO MONITOR NIGHTTIME
	BUILDING SECURITY
19:05	REMEDY OFFSITE
	1-7-09
07:00	REMEDY ENGINEERING ONSITE FOR DAYTIME
	SECURITY; ALL FANS RUNNING WELL
7:05	ERRG OFFSITE
	RETAPE PLASTIC AROUND WINDOWS WHERE
	OLD PLASTIC HAS FALLEN OFF, IN
	PREPARATION FOR SEALING THE BUILDING
	TOMORROW
2:30	Neal Siler onsite TO SEE HOW THINGS ARE

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Daily Field Report

Date	1-6-10 → 1-8-10
Project Name & Number	B89 INDOOR VENTILATION / 101204
Client	LMI
Work Description	BUILDING VENTILATION
Weather	CLOUDY COOL
Field Crew	N. BUSH
Pages	2 of 2

TIME	DESCRIPTION
	GOING ~~&~~ TO CONFIRM REMAINDER
	OF PLAN (FINISH VENTILATING FRIDAY
	MORNING, SEAL BUILDING OVER
	WEEKEND, AIR SAMPLING MONDAY-TUESDAY).
	NEAL SILER OFFSITE
19:00	ERRG ONSITE
	REMEDY OFFSITE
	1-8-09
07:00	REMEDY ONSITE
	ERRG TAKES DOWN FANS, REPLACES
	PLYWOOD DOOR AT NORTH END OF
	BUILDING
8:30	ERRG OFFSITE
	~~SEAL~~ COVER NORTH & SOUTH DOORS W/
	PLASTIC
9:45	CLOSE & LOCK ALL DOORS
	OFFSITE

REMEDY
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CIVIL AND ENVIRONMENTAL SOLUTIONS

Daily Field Report

Date	1-11-10
Project Name & Number	B84 PCB Mezzanine Site
Client	LMI
Work Description	INDOOR AIR SAMPLING
Weather	CLOUDY, Drizzling, Windy
Field Crew	N. Bush
Pages	1 of 5

TIME	DESCRIPTION
9:30	REMEDY ONSITE
	- BEGIN SETTING UP EQUIPMENT
	- AIRMETRICS MINIVOL SAMPLERS WERE STRAPPED TO THE TOP OF 6 FOOT LADDERS IN TWO LOCATIONS. FILTERS WERE PRE-WEIGHED BY AIRMETRICS & INSTALLED IN THE SAMPLERS ONSITE BY REMEDY PERSONNEL. SAMPLERS WERE PRE-CALIBRATED BY AIRMETRICS
	- AIRCON2 HIGH VOLUME SAMPLERS WERE SETUP IN THREE LOCATIONS. SAMPLER CONSISTED OF ONE AIRCON2 PUMP (WITH RUN TIME CLOCK), 2 MARINE BATTERIES (PIGGY-BACKED), TRIPOD TO SUSPEND PUFF CARTRIDGE ~4 FEET ABOVE GROUND, PUFF CARTRIDGE, & TEFLON TUBING CONNECTING PUFF CARTRIDGE TO AIRCON2 PUMP.
	- AIRCON2 PUMPS WERE CALIBRATED ONSITE BY REMEDY PERSONNEL USING A GILIBRATOR PUMP CALIBRATOR (SOAP FILM GAS FLOW METER). EACH PUMP WAS CALIBRATED TO ~5 L/min. SEE ATTACHED DATA SHEETS FOR MORE DETAILS.

REMEDY
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CIVIL AND ENVIRONMENTAL SOLUTIONS

Daily Field Report

Date	1-11-10
Project Name & Number	B84 PCB MEZZANINE SITE
Client	LMI
Work Description	INDOOR AIR SAMPLING
Weather	CLOUDY, SPRINKLES, WINDY
Field Crew	N. Bush
Pages	2 of 5

TIME	DESCRIPTION
13:41	TURN ON PUMPS & START SAMPLERS FOR
	B84 AIR RE 100 (PCB) & B84TSPRE100 (TSP)
13:43	TURN ON PUMPS & START SAMPLERS FOR
	B84AIRRE 101 (PCB) & B84TSPRE101 (TSP)
	& B84TSPRE101D (TSP DUPLICATE)
13:45	TURN ON PUMPS & START SAMPLERS FOR
	B84AIRRE102 (PCB) & B84AIRRE102D (PCB DUPLICATE)
14:00	REMEDY OFFSITE
15:20	REMEDY ONSITE TO CHECK SAMPLERS - ALL
	LOOK GOOD, TIMERS INDICATE ~1.6 TO 1.7
	HOURS OF SAMPLING TIME
15:30	REMEDY OFFSITE
21:45	REMEDY ONSITE TO CHECK SAMPLERS & FLOW RATES
	ALL SAMPLERS LOOK GOOD TIMERS INDICATE
	~8 hrs & 10 minutes OF RUN TIME
	EXCEPT B84AIRRE101 WHICH STOPPED
	RUNNING AFTER 7:20, DISCONNECT BATTERY
	FROM B84AIRRE 102D @ 8:17 TO CHECK
	PUMP FOR B84AIRRE101; ~~BAT~~ PUMP(101) TURNED ON;
	RECONNECT BATTERY TO 102D AFTER ~10 minutes
	DISCONNECTED. RECONNECT ORIGINAL
	BATTERIES TO 101, TURN PUMP ON.

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CIVIL AND ENVIRONMENTAL SOLUTIONS

Daily Field Report

Date	1-11-10 TO 1-12-10
Project Name & Number	B84 PCB MEZZANINE SITE
Client	LMI
Work Description	INDOOR AIR SAMPLING
Weather	CLOUDY, DRIZZLING, BREEZY
Field Crew	N. BUSH
Pages	3 of 5

TIME	DESCRIPTION
	RECALIBRATE ALL PUMPS W/ BUBBLE
	METER, SEE FIELD DATA SHEETS FOR DATA.
22:30	REMEDY OFFSITE
	1-12-10
5:45	REMEDY ONSITE TO CHECK PUMPS & FLOW RATES
	B84AIRRE100 - RUN TIME = 16 hrs 11 min
	B84AIRRE101 - STOPPED AFTER 7 hrs 27 minutes
	B84AIRRE102 - RUN TIME = 16 hrs 13 mins
	B84AIRRE102D - STOPPED AFTER 12 hrs 30 mins
	- CHECK FLOW RATES & RECALIBRATE 100 & 102.
	- TRY TO RESTART 101 & 102D, NEITHER
	PUMP RUNS FOR MORE THAN 2 MINUTES
	BEFORE STOPPING AGAIN
	- DISCONNECT BATTERIES FROM 101 & 102D, TAKE
	BATTERIES BACK TO RENTAL COMPANY (EQUIPCO)
	IN CONCORD
7:00	REMEDY OFFSITE
8:20	REMEDY ONSITE W/ NEW BATTERIES & BACKUPS
	- REPLACE BATTERIES ON 101 & 102D
8:33	RESTART & CALIBRATE FLOW FOR B84AIRRE101
8:41	RESTART & CALIBRATE FLOW FOR B84AIRRE 102D
8:50	REMEDY OFFSITE

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ENGINEERING, INC.
CIVIL AND ENVIRONMENTAL SOLUTIONS

Daily Field Report

Date	1-12-10
Project Name & Number	B84 PCB Mezzanine Site
Client	LMI
Work Description	Indoor Air Sampling
Weather	Cloudy, Lite Rain, Breezy
Field Crew	N. Bush
Pages	4 of 5

TIME	DESCRIPTION
11:45	REMEDY ONSITE TO CHECK PUMPS. ALL PUMPS
	LOOK GOOD EXCEPT B84AIRRE102D WHICH
	STOPPED AFTER 2 hrs 43 minutes
11:48	RESTARTED PUMP
11:52	PUMP STOPPED
	- REPLACED BATTERY
11:53	RESTARTED PUMP FOR B84AIRRE 102D
11:55	REMEDY OFFSITE
13:45	REMEDY ONSITE
	ALL PUMPS RUNNING
13:49	STOP SAMPLER FOR B84AIRRE100 & B84TSPRE100
	TOTAL SAMPLE TIME 24 hrs 1 minute
13:55	STOP SAMPLER FOR B84AIRRE102
	TOTAL SAMPLE TIME 24 hrs 1 minute
13:57	STOP ~~TOTAL~~ SAMPLERS B84TSPRE101 & B84TSPRE101D
13:59	WHILE CHECKING/RECALIBRATING B84AIRRE102D
	PUMP STOPPED W/ APPARENT DEAD BATTERY
	AFTER 2 hr 6 minutes
	- REPLACED 102D PUMP W/ PUMP FROM 102
	- CALIBRATE PUMP
14:11	RESTART B84AIRRE102D W/ NEW PUMP & BATTERIES
14:15	TURN OFF SAMPLER FOR B84AIRRE101 AFTER 5 hrs
	& 41 minutes

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ENGINEERING, INC.
CIVIL AND ENVIRONMENTAL SOLUTIONS

Daily Field Report

Date	1-12-10 to 1-13-10
Project Name & Number	B84 PCB Mezzanine Site
Client	LMI
Work Description	Indoor Air Sampling
Weather	Cloudy, Rainy, Cool
Field Crew	N. Bush
Pages	5 of 5

TIME	DESCRIPTION
	– REPLACE 101 PUMP W/ PUMP FROM 100
	– RECALIBRATE PUMP
14:20	RESTART B84AIRRE101 w/ NEW PUMP
14:30	REMEDY OFFSITE
19:10	REMEDY ONSITE BOTH PUMPS RUNNING
19:14	CHECK / RECALIBRATE B84AIRRE101 FLOW
~~[illegible]~~	
19:20	REMEDY OFFSITE
21:00	REMEDY ONSITE – BOTH PUMPS RUNNING
21:03	STOP SAMPLER B84AIRRE102D AFTER CHECKING FLOW
	– TOTAL SAMPLE TIME = 24 hours
	– PACK UP SAMPLE & 102D EQUIPMENT
21:20	REMEDY OFFSITE
	1-13-10
1:10	REMEDY ONSITE – SAMPLER RUNNING,
1:14	STOP SAMPLER B84AIRRE101 & CHECK FINAL FLOW
	– TOTAL SAMPLE TIME = 24 HOURS
	– PACK UP SAMPLE & REMAINING EQUIPMENT
1:30	REMEDY OFFSITE

1st CHECK (1-11-10 @ 15:20)

SAMPLE	TSP	PUFF	TIME
100	401.4	1:39	15:20
101	184.9	1:38	15:22
101D	470.2	—	15:24
102	—	1:36	15:23
102D	—	1:36	15:23

9:45 CHECK (1-11-10 @ 21:45)

SAMPLE	FLOW	TSP TOTALIZER	PUFF TOTALIZER	TIME PUFF PUMP OFF	TIME PUFF PUMP ON
100	4.910	407.8	8:05	9:~~49~~/8:06	9:50/8:08
101	5.020	195.4			
101D	—	476.7	—	—	—
102	4.702	—	8:10	9:54/8:09	~~9:54/8:09~~ 9:56/8:10
102D	4.788	—	8:12	9:57/8.10	9:59/8:12

REMOVED BATTERY FROM 102D TO TEST 101. STOPPED @ 8:17; OFF FOR ~~8~~ 10 MINS

Increase 102 4.909

BATTERY/ PUMP STOPPED ON 101 AFTER ABOUT 7:20 HOURS; RESET & RECALIBRATED @ 10:12

Increase 102D 5.060

1/12/09 ↗ in am

5:45 CHECK

(2)

SAMPLE	FLOW	TSP TOTAL	PUFF TOTAL	TIME PUFF OFF	TIME PUFF ON
100	4.918	415.9 @ 5:53	16:11	5:54 / 16:11	5:56 / 16:13
101	"	203.5 @ 5:51			
101D	—	484.8 @ 5:59	—	—	—
102	5.011	—		6:00 / 16:12	6:02 / 16:15
102D		—			

102D STOPPED AFTER 4:13 hrs

101 STOPPED AFTER 0:07 mins

~~102D DISCONNECT FROM BATTERY @~~

102D RESTART AT 6:06 – STOPPED AGAIN @ 6:09

101 RESTART AT 6:06 – STOPPED AGAIN @ 6:07

101 4.948 START @ 8:33 w/ NEW BATTERIES

102D 4.925 START @ 8:41 w/ NEW BATTERIES

TOTAL PUFF RUN TIMES AS OF 1/12/09 in am (w/ all running)

100 - 16:08

101 - 7:27

102 - 16:11

102D - 12:16

CHECK ALL AT 11:45 – ALL LOOK GOOD WHICH EXCEPT 102D STOPPED AFTER 2:43 running; RESTARTED AT 11:46 STOPPED AT 11:52; REPLACED BATTERY @ 11:53 Ran for 0:03 minutes

1/12/10 → (in afternoon at 13:45)
1:45 CHECK & STOP

③

SAMPLE	FLOW	TSP TOTAL	PUFF TOTAL	TIME OFF	TIME PUFF ON
100	4.930	423.8/13:42	24:05	13:49	—
101	4.909		5:41	14:15	14:20
101D	—	492.6/13:45	—	—	—
102	4.962	—	24:07	13:55	—
102D	4.648	—	2:06	13:59	14:11

↑ Battery stopped while adjusting flow

ad~~justed to~~ ~~5:15~~

Switched to 102 pump @ 4.962 lpm

101 adjusted to 4.968 w/ new pump (from 100)

FOR 102D needs to run 6:52 to meet 24 hr goal @ ~9:03 pm

FOR 101 NEEDS TO RUN 10:52 HOURS TO MEET 24 HR GOAL @ ~1:07 am

100 USED PUMP AIRCON 2.12 (101 FINISHED W/ THIS PUMP)

101 STARTED W/ PUMP AIRCON 2.23

102D STARTED W/ PUMP AIRCON 2-EBAY.30

102 USED PUMP AIRCON 2.13 (102D FINISHED W/ THIS PUMP)

100 13:44 / 13:41
101 13:43
101D 13:43
102 13:49
102D

1/12/10 EVENING CHECKS

SAMPLE	FLOW	PUMP TOTAL	TIME OFF	TIME ON	NEW FLOW
101	4.187	4:53	19:14	19:16 / 4:55	5.182
102D	4.840	6:52	~~9:03~~ 21:03 rain - windy, N	—	—
101	4.101	4:18 (+6:34)	1:14 windy East (1-13-10)	—	—

	SAMPLE TIME ~~SAMP~~
100 = 1 →	1/12/10 13:49
101 = 2 →	1/13/10 1:14
102 = 3 →	1/12/10 13:55
102D = 3D →	1/12/10 ~~9:03~~ 21:03

AT 7:15 102D WAS AT 6:02 (1hr 50 min left) 9:05
& 101 WAS AT 4:52 (6 hr left)

AT 6:34 ON 101 - SWITCH BATTERIES @ 8:55

10:52
6:34
4:18

B84AIRRE100 ≡ B84IARE1

Mare Island
PCB Puff Cartridge Sampling
Field Data Sheet

STATION/LOCATION B84AIR RE100 **Sampler S/N** _____ **Battery S/N** _____

FIELD TECHNICIAN (start/end of monitoring): N. Brusit

DATE OF FILTER INSTALLATION: 01-11-10

FILTER NUMBER: _____

	Mo	day	yr	hr	min	Totalizer	Indicated flow (lpm)
SAMPLE START TIME	01	11	2010	13	41	0:00	4.987
SAMPLE STOP TIME	01	12	2010	13	49	24:05	4.930

DATE OF FILTER COLLECTION: ~~10~~ 01-12-10

Weather Observations:

Start of Monitoring Period

Wind: __ calm __ light __ gusty X NA __ **Observed Wind Direction** NE to E
Visibility: __ clear __ hazy __ NA X **Sky:** __ clear __ scattered X overcast __ NA
Humidity: 90 % **Temperature, ~~C~~ F:** 47
Barometric Pressure : 30.07

End of Monitoring Period

Wind: __ calm X light __ gusty __ NA **Observed Wind Direction** _____
Visibility: __ clear __ hazy X NA **Sky:** __ clear X scattered __ overcast __ NA
Humidity: 83% **Temperature, ~~C~~ F:** 60
Barometric Pressure : 29.98

One point flow check

Initially USE DRY CAL to set flow rate to 5 liters per minute.

Verify Starting Flowrate - 4.987 **(dry cal reading – this should be very close to 5 liters per minute, if not adjust flowrate to 5 lpm)**

Ambient Temperature 47°F Barometric Pressure 30.07

Verify 8 hour Flowrate - 4.910 **(dry cal reading – this should be very close to 5 liters per minute, if not adjust flowrate to 5 lpm)**

Ambient Temperature 43°F Barometric Pressure 30.01

Verify 16 hour Flowrate - 4.918 **(dry cal reading – this should be very close to 5 liters per minute, if not adjust flowrate to 5 lpm)**

Ambient Temperature 51°F Barometric Pressure 29.97

Verify Ending Flowrate - 4.930 **(dry cal reading** must be between 4.5 lpm and 5.5 lpm - if not mark the sample as suspect.)

Ambient Temperature 60°F Barometric Pressure 29.98

Remarks

Ran non-stop for 24 hour collection period

B84AIRRE101 = B84IARE2

Mare Island
PCB Puff Cartridge Sampling
Field Data Sheet

STATION/LOCATION B84AIRRE101 **Sampler S/N** _____ **Battery S/N** _____

FIELD TECHNICIAN (start/end of monitoring): N. BUSH

DATE OF FILTER INSTALLATION: 01-11-2010

FILTER NUMBER: _____

	Mo	day	yr	hr	min	Totalizer	Indicated flow (lpm)
SAMPLE START TIME	01	11	2010	13	43	0:00	5.003
SAMPLE STOP TIME	01	13	2010	01	14		4.101

DATE OF FILTER COLLECTION: 01-13-10

Weather Observations:

Start of Monitoring Period

Wind: __ calm __ light __ gusty X NA __ **Observed Wind Direction** NE to E
Visibility: __ clear __ hazy __ NA X **Sky:** __ clear __ scattered X overcast __ NA
Humidity: 90 % **Temperature, ~~C~~ F:** 47
Barometric Pressure : 30.07

End of Monitoring Period

Wind: __ calm X light __ gusty __ NA **Observed Wind Direction** _____
Visibility: __ clear __ hazy X NA **Sky:** __ clear __ scattered X overcast __ NA
Humidity: 94% **Temperature, ~~C~~ F:** 55
Barometric Pressure : 29.89

One point flow check

Initially USE DRY CAL to set flow rate to 5 liters per minute.

Verify Starting Flowrate - 5.003 **(dry cal reading – this should be very close to 5 liters per minute, if not adjust flowrate to 5 lpm)**

Ambient Temperature 47° F Barometric Pressure 30.07

Verify 8 hour Flowrate - 5.020 **(dry cal reading – this should be very close to 5 liters per minute, if not adjust flowrate to 5 lpm)** ↳ AFTER RESETTING PUMP WHICH STOPPED AFTER 7:20 HRS

Ambient Temperature 43° F Barometric Pressure 30.01

Verify 16 hour Flowrate - 4.909 **(dry cal reading – this should be very close to 5 liters per minute, if not adjust flowrate to 5 lpm)**

Ambient Temperature 60° F Barometric Pressure 29.98

Verify Ending Flowrate - 4.101 **(dry cal reading must be between 4.5 lpm and 5.5 lpm - if not mark the sample as suspect.)**

Ambient Temperature 55° F Barometric Pressure 29.89

Remarks

Batteries & pumps stopped throughout sampling/collection period. Total time required to collect 24-hr sample → 35 hrs & 29 minutes.

B84AIRRE102 ≡ B84IARE3

Mare Island
PCB Puff Cartridge Sampling
Field Data Sheet

STATION/LOCATION B84AIRRE102 **Sampler S/N** _____ **Battery S/N** _____

FIELD TECHNICIAN (start/end of monitoring): N. Bush

DATE OF FILTER INSTALLATION: 01-11-10

FILTER NUMBER: _____

	Mo	day	yr	hr	min	Totalizer	Indicated flow (lpm)
SAMPLE START TIME	01	11	2010	13	45	0:00	5.056
SAMPLE STOP TIME	01	12	2010	13	55	24:07	4.062

DATE OF FILTER COLLECTION: _____

Weather Observations:

Start of Monitoring Period

Wind: __ calm __ light __ gusty X NA __ **Observed Wind Direction** NE to E
Visibility: __ clear __ hazy __ NA X **Sky:** __ clear __ scattered X overcast __ NA
Humidity: 90 % **Temperature, ~~C~~ F:** 47
Barometric Pressure : 30.07

End of Monitoring Period

Wind: __ calm X light __ gusty __ NA **Observed Wind Direction** _____
Visibility: __ clear __ hazy X NA **Sky:** __ clear X scattered __ overcast __ NA
Humidity: 83% **Temperature, ~~C~~ F:** 60
Barometric Pressure : 29.98

One point flow check

Initially USE DRY CAL to set flow rate to 5 liters per minute.

Verify Starting Flowrate - 5.056 **(dry cal reading – this should be very close to 5 liters per minute, if not adjust flowrate to 5 lpm)**

Ambient Temperature 47° F Barometric Pressure 30.07

Verify 8 hour Flowrate - 4.702 **(dry cal reading – this should be very close to 5 liters per minute, if not adjust flowrate to 5 lpm)** reset flow rate to 4.909

Ambient Temperature 43° F Barometric Pressure 30.01

Verify 16 hour Flowrate - 5.011 **(dry cal reading – this should be very close to 5 liters per minute, if not adjust flowrate to 5 lpm)**

Ambient Temperature 51° F Barometric Pressure 29.97

Verify Ending Flowrate - 4.062 **(dry cal reading must be between 4.5 lpm and 5.5 lpm - if not mark the sample as suspect.)**

Ambient Temperature 60° F Barometric Pressure 29.98

Remarks

Ran non-stop for 24 hour collection period.

B84MRRE102D = B84IARE3D

Mare Island
PCB Puff Cartridge Sampling
Field Data Sheet

STATION/LOCATION B84AIR RE 102D Sampler S/N _____ Battery S/N _____

FIELD TECHNICIAN (start/end of monitoring): N. Busil

DATE OF FILTER INSTALLATION: 01-11-10

FILTER NUMBER: _____

	Mo	day	yr	hr	min	Totalizer	Indicated flow (lpm)
SAMPLE START TIME	01	11	2010	13	45	8:00	4.930
SAMPLE STOP TIME	01	12	2010	21	03		4.840

DATE OF FILTER COLLECTION: _____

Weather Observations:

Start of Monitoring Period

Wind: __ calm __ light __ gusty X NA __ Observed Wind Direction NE to E
Visibility: __ clear __ hazy __ NA X Sky: __ clear __ scattered X overcast __ NA
Humidity: 90 % Temperature, °F: 47
Barometric Pressure: 30.07

End of Monitoring Period

Wind: __ calm X light __ gusty __ NA Observed Wind Direction _____
Visibility: __ clear __ hazy X NA Sky: __ clear __ scattered X overcast __ NA
Humidity: 93% Temperature, °F: 56
Barometric Pressure: 29.92

One point flow check

Initially USE DRY CAL to set flow rate to 5 liters per minute.

Verify Starting Flowrate - 4.930 **(dry cal reading – this should be very close to 5 liters per minute, if not adjust flowrate to 5 lpm)**

Ambient Temperature 47° F Barometric Pressure 30.07

Verify 8 hour Flowrate - 4.788 **(dry cal reading – this should be very close to 5 liters per minute, if not adjust flowrate to 5 lpm)** reset flow rate to 9.060

Ambient Temperature 43° F Barometric Pressure 30.01

Verify 16 hour Flowrate - ~~4.905~~ 4.962 **(dry cal reading – this should be very close to 5 liters per minute, if not adjust flowrate to 5 lpm)**

Ambient Temperature 54° F Barometric Pressure 30.01

Verify Ending Flowrate - 4.840 **(dry cal reading must be between 4.5 lpm and 5.5 lpm - if not mark the sample as suspect.)**

Ambient Temperature 56° F Barometric Pressure 29.92

Remarks

Batteries & pumps stopped throughout collection period.
Total time required to collect 24 hr sample = 31 hrs & 15 minutes

Mare Island
Particulate MiniVol Sampling
Field Data Sheet

STATION/LOCATION B84 TSPRE100 **Sampler S/N** _____ **Battery S/N** _____

FIELD TECHNICIAN (start/end of monitoring): N. Brush

DATE OF FILTER INSTALLATION: 01-11-10

FILTER NUMBER: REM-0001

	Mo	day	yr	hr	min	Totalizer	Indicated flow (lpm)
SAMPLE START TIME	01	11	2010	13	41	399.8	~5
SAMPLE STOP TIME	01	12	2010	13	42	423.8	~5

DATE OF FILTER COLLECTION: 01-12-10

Weather Observations:

Start of Monitoring Period

Wind: ___ calm ___ light X gusty ___ NA ___ **Observed Wind Direction** NE to E
Visibility: ___ clear ___ hazy ___ NA X **Sky:** ___ clear ___ scattered X overcast ___ NA
Humidity: 90 % **Temperature, ~~C~~ F:** 47
Barometric Pressure : 30.07

End of Monitoring Period

Wind: ___ calm X light ___ gusty ___ NA **Observed Wind Direction** _____
Visibility: ___ clear ___ hazy X NA **Sky:** ___ clear X scattered ___ overcast ___ NA
Humidity: 83% **Temperature, ~~C~~ F:** 60
Barometric Pressure : 29.98

One point flow check

Initially USE DRY CAL to set flow rate to 5 liters per minute.

Verify Starting Flowrate - ~5 **(dry cal reading – this should be very close to 5 liters per minute, if not adjust flowrate to 5 lpm)**

Ambient Temperature 47°F Barometric Pressure 30.07

Verify 8 hour Flowrate - ~5 **(dry cal reading – this should be very close to 5 liters per minute, if not adjust flowrate to 5 lpm)**

Ambient Temperature ~~46~~ 43°F Barometric Pressure 30.01

Verify 16 hour Flowrate - ~5 **(dry cal reading – this should be very close to 5 liters per minute, if not adjust flowrate to 5 lpm)**

Ambient Temperature 51°F Barometric Pressure 29.97

Verify Ending Flowrate - ~5 **(dry cal reading must be between 4.5 lpm and 5.5 lpm - if not mark the sample as suspect.)**

Ambient Temperature 60°F Barometric Pressure 29.98

Remarks

Flow rates were not measured in the field but were calculated later based on miniVol calibration sheet & temp & barometric pressure

Mare Island
Particulate MiniVol Sampling
Field Data Sheet

STATION/LOCATION BS9 TSPRE 101 **Sampler S/N** _____ **Battery S/N** _____

FIELD TECHNICIAN (start/end of monitoring): N. Bush

DATE OF FILTER INSTALLATION: 01-11-10

FILTER NUMBER: RBM-0002

SAMPLE START TIME 01 11 2010 13 43 187.2 ~5
Mo day yr hr min Totalizer Indicated flow (lpm)

SAMPLE STOP TIME 01 12 2010 13 44 211.2 ~5
Mo day yr hr min Totalizer Indicated flow (lpm)

DATE OF FILTER COLLECTION: 01-12-10

Weather Observations:

Start of Monitoring Period

Wind: __ calm __ light X gusty __ NA __ **Observed Wind Direction** NE to E
Visibility: __ clear __ hazy __ NA X **Sky:** __ clear __ scattered X overcast __ NA
Humidity: 90 % **Temperature, C/F:** 47
Barometric Pressure : 30.07

End of Monitoring Period

Wind: __ calm X light __ gusty __ NA **Observed Wind Direction** _____
Visibility: __ clear __ hazy X NA **Sky:** __ clear X scattered __ overcast __ NA
Humidity: 82% **Temperature, C/F:** 60
Barometric Pressure : 29.98

One point flow check

Initially USE DRY CAL to set flow rate to 5 liters per minute.

Verify Starting Flowrate - ~5 **(dry cal reading – this should be very close to 5 liters per minute, if not adjust flowrate to 5 lpm)**

Ambient Temperature 47°F Barometric Pressure 30.07

Verify 8 hour Flowrate - ~5 **(dry cal reading – this should be very close to 5 liters per minute, if not adjust flowrate to 5 lpm)**

Ambient Temperature 43°F Barometric Pressure 30.01

Verify 16 hour Flowrate - ~5 **(dry cal reading – this should be very close to 5 liters per minute, if not adjust flowrate to 5 lpm)**

Ambient Temperature 51°F Barometric Pressure 29.97

Verify Ending Flowrate - ~5 **(dry cal reading must be between 4.5 lpm and 5.5 lpm - if not mark the sample as suspect.)**

Ambient Temperature 60°F Barometric Pressure 29.98

Remarks

Flow rates were not measured in the field, but were calculated later based on miniVol calibration sheet, temps, & barometric pressure.

Mare Island
Particulate MiniVol Sampling
Field Data Sheet

STATION/LOCATION B84TSPRE101D **Sampler S/N** _____ **Battery S/N** _____

FIELD TECHNICIAN (start/end of monitoring): N. Brush

DATE OF FILTER INSTALLATION: 01-11-2010

FILTER NUMBER: REM-0003

	Mo	day	yr	hr	min	Totalizer	Indicated flow (lpm)
SAMPLE START TIME	01	11	2010	13	43	468.6	~5
SAMPLE STOP TIME	01	12	2010	13	45	492.6	~5

DATE OF FILTER COLLECTION: 01-12-10

Weather Observations:

Start of Monitoring Period

Wind: __ calm __ light X gusty __ NA __ **Observed Wind Direction** NE to E
Visibility: __ clear __ hazy __ NA X **Sky:** __ clear __ scattered X overcast __ NA
Humidity: 90 % **Temperature, ~~C~~ F:** 47
Barometric Pressure : 29.98

End of Monitoring Period

Wind: __ calm X light __ gusty __ NA **Observed Wind Direction** _____
Visibility: __ clear __ hazy X NA **Sky:** __ clear X scattered __ overcast __ NA
Humidity: 83% **Temperature, ~~C~~ F:** 60
Barometric Pressure : 29.98

One point flow check

Initially USE DRY CAL to set flow rate to 5 liters per minute.

Verify Starting Flowrate - ~5 **(dry cal reading – this should be very close to 5 liters per minute, if not adjust flowrate to 5 lpm)**

Ambient Temperature 47° F Barometric Pressure 30.07

Verify 8 hour Flowrate - ~5 **(dry cal reading – this should be very close to 5 liters per minute, if not adjust flowrate to 5 lpm)**

Ambient Temperature 43° F Barometric Pressure 30.01

Verify 16 hour Flowrate - ~5 **(dry cal reading – this should be very close to 5 liters per minute, if not adjust flowrate to 5 lpm)**

Ambient Temperature 51° F Barometric Pressure 29.97

Verify Ending Flowrate - ~5 **(dry cal reading must be between 4.5 lpm and 5.5 lpm - if not mark the sample as suspect.)**

Ambient Temperature 60° F Barometric Pressure 29.98

Remarks

Flow rates were not measured in the field but were calculated later based on miniVol calibration sheet, temps, & barometric pressure.

B84TSPRE100

FILTER
REM-0001

MiniVol Portable Sampler
NIST Traceable Flow Calibration
Unit: 4795

Calibration Date: 01/07/2010
Ambient Temp, °C: 20.8
Atmos Press, mmHg: 754.0

Primary Flow Std: LFE774300

By: _____

Chk: _____

Q_{ind} (lpm)	Q_{act} (alpm)	$Q_{@std}$ (slpm)	Q_{calc} (slpm)	Diff (%)
6.50	7.138	7.160	7.168	-0.11
6.00	6.592	6.612	6.596	0.25
5.50	5.990	6.008	6.023	-0.25
5.00	5.442	5.459	5.451	0.15
4.50	4.865	4.880	4.878	0.05
4.00	4.288	4.301	4.306	-0.10

Linear Regression Results:

m_{vol} = 1.1451
b_{vol} = -0.2746
r^2 = 0.9999

The MiniVol Calibration is performed with an NIST-traceable standard. Each unit has a unique pair of calibration constants derived from the calibration which are used to calculate the Sampler's actual flow rate at all ambient conditions. The Sampler's calibration should be recertified annually.

For an indicated rotameter flow rate (Q_{ind}), the flow rate at actual sampling conditions (Q_{act}) is given by the following equation (Eq.1):

$$Q_{act} = \left(m_{vol} Q_{ind} + b_{vol}\right) \times \sqrt{\frac{P_{std}}{P_{act}} \times \frac{T_{act}}{T_{std}}} \qquad \text{Eq.1}$$

The Sampler is designed to operate at 5.0 lpm at actual conditions. The rotameter setting for this nominal flow rate (Isp) can be calculated by using the following equation (Eq.2):

$$I_{sp} = \frac{5.0 \times \sqrt{\frac{P_{act}}{P_{std}} \times \frac{T_{std}}{T_{act}}} - b_{vol}}{m_{vol}} \qquad \text{Eq.2}$$

Where:

I_{sp} = Calculated Rotameter Setpoint, liters/min.
P_{std} = Standard Atmospheric Pressure (760 mm Hg)
T_{std} = Standard Temperature (298 °K)
P_{act} = Actual Ambient Pressure, mm Hg
T_{act} = Actual Ambient Temperature, °K
Q_{act} = Actual Flow Rate, liters/min.
Q_{ind} = Rotameter Indicated Flow Rate, liters/min.

Airmetrics
2095 Garden Ave, Suite 102
Eugene, OR 97403
(541) 683-5420

B84 TSP RE 101
FILTER
REM-0002

MiniVol Portable Sampler
NIST Traceable Flow Calibration
Unit: 4791

Calibration Date: 01/07/2010
Ambient Temp, °C: 20.8
Atmos Press, mmHg: 755.0

Primary Flow Std: LFE774300

By:
Chk:

Q_{ind} (lpm)	Q_{act} (alpm)	$Q_{@std}$ (slpm)	Q_{calc} (slpm)	Diff (%)
6.50	7.139	7.166	7.169	-0.04
6.00	6.565	6.591	6.595	-0.06
5.50	5.990	6.014	6.020	-0.11
5.00	5.442	5.463	5.445	0.33
4.50	4.866	4.885	4.871	0.29
4.00	4.261	4.278	4.296	-0.43

Linear Regression Results:

m_{vol} = **1.1492**
b_{vol} = **-0.3008**
r^2 = **0.9998**

The MiniVol Calibration is performed with an NIST-traceable standard. Each unit has a unique pair of calibration constants derived from the calibration which are used to calculate the Sampler's actual flow rate at all ambient conditions. The Sampler's calibration should be recertified annually.

For an indicated rotameter flow rate (Q_{ind}), the flow rate at actual sampling conditions (Q_{act}) is given by the following equation (Eq.1):

$$Q_{act} = \left(m_{vol} Q_{ind} + b_{vol}\right) \times \sqrt{\frac{P_{std}}{P_{act}} \times \frac{T_{act}}{T_{std}}} \qquad \text{Eq.1}$$

The Sampler is designed to operate at 5.0 lpm at actual conditions. The rotameter setting for this nominal flow rate (Isp) can be calculated by using the following equation (Eq.2):

$$I_{sp} = \frac{5.0 \times \sqrt{\frac{P_{act}}{P_{std}} \times \frac{T_{std}}{T_{act}}} - b_{vol}}{m_{vol}} \qquad \text{Eq.2}$$

Where:

I_{sp} = Calculated Rotameter Setpoint, liters/min.
P_{std} = Standard Atmospheric Pressure (760 mm Hg)
T_{std} = Standard Temperature (298 °K)
P_{act} = Actual Ambient Pressure, mm Hg
T_{act} = Actual Ambient Temperature, °K
Q_{act} = Actual Flow Rate, liters/min.
Q_{ind} = Rotameter Indicated Flow Rate, liters/min.

Airmetrics
2095 Garden Ave, Suite 102
Eugene, OR 97403
(541) 683-5420

B84 TSP RE 10ϕD
FILTER
REM-0003

MiniVol Portable Sampler
NIST Traceable Flow Calibration
Unit: 4914

Calibration Date: 01/07/2010
Ambient Temp, °C: 20.8
Atmos Press, mmHg: 754.0

Primary Flow Std: LFE774300

By:
Chk:

Q_{ind} (lpm)	Q_{act} (alpm)	$Q_{@std}$ (slpm)	Q_{calc} (slpm)	Diff (%)
6.50	7.138	7.160	7.173	-0.19
6.00	6.591	6.612	6.597	0.23
5.50	5.990	6.008	6.020	-0.20
5.00	5.441	5.458	5.444	0.27
4.50	4.865	4.880	4.867	0.26
4.00	4.260	4.274	4.291	-0.40

Linear Regression Results:

m_{vol} = **1.1529**
b_{vol} = **-0.3206**
r^2 = **0.9998**

The MiniVol Calibration is performed with an NIST-traceable standard. Each unit has a unique pair of calibration constants derived from the calibration which are used to calculate the Sampler's actual flow rate at all ambient conditions. The Sampler's calibration should be recertified annually.

For an indicated rotameter flow rate (Q_{ind}), the flow rate at actual sampling conditions (Q_{act}) is given by the following equation (Eq.1):

$$Q_{act} = \left(m_{vol} Q_{ind} + b_{vol}\right) \times \sqrt{\frac{P_{std}}{P_{act}} \times \frac{T_{act}}{T_{std}}} \qquad \text{Eq.1}$$

The Sampler is designed to operate at 5.0 lpm at actual conditions. The rotameter setting for this nominal flow rate (Isp) can be calculated by using the following equation (Eq.2):

$$I_{sp} = \frac{5.0 \times \sqrt{\frac{P_{act}}{P_{std}} \times \frac{T_{std}}{T_{act}}} - b_{vol}}{m_{vol}} \qquad \text{Eq.2}$$

Where:

I_{sp} = Calculated Rotameter Setpoint, liters/min.
P_{std} = Standard Atmospheric Pressure (760 mm Hg)
T_{std} = Standard Temperature (298 °K)
P_{act} = Actual Ambient Pressure, mm Hg
T_{act} = Actual Ambient Temperature, °K
Q_{act} = Actual Flow Rate, liters/min.
Q_{ind} = Rotameter Indicated Flow Rate, liters/min.

Airmetrics
2095 Garden Ave, Suite 102
Eugene, OR 97403
(541) 683-5420

CH2MHILL Applied Sciences Lab
CHAIN OF CUSTODY RECORD
AND AGREEMENT TO PERFORM SERVICES

CVO 2300 NW Walnut Boulevard
Corvallis, OR 97330-3638
(541) 752-4271 FAX (541) 752-0276

COC # _____

Project #	101204
Purchase Order #	
Project Name	BUILDING 84 MEZZANINE FLOOR REMOVAL
Company Name	REMEDY ENGINEERING
Project Manager or Contact & Phone #	NOEL BUSH / 530-241-7658
Report Copy to:	
Requested Completion Date:	
Site ID	
Sample Disposal:	Dispose ☒ Return ☐

Requested Analytical Method #: PCB CONGENERS EPA MOD. E1668A

Preservative: ICE

THIS AREA FOR LAB USE ONLY

Lab #	Page	of

EPA Tier QC Level: 1 (Screening) 2 3 4

Sampling Date	Sampling Time	Type COMP	Type GRAB	Matrix WATER	Matrix SOIL	Matrix AIR	CLIENT SAMPLE ID (9 CHARACTERS)	LAB QC	TOTAL # OF CONTAINERS	ICE	Alternate Description	Lab ID
1/12/10	13:49					X	B84IARE1		1	X	PUFF CARTRIDGES	
1/13/10	1:14					X	B84IARE2		1	X	↓	
1/12/10	13:55					X	B84IARE3		1	X	↓	
1/12/10	21:03					X	B84IARE3D		1	X	↓	
1/13/10	1:15					X	B84IARETB		1	X	↓	

Relinquished By	Date/Time	Received By	Date/Time
Sampled By and Title (Please sign and print name): NOEL BUSH [signature] PROJECT MANAGER	1/13/10 1:20	Relinquished By (Please sign and print name): [signature] NOEL BUSH	1/13/10 / 15:00
Received By (Please sign and print name)	Date/Time	Relinquished By (Please sign and print name)	Date/Time
Received By (Please sign and print name)	Date/Time	Shipped Via: UPS Fed-Ex Other _____	Shipping #

Special Instructions:

CHAIN OF CUSTODY INSTRUCTIONS

CH2M HILL Project #:	CH2M HILL project number to be charged for work.
Purchase Order #:	Purchase order to be charged for work (OTC clients).
Project Name:	Name of project which the samples support.
Company Name/CH2M HILL Office:	Name of the company or CH2M HILL office requesting the work. Correspondence will be sent to the company address or CH2M HILL office.
Client:	Name, address, and phone number of person who receives the laboratory report and can be contacted if questions arise.
Sampling:	The date and time at which the sample was collected.
Type:	Indicate the type of sample (composite or grab) collected.
Client Sample ID:	Identifier assigned by the project to uniquely identify the samples (must not exceed nine (9) characters).
Number of Containers:	The number of different containers for this line item or sample.
Analyses Requested:	Use one column for each parameter or group of parameters. Specific method numbers, parameter list, and TIC's should be indicated.
For Lab Use Only:	Do not mark in the shaded area.
Remarks:	Record any comments about each sample on the same line as the sample description, e.g., "Wastewater contains VOC's." Known high concentrations should be noted.
Sampled by and Title:	The person who took the sample signs this box and prints his/her name,title, date, and time when sampling was completed.
Relinquished By:	The sampler signs this box and prints his/her name, date, and time when the samples were accepted into his/her custody.
Sample Shipped Via:	How the samples are being shipped to the laboratory,e.g., "Fed Ex."
Shipping #:	The number on the shipping papers by which the package can be traced.
Work Authorized By:	Printed name and signature of person authorizing the initiation of laboratory work.
Remarks:	Record any comments regarding the samples as a whole. Additional parameters or special requirements should be indicated.

PROVISIONS OF THE AGREEMENT

1. **Authorization to Proceed**
   Completion of the Chain of Custody (COC) and submission of the samples to the laboratory by the Client or Client's representative constitutes Execution of the Agreement and authorizes CH2M HILL Inc. to proceed with the laboratory work.

2. **Compensation and Terms of Payment**
   For services described on this Chain of Custody, CH2M HILL Inc. will be compensated based on verbal or written quotation, or the standard rates per analysis contained in our published Price Guide. Invoices will be issued by laboratory as services are completed. Invoices are due and payable upon receipt. Interest at the rate of 1-1/2 percent per month, or that permitted by law if lesser, may be charged on past due amounts starting 30 days after date of invoice. Payments will first be credited to interest and then to principal. The prices stated in a written quotation are valid for 45 days unless stated otherwise. The price does not include sales or other taxes. Such taxes, when applicable, will be added to the invoice. Unless otherwise specified, the minimum invoice is $100.00 per batch of samples. CH2M HILL Inc. reserves the right to change published prices without notice.

3. **Standard of Care**
   The standard of care applied to our environmental laboratory services will be the degree of skill and diligence normally employed by laboratory industry personnel performing the same or similar service.

4. **Warranty and Limitation of Liability**
   CH2M HILL Inc. makes no warranty, express or implied, and under no circumstances will be liable for any claims or damages except those resulting solely from their own or their employees' negligence. To the maximum extent permitted by law, our liability for damages will not exceed the compensation received by CH2M HILL Inc. under the project Agreement.

5. **Severability and Survival**
   If any of the provisions contained in this Agreement are held illegal, invalid or unenforceable, the enforceability of the remaining provisions shall not be impaired thereby. Limitations of liability and indemnities shall survive termination of this Agreement for any cause.

6. **Asbestos or Hazardous Substances**
   To the maximum extent permitted by law, the CLIENT will indemnify and defend CH2M HILL Inc. and its officers, employees, parent firm subconsultants, and agents from all claims, damages, losses, and expenses, including, but not limited to, direct, indirect, or consequential damages and attorney's fees in excess of the Limitation of Liability in Article 4 arising out of or relating to the presence, discharge, release, or escape of hazardous substances, contaminants, or asbestos on or from the Project.

7. **Interpretation**
   The limitations of liability and indemnities will apply whether CH2M HILL Inc.'s liability arises under breach of contract or warranty; tort, including negligence (but not sole negligence); strict liability; statutory liability; or any other causes of action; and shall apply to CH2M HILL Inc.'s officers, employees, parent firm, and subcontractors. The professional service agreement will take precedence in the event there is a conflict with the agreement and chain-of-custody document.

8. **Sample Disposal and Storage**
   Disposal of hazardous waste samples is the responsibility of the client, unless disposal agreements are made. Unless disposal agreements are made, hazardous waste samples will be disposed of at a rate of $50 per sample 30 days after submission of final report. For large projects and upon special request, samples may be stored for longer than 30 days at a rate of $5/month per sample.

9. **Sample Preservation**
   Samples are expected to be field preserved in accordance to applicable methods being requested.

AIRMETRICS™
INNOVATIVE AIR SAMPLING EQUIPMENT

2095 Garden Ave., Suite 102
Eugene, OR 97403

T: 541.683.5420 F: 1047
Web Site: www.airmetrics.com

CHAIN OF CUSTODY

Relinquished by:

Company: Airmetrics Filter #'s: REM-0001 - REM-0006

Contact: Derek Bowen Phone: 541-683-5420

Date: 01-07-10

Received by:

Company: REMEDY ENGINEERING Filter #'s: REM-0001 → REM-0006

Contact: Noel Bush Phone: 530-241-7658

Date: 1-8-10

Relinquished by:

Company: REMEDY ENGINEERING Filter #'s: REM-0001 → REM-0003

Contact: Noel Bush Phone: 530-241-7658

Date: 1-14-10

Received by:

Company: _____ Filter #'s: _____

Contact: _____ Phone: _____

Date: _____

NOTE: DIDN'T USE
FILTER REM-0004 → REM-0006

October 5, 2010

Subject: Affidavit of Confirmation for Handling of PUFF Cartridges Following Collection During Indoor Air Sampling at Building 84 PCB Mezzanine Site, Mare Island, Vallejo, California

I Noël J. Bush, as the field sampler at the Building 84 PCB Mezzanine Site located on Mare Island in Vallejo, California, confirm that indoor air samples (PUFF cartridges) that were collected on January 12, 2010 were stored on ice in a cooler and remained in my possession until the remaining PUFF cartridge samples were collected on January 13, 2010. In order to maintain sample integrity, each PUFF cartridge was wrapped in aluminum foil and bubble wrap then sealed in a glass jar (all of which was supplied by the laboratory). Each glass jar was then sealed inside a Ziploc plastic baggie. Ice was replenished in the cooler as necessary in order to maintain sample preservation. Following collection of the remaining samples on January 13, 2010, all samples were placed in the cooler, with fresh ice, and packing material, and shipped overnight to the laboratory via UPS, under proper chain-of-custody documentation. This information was inadvertently left out of the field notes.

To the best of my knowledge, the above information is correct.

Noël J. Bush

10-5-2010
Date

This affidavit is an amendment to the January 11 to 13, 2010 field notes accompanying the B84 PCB Mezzanine Site on Mare Island.

APPENDIX C

Laboratory Analytical and Data Validation Reports

Tier II Data Validation Report Summary

Client: Remedy Engineering, Inc.	Laboratory: Curtis & Tompkins, Ltd.
Project Name: Remedy Engineering – Building 84 Mezzanine	Sample Matrix: Concrete
Project Number: 03S-001-001	Sample Start Date: February 5, 2009
Date Validated: February 26, 2009	Sample End Date: February 5, 2009
Parameters Included: Polychlorinated biphenyls (PCB) by Method 8082	
Laboratory Project IDs: 209794	
Data Validator's Name: Jessica Swanson, Environmental Chemist	

DATA EVALUATION CRITERIA SUMMARY

A Tier II Data Validation was performed by Trihydro Corporation's Chemical Data Evaluation Services group on the analytical data report package generated by Curtis & Tompkins, Ltd. evaluating samples from the Remedy Engineering, Inc. Building 84 site located in Solano, California.

Precision, accuracy, method compliance, and completeness of this data package were assessed during this data review. Precision was determined by evaluating the calculated relative percent difference (RPD) values of samples from field duplicate pairs. Laboratory accuracy was established by reviewing the demonstrated percent recoveries of matrix spike (MS) and matrix spike duplicate (MSD) samples, laboratory control samples (LCS also referenced in the analytical report as blank spike (BS)), and laboratory control sample duplicates (LCSD also referenced in the analytical report as blanks spike duplicate (BSD)) to verify that none of the data were biased. Method compliance was established by reviewing holding times, detection limits, surrogate recoveries, method blanks, and the LCS/LCSD percent recoveries against method specific requirements. Completeness was evaluated by determining the overall ratio of the number of samples planned versus the number of samples with valid analyses. Determination of completeness included a review of the chain-of-custody, laboratory analytical methods, and any other necessary documents associated with this analytical data set.

Data were evaluated in general accordance with validation criteria set forth in the USEPA Contract Laboratory Program (CLP) National Functional Guidelines for Superfund Organic Methods Data Review, document number USEPA-540-R-08-01, June 2008 with additional reference to USEPA Contract Laboratory Program (CLP) National Functional Guidelines for Organic Data Review, document number EPA 540/R-99-008 of October 1999 and the USEPA CLP National Functional Guidelines for Inorganic Data Review, document number EPA 540R-04-004, October 2004. Review of duplicates is conducted in accordance with USEPA Region 1 Laboratory Data Validation Function Guidelines for Evaluation of Organic Analysis, December 1996.

SAMPLE NUMBERS TABLE

Client Sample ID	Laboratory Sample Number
B84MEZZRE0101	209794-001
B84MEZZRE0102	209794-002
B84MEZZRE0103	209794-003
B84MEZZRE0104	209794-004
B84MEZZRE0105	209794-005
B84MEZZRE0106	209794-006
B84MEZZRE0107	209794-007

Tier II Data Validation Report Summary

Client Sample ID	Laboratory Sample Number
B84MEZZRE0108	209794-008
B84MEZZRE0108D	209794-009
B84MEZZRE0109	209794-010
B84MEZZRE0110	209794-011
B84MEZZRE0111	209794-012
B84MEZZRE0112	209794-013
B84MEZZRE0113	209794-014
B84MEZZRE0114	209794-015
B84MEZZRE0115	209794-016
B84MEZZRE0116	209794-017
B84MEZZRE0120	209794-018
B84MEZZRE0117	209794-019
B84MEZZRE0118	209794-020
B84MEZZRE0119	209794-021
B84MEZZRE0119D	209794-022

Tier II Data Validation Report

The samples were analyzed for client-specified analytes. Chain-of-custody (COC) completeness is included in Section #3. The laboratory data were reviewed to evaluate compliance with the required methods and the quality of the reported data. A leading check mark (✓) indicates that the referenced data were deemed acceptable. A preceding crossed circle (⊗) signifies problems with the referenced data that may have warranted attaching qualifiers to the data.

- ✓ Data Completeness
- ✓ COC Documentation
- ✓ *Holding Times and Preservation*
- ✓ Laboratory Blanks
- ✓ System Monitoring Compounds (i.e. Surrogates)
- ✓ Laboratory Control Samples/Laboratory Control Sample Duplicates (LCS/LCSD)
- ✓ Matrix Spike/Matrix Spike Duplicates (MS/MSD)
- ⊗ Field Duplicates

OVERALL DATA PACKAGE ASSESSMENT

Based on a data validation review, the data are acceptable as delivered. Data qualified by the laboratory are discussed in Section #2.

The purpose of validating data and assigning qualifiers is to assist in proper data interpretation. Data which are not qualified meet the site data quality objectives. If values are assigned qualifiers other than an R, the data may be used for site evaluation, with the reasons for qualification being given consideration when interpreting sample concentrations. Data points which are assigned an R qualifier should not be used for any site evaluation purposes. Data were qualified for high field duplicate RPD values.

Data qualifiers used during this validation included:

J – Estimated concentration

Data Completeness

The analyses appeared to be performed as requested on the chain-of-custody records. The associated samples were received by the laboratory and appeared to be analyzed properly. No data points were rejected. The data completeness measure for this data package is 100% and is acceptable.

VALIDATION CRITERIA CHECKLIST	
1. Did the laboratory identify any non-conformances related to the analytical data?	Yes
Comments: The laboratory noted that samples underwent sulfur cleanup using the copper option in EPA Method 3660B. Low surrogate recoveries were observed for decachlorobiphenyl in the MSD for batch 147725 and the method blank/BS/BSD for batch 147765; the corresponding TCMX surrogate recoveries were within limits. No other analytical problems were encountered.	
2. Were data qualification flags used by the laboratory? If yes, define.	Yes
Comments: The following data qualification flags were applied to the quality control data within this data set. * – Value outside of quality control (QC) limits. DO – Diluted Out	
3. Were sample chain-of-custody forms complete?	Yes
Comments: The chain-of-custody form was complete from the field to the laboratory. Custody was maintained with proper signatures; however the sample collection dates were not listed. The attached affidavit confirms the collection date.	
4. Were detection limits in accordance with the QAPP, permit, or method, or indicated as acceptable by the Tier I validator?	No
Comments: The Tier I validator indicated that the reported detection limits were not acceptable. The final usability of data with respect to dilutions will be determined by the project manager.	
5. Were the requested analytical methods in compliance with the QAPP, permit, or COC?	Yes
Comments: The laboratory performed the requested analytical methods in accordance with the COC.	
6. Were samples received in good condition within method specified requirements?	Yes
Comments: Samples were received with ice, cold, and intact. A receipt temperature was not recorded and custody seals were not present which is acceptable for hand delivered samples.	
7. Were samples analyzed within method specified or technical holding times?	Yes
Comments: The samples were analyzed within the method specific holding times.	
8. Were reported units appropriate for the associated sample matrix/matrices and method(s) of analyses?	Yes
Comments: The results were reported in µg/kg, which are acceptable units for concrete samples.	
9. Do the laboratory reports include all constituents requested to be reported as indicated by the Tier I validator?	Yes
Comments: The Tier I validator indicated that the requested constituents were reported by the laboratory in accordance with the COC.	
10. Was there indication from the laboratory that the initial or continuing calibration verification results were within acceptable limits?	Yes
Comments: Initial and continuing calibration data were not included as part of this data set; however, these data are assumed to be acceptable as the laboratory did not note that any calibration verification results were outside acceptable limits.	
11. Was the total number of method blank samples prepared equal to at least 5% of the total number of samples, or analyzed as required by the method?	Yes
Comments: Method blank samples were prepared on a greater than 5% frequency.	
12. Were method blank detections reported for this data set?	No
Comments: No detections were reported in the method blank samples.	

VALIDATION CRITERIA CHECKLIST	
13. Was the total number of matrix spike samples prepared equal to at least 5% of the total number of samples, or analyzed as required by the method?	Yes
Comments: Matrix spike samples were not prepared for PCB batch 147765. The laboratory spike sample (referenced in the report as a blank spike sample) results were used to evaluate the accuracy and precision of this data. The matrix spike sample and its associated duplicate for metals batch 147725 was prepared from a sample not associated with this client's data.	
14. Were matrix spike recoveries within laboratory-specified limits?	Yes
Comments: The matrix spike/matrix spike duplicate and blank spike/blank spike duplicate recoveries were within laboratory-specified limits with the exception of surrogate recoveries discussed in Section 17.	
15. Was the total number of laboratory control samples analyzed equal to at least 5% of the total number of samples, or analyzed as required by the method?	Yes
Comments: Laboratory control samples were prepared for associated batches. Laboratory control sample duplicates were prepared for batch 147765 only.	
16. Were laboratory control recoveries within laboratory-specified limits?	Yes
Comments: The LCS recoveries were within laboratory-specified limits with the exception of surrogate recoveries discussed in Section 17.	
17. Were surrogate recoveries within laboratory control limits?	No
Comments: The surrogate recoveries for all of the associated samples were marked with a "DO" indicating that the surrogate was diluted out. This is acceptable and no further action was necessary. The surrogate *decachlorobipheynyl* was recovered at 47% which is below the acceptable limits of 52-147% in the method blank for batch 147765 and 49% in the MSD. Since the other associated dilutions were acceptable, and since it is associated with the QC data, no data were qualified. The MSD was not prepared from samples associated with this data set. The surrogate *decachlorobipheynyl* was recovered at 48% which is below the acceptable limits of 52-147% in the blank spike for batch 147725 and 44% in the blank spike duplicate. As dilution was a factor and the other surrogate TCMX was within control limits, no qualification is necessary.	
18. Was the number of equipment, trip, or field blanks collected equal to at least 10% of the total number of samples, or as required by the project guidelines, QAPP, SAP, or permit, or as indicated by the Tier I validator?	No
Comments: Equipment, trip, and field blanks were not provided with this data set.	
19. Were detections found in trip blanks, equipment blanks, or field blanks?	N/A
Comments: N/A	
20. Were the field duplicates collected equal to at least 10% of the total number of samples, or as required by the project guidelines, QAPP, SAP, or permit, or as indicated by the Tier I validator?	Yes
Comments: Two field duplicates (B84MEZZRE0108D and B84MEZZRE0119D) were collected as duplicates of samples B84MEZZRE0108 and B84MEZZRE0119, respectively.	
21. Were field duplicate RPD values less than the upper RPD limit (soil [50%], water [30%], or air/vapor [25%]), as specified by the laboratory or method?	No
Comments: Field duplicate RPD values for Aroclor-1242 were reported at 50.3% which is above the acceptable limit for soil samples B84MEZZRE0108 and B84MEZZRE0108D. **As a result, the parent and duplicate sample were qualified J for Aroclor-1242 due to possible poor repeatability.**	
22. Were laboratory duplicate RPD values within laboratory-specified limits?	N/A
Comments: Laboratory duplicates were not prepared for this data set.	

DATA QUALIFICATION SUMMARY

Analyte	Client Sample ID	Laboratory Assigned ID	Laboratory Result (µg/kg)	Reviewer Qualifier	Reason for Qualification
Aroclor-1242	B84MEZZRE0108	209794-008	9,700	J	High field duplicate RPD value
Aroclor-1242	B84MEZZRE0108D	209794-009	5,800	J	High field duplicate RPD value

FIELD DUPLICATE SUMMARY

Client Sample ID: B84MEZZRE0108
Field Duplicate Sample ID: B84MEZZRE0108D

Analyte	Laboratory Result	Duplicate Result	Relative Percent Difference (RPD)
Aroclor-1242	9,700 µg/kg	5,800 µg/kg	**50.3%**
Aroclor-1260	310 µg/kg	190 µg/kg	48.0%

Field duplicate RPD control limits should not exceed 30% for water, 50% for soil, or 25% for air or vapor as established by USEPA Region 1 Laboratory Data Validation Function Guidelines for Evaluation of Organic Analysis, December 1996.

For Aroclor-1242, the parent and duplicate samples were qualified J for Aroclor-1242 due to possible poor repeatability.

FIELD DUPLICATE SUMMARY

Client Sample ID: B84MEZZRE0119
Field Duplicate Sample ID: B84MEZZRE0119D

Analyte	Laboratory Result	Duplicate Result	Relative Percent Difference (RPD)
Aroclor-1242	8,300 µg/kg	11,000	28.0%
Aroclor-1260	ND (170 µg/kg)	210 µg/kg	DL

Field duplicate RPD control limits should not exceed 30% for water, 50% for soil, or 25% for air or vapor as established by USEPA Region 1 Laboratory Data Validation Function Guidelines for Evaluation of Organic Analysis, December 1996.

DL – indicates one sample result was detected and one was non-detect and an RPD could not be calculated. No data were qualified since the detection was within two times the reporting limit; which is acceptable per the guidance.

February 26, 2009

Joshua Woodard
Remedy Engineering
1567 Yuba Street
Redding, CA 96001

Affidavit of Confirmation

I, Joshua Woodard, representing the B84 Mezzanine Project for Mare Island Project, confirm the following information was inadvertently left off the chain-of-custody (COC) provided with data set 209794 from Curtis and Thompkins, Ltd. The information identified in bold italics will be used to further clarify the COC documentation.

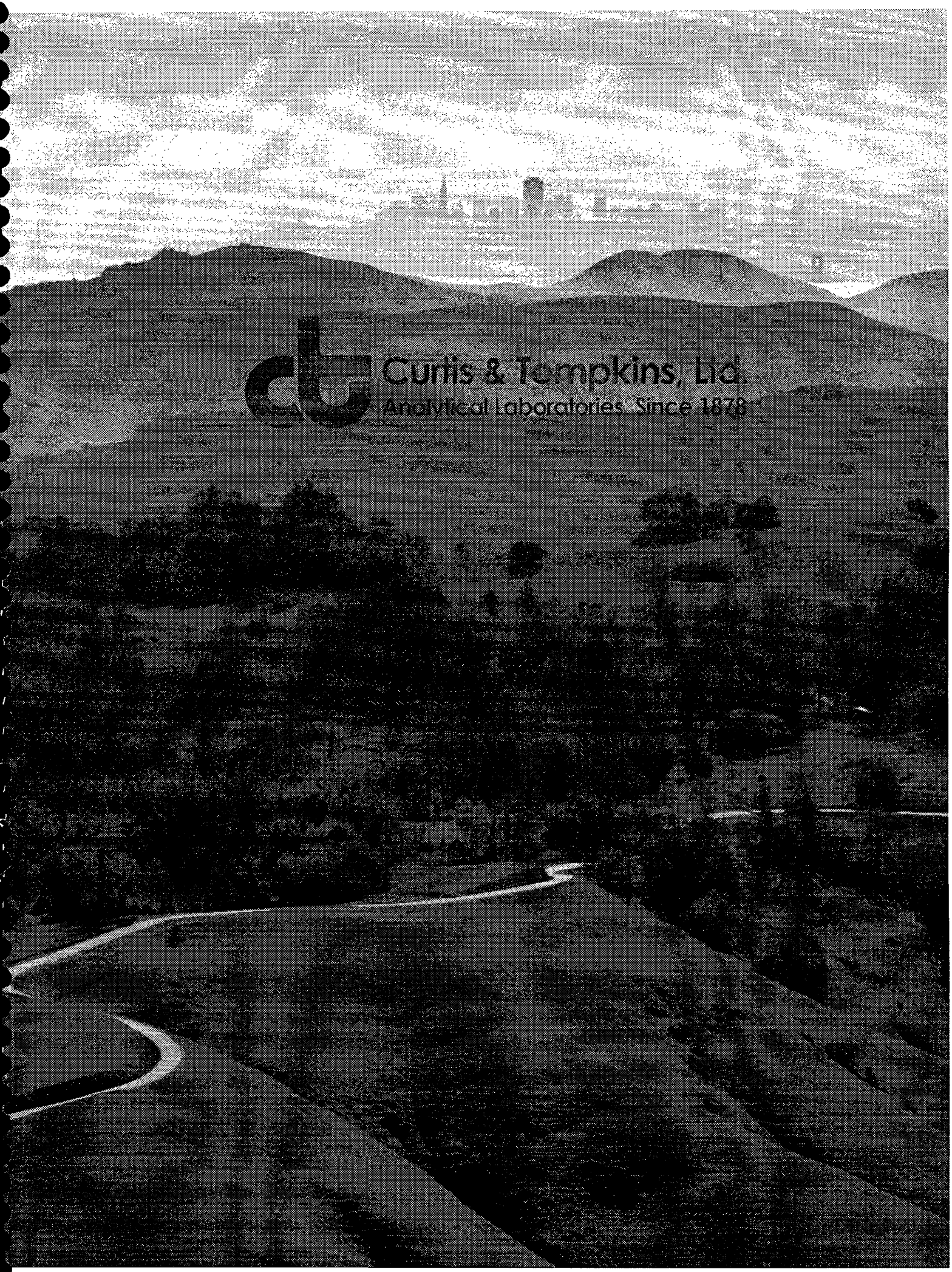
Samples were collected on February 5, 2009.

To the best of my knowledge, the above information is correct.

Joshua Woodard
JOSHUA WOODARD

02/26/09
DATE

This affidavit is an amendment to the chain-of-custody accompanying the B84 Mezzanine Project for Mare Island, Curtis and Thompkins data set 209794.


Curtis & Tompkins, Ltd.
Analytical Laboratories Since 1878

Curtis & Tompkins, Ltd., Analytical Laboratories, Since 1878
2323 Fifth Street, Berkeley, CA 94710, Phone (510) 486-0900

Laboratory Job Number 209794
ANALYTICAL REPORT

Remedy Engeneering 1567 Yuba St Redding, CA 96001	Project : 101204 Location : B84 Mezzanine Level : II

Sample ID	Lab ID
B84MEZZRE0101	209794-001
B84MEZZRE0102	209794-002
B84MEZZRE0103	209794-003
B84MEZZRE0104	209794-004
B84MEZZRE0105	209794-005
B84MEZZRE0106	209794-006
B84MEZZRE0107	209794-007
B84MEZZRE0108	209794-008
B84MEZZRE0108D	209794-009
B84MEZZRE0109	209794-010
B84MEZZRE0110	209794-011
B84MEZZRE0111	209794-012
B84MEZZRE0112	209794-013
B84MEZZRE0113	209794-014
B84MEZZRE0114	209794-015
B84MEZZRE0115	209794-016
B84MEZZRE0116	209794-017
B84MEZZRE0120	209794-018
B84MEZZRE0117	209794-019
B84MEZZRE0118	209794-020
B84MEZZRE0119	209794-021
B84MEZZRE0119D	209794-022

This data package has been reviewed for technical correctness and completeness. Release of this data has been authorized by the Laboratory Manager or the Manager's designee, as verified by the following signatures. The results contained in this report meet all requirements of NELAC and pertain only to those samples which were submitted for analysis. This report may be reproduced only in its entirety.

Signature: _____ Date: 02/13/2009
Project Manager

Signature: _____ Date: 02/18/2009
Senior Program Manager

NELAP # 01107CA

Curtis & Tompkins, Ltd.

CASE NARRATIVE

Laboratory number:	**209794**
Client:	**Remedy Engeneering**
Project:	**101204**
Location:	**B84 Mezzanine**
Request Date:	**02/05/09**
Samples Received:	**02/05/09**

This data package contains sample and QC results for twenty two concrete samples, requested for the above referenced project on 02/05/09. The samples were received cold and intact.

PCBs (EPA 8082):

All samples underwent sulfur cleanup using the copper option in EPA Method 3660B. Low surrogate recoveries were observed for decachlorobiphenyl in the MSD for batch 147725 and the method blank/BS/BSD for batch 147765; the corresponding TCMX surrogate recoveries were within limits. No other analytical problems were encountered.

Curtis & Tompkins, Ltd.
Analytical Laboratory Since 1878
2323 Fifth Street
Berkeley, CA 94710
(510) 486-0900 Phone
(510) 486-0532 Fax

CHAIN OF CUSTODY

C & T LOGIN #: 209794

Sampler: TC/JW

Project No.: 101204

Report To: Tom Corontzos

Project Name: B84 Mezzanine

Company: Remedy Engineering

Project P.O.:

Telephone: (530) 241-7658

Turnaround Time: Normal

Fax: (530) 241-7659

Analysis

Lab No.	Sample ID.	Sampling Date Time	Matrix: Soil	Water	Waste	Concrete	# of Containers	Preservative: HCL	H_2SO_4	HNO_3	ICE	None	PCB'S 8082
14	B84MEZZRE0113	11:27				X						X	X
15	" 0114	11:35				X						X	X
16	" 0115	13:35				X						X	X
17	" 0116	13:40				X						X	X
18	" 0120	13:45				X						X	X
19	" 0117	13:50				X						X	X
20	" 0118	14:00				X						X	X
21	" 0119	14:10				X						X	X
22	" 0119D	14:12				X						X	X

p.c.

Notes:

SAMPLE RECEIPT
☐ Intact ☐ Cold
☐ On Ice ☐ Ambient

Preservative Correct?
☐ Yes ☐ No ☐ N/A

RELINQUISHED BY:
Joshua Woodard 2/5/09 15:00 DATE / TIME
DATE / TIME
DATE / TIME

RECEIVED BY:
[signature] 2/5/9 1500 DATE / TIME
DATE / TIME
DATE / TIME

SIGNATURE

2 of 2

Curtis & Tompkins, Ltd.
Analytical Laboratory Since 1878
2323 Fifth Street
Berkeley, CA 94710
(510) 486-0900 Phone
(510) 486-0532 Fax

CHAIN OF CUSTODY

C & T LOGIN #: 209794

Sampler: TC/JW

Project No.: 101204

Report To: Tom Corontzos

Project Name: B84 Mezzanine

Company: Remedy Engeneering

Project P.O.:

Telephone: (530) 241-7658

Turnaround Time: Normal

Fax: (530) 241-7659

Analysis

Lab No.	Sample ID.	Sampling Date Time	Matrix: Soil	Matrix: Water	Matrix: Waste	Matrix: Concrete	# of Containers	Preservative: HCL	Preservative: H_2SO_4	Preservative: HNO_3	Preservative: ICE	Preservative: None	PCB's - 8082
1	B84MEZZRE0101	09:57				X	1					X	X
2	" 0102	10:08				X	1					X	X
3	" 0103	10:20				X	1					X	X
4	" 0104	10:25				X	1					X	X
5	" 0105	10:30				X	1					X	X
6	" 0106	10:45				X	1					X	X
7	" 0107	10:50				X	1					X	X
8	" 0108	11:00				X	1					X	X
9	" 0108D	11:02				X	1					X	X
10	" 0109	11:05				X	1					X	X
11	" 0110	11:10				X	1					X	X
12	" 0111	11:17				X	1					X	X
13	" 0112	11:20				X	1					X	X

Notes:

SAMPLE RECEIPT
☐ Intact ☐ Cold
☐ On Ice ☐ Ambient

Preservative Correct?
☐ Yes ☐ No ☐ N/A

RELINQUISHED BY:
Joshua Woodard 2/5/09 15:00 DATE / TIME
DATE / TIME
DATE / TIME

RECEIVED BY:
2/5/9 1500 DATE / TIME
DATE / TIME
DATE / TIME

SIGNATURE

COOLER RECEIPT CHECKLIST

Curtis & Tompkins, Ltd.

Login # 209794 Date Received 2/5/09 Number of coolers 1
Client Remedy engineering Project B84 Mezzanine

Date Opened 2/5/09 By (print) Phuong (sign) P. Le
Date Logged in ↓ By (print) ↓ (sign) ↓

1. Did cooler come with a shipping slip (airbill, etc) _____ YES (NO)
   Shipping info _____
2A. Were custody seals present? ... ☐ YES (circle) on cooler on samples ☑ NO
   How many _____ Name _____ Date _____
2B. Were custody seals intact upon arrival? _____ YES NO (N/A)
3. Were custody papers dry and intact when received? _____ (YES) NO
4. Were custody papers filled out properly (ink, signed, etc)? _____ (YES) NO
5. Is the project identifiable from custody papers? (If so fill out top of form) (YES) NO
6. Indicate the packing in cooler: (if other, describe) _____

   ☑ Bubble Wrap ☐ Foam blocks ☑ Bags ☐ None
   ☐ Cloth material ☑ Cardboard ☐ Styrofoam ☐ Paper towels
7. Temperature documentation:

   Type of ice used: ☑ Wet ☐ Blue/Gel ☐ None Temp(°C) _____

   ☑ Samples Received on ice & cold without a temperature blank

   ☐ Samples received on ice directly from the field. Cooling process had begun

8. Were Method 5035 sampling containers present? _____ YES (NO)
   If YES, what time were they transferred to freezer? _____
9. Did all bottles arrive unbroken/unopened? _____ (YES) NO
10. Are samples in the appropriate containers for indicated tests? _____ (YES) NO
11. Are sample labels present, in good condition and complete? _____ (YES) NO
12. Do the sample labels agree with custody papers? _____ (YES) NO
13. Was sufficient amount of sample sent for tests requested? _____ (YES) NO
14. Are the samples appropriately preserved? _____ YES NO (N/A)
15. Are bubbles > 6mm absent in VOA samples? _____ YES NO (N/A)
16. Was the client contacted concerning this sample delivery? _____ YES NO
   If YES, Who was called? _____ By _____ Date: _____

COMMENTS COC DOES NOT HAVE SAMPLE DATE
log in SAMPLE ID label date

5

Curtis & Tompkins, Ltd.

Polychlorinated Biphenyls (PCBs)

Lab #:	209794	Location:	B84 Mezzanine
Client:	Remedy Engeneering	Prep:	EPA 3550B
Project#:	101204	Analysis:	EPA 8082
Units:	ug/Kg	Sampled:	02/05/09
Basis:	as received	Received:	02/05/09

Field ID:	B84MEZZRE0101	Batch#:	147765
Type:	SAMPLE	Prepared:	02/09/09
Lab ID:	209794-001	Analyzed:	02/10/09
Matrix:	Miscell.	Cleanup Method:	EPA 3665A
Diln Fac:	25.00		

Analyte	Result	RL
Aroclor-1016	ND	210
Aroclor-1221	ND	410
Aroclor-1232	ND	210
Aroclor-1242	12,000	210
Aroclor-1248	ND	210
Aroclor-1254	ND	210
Aroclor-1260	370	210

Surrogate	%REC	Limits
TCMX	DO	68-139
Decachlorobiphenyl	DO	52-147

Field ID:	B84MEZZRE0102	Batch#:	147765
Type:	SAMPLE	Prepared:	02/09/09
Lab ID:	209794-002	Analyzed:	02/10/09
Matrix:	Miscell.	Cleanup Method:	EPA 3665A
Diln Fac:	25.00		

Analyte	Result	RL
Aroclor-1016	ND	210
Aroclor-1221	ND	420
Aroclor-1232	ND	210
Aroclor-1242	16,000	210
Aroclor-1248	ND	210
Aroclor-1254	ND	210
Aroclor-1260	400	210

Surrogate	%REC	Limits
TCMX	DO	68-139
Decachlorobiphenyl	DO	52-147

*= Value outside of QC limits; see narrative
DO= Diluted Out
ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Polychlorinated Biphenyls (PCBs)

Lab #:	209794	Location:	B84 Mezzanine
Client:	Remedy Engeneering	Prep:	EPA 3550B
Project#:	101204	Analysis:	EPA 8082
Units:	ug/Kg	Sampled:	02/05/09
Basis:	as received	Received:	02/05/09

Field ID:	B84MEZZRE0103	Batch#:	147765
Type:	SAMPLE	Prepared:	02/09/09
Lab ID:	209794-003	Analyzed:	02/10/09
Matrix:	Miscell.	Cleanup Method:	EPA 3665A
Diln Fac:	50.00		

Analyte	Result	RL
Aroclor-1016	ND	420
Aroclor-1221	ND	830
Aroclor-1232	ND	420
Aroclor-1242	22,000	420
Aroclor-1248	ND	420
Aroclor-1254	ND	420
Aroclor-1260	480	420

Surrogate	%REC	Limits
TCMX	DO	68-139
Decachlorobiphenyl	DO	52-147

Field ID:	B84MEZZRE0104	Batch#:	147765
Type:	SAMPLE	Prepared:	02/09/09
Lab ID:	209794-004	Analyzed:	02/11/09
Matrix:	Miscell.	Cleanup Method:	EPA 3665A
Diln Fac:	20.00		

Analyte	Result	RL
Aroclor-1016	ND	170
Aroclor-1221	ND	330
Aroclor-1232	ND	170
Aroclor-1242	8,200	170
Aroclor-1248	ND	170
Aroclor-1254	ND	170
Aroclor-1260	420	170

Surrogate	%REC	Limits
TCMX	DO	68-139
Decachlorobiphenyl	DO	52-147

*= Value outside of QC limits; see narrative
DO= Diluted Out
ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Polychlorinated Biphenyls (PCBs)

ab #:	209794	Location:	B84 Mezzanine
lient:	Remedy Engeneering	Prep:	EPA 3550B
roject#:	101204	Analysis:	EPA 8082
nits:	ug/Kg	Sampled:	02/05/09
asis:	as received	Received:	02/05/09

eld ID:	B84MEZZRE0105	Batch#:	147765
pe:	SAMPLE	Prepared:	02/09/09
) ID:	209794-005	Analyzed:	02/11/09
trix:	Miscell.	Cleanup Method:	EPA 3665A
ln Fac:	20.00		

Analyte	Result	RL
roclor-1016	ND	170
roclor-1221	ND	330
roclor-1232	ND	170
roclor-1242	11,000	170
roclor-1248	ND	170
roclor-1254	ND	170
roclor-1260	460	170

Surrogate	%REC	Limits
TMX	DO	68-139
ecachlorobiphenyl	DO	52-147

eld ID:	B84MEZZRE0106	Batch#:	147725
pe:	SAMPLE	Prepared:	02/08/09
) ID:	209794-006	Analyzed:	02/09/09
trix:	Miscell.	Cleanup Method:	EPA 3665A
ln Fac:	20.00		

Analyte	Result	RL
roclor-1016	ND	130
roclor-1221	ND	270
roclor-1232	ND	130
roclor-1242	6,600	130
roclor-1248	ND	130
roclor-1254	ND	130
roclor-1260	200	130

Surrogate	%REC	Limits
TMX	DO	68-139
ecachlorobiphenyl	DO	52-147

: Value outside of QC limits; see narrative
: Diluted Out
: Not Detected
: Reporting Limit

Curtis & Tompkins, Ltd.

Polychlorinated Biphenyls (PCBs)

Lab #:	209794	Location:	B84 Mezzanine
Client:	Remedy Engeneering	Prep:	EPA 3550B
Project#:	101204	Analysis:	EPA 8082
Units:	ug/Kg	Sampled:	02/05/09
Basis:	as received	Received:	02/05/09

Field ID:	B84MEZZRE0107	Batch#:	147765
Type:	SAMPLE	Prepared:	02/09/09
Lab ID:	209794-007	Analyzed:	02/11/09
Matrix:	Miscell.	Cleanup Method:	EPA 3665A
Diln Fac:	10.00		

Analyte	Result	RL
Aroclor-1016	ND	83
Aroclor-1221	ND	170
Aroclor-1232	ND	83
Aroclor-1242	5,900	83
Aroclor-1248	ND	83
Aroclor-1254	ND	83
Aroclor-1260	ND	83

Surrogate	%REC	Limits
TCMX	DO	68-139
Decachlorobiphenyl	DO	52-147

Field ID:	B84MEZZRE0108	Batch#:	147765
Type:	SAMPLE	Prepared:	02/09/09
Lab ID:	209794-008	Analyzed:	02/11/09
Matrix:	Miscell.	Cleanup Method:	EPA 3665A
Diln Fac:	20.00		

Analyte	Result	RL
Aroclor-1016	ND	170
Aroclor-1221	ND	330
Aroclor-1232	ND	170
Aroclor-1242	9,700	170
Aroclor-1248	ND	170
Aroclor-1254	ND	170
Aroclor-1260	310	170

Surrogate	%REC	Limits
TCMX	DO	68-139
Decachlorobiphenyl	DO	52-147

*= Value outside of QC limits; see narrative
DO= Diluted Out
ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Polychlorinated Biphenyls (PCBs)

Lab #:	209794	Location:	B84 Mezzanine
Client:	Remedy Engeneering	Prep:	EPA 3550B
Project#:	101204	Analysis:	EPA 8082
Units:	ug/Kg	Sampled:	02/05/09
Basis:	as received	Received:	02/05/09

Field ID:	B84MEZZRE0108D	Batch#:	147765
Type:	SAMPLE	Prepared:	02/09/09
Lab ID:	209794-009	Analyzed:	02/11/09
Matrix:	Miscell.	Cleanup Method:	EPA 3665A
Diln Fac:	10.00		

Analyte	Result	RL
Aroclor-1016	ND	83
Aroclor-1221	ND	170
Aroclor-1232	ND	83
Aroclor-1242	5,800	83
Aroclor-1248	ND	83
Aroclor-1254	ND	83
Aroclor-1260	190	83

Surrogate	%REC	Limits
TCMX	DO	68-139
Decachlorobiphenyl	DO	52-147

Field ID:	B84MEZZRE0109	Batch#:	147765
Type:	SAMPLE	Prepared:	02/09/09
Lab ID:	209794-010	Analyzed:	02/11/09
Matrix:	Miscell.	Cleanup Method:	EPA 3665A
Diln Fac:	20.00		

Analyte	Result	RL
Aroclor-1016	ND	170
Aroclor-1221	ND	330
Aroclor-1232	ND	170
Aroclor-1242	8,000	170
Aroclor-1248	ND	170
Aroclor-1254	ND	170
Aroclor-1260	260	170

Surrogate	%REC	Limits
TCMX	DO	68-139
Decachlorobiphenyl	DO	52-147

*= Value outside of QC limits; see narrative
DO= Diluted Out
ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Polychlorinated Biphenyls (PCBs)

Lab #:	209794	Location:	B84 Mezzanine
Client:	Remedy Engeneering	Prep:	EPA 3550B
Project#:	101204	Analysis:	EPA 8082
Units:	ug/Kg	Sampled:	02/05/09
Basis:	as received	Received:	02/05/09

Field ID:	B84MEZZRE0110	Batch#:	147725
Type:	SAMPLE	Prepared:	02/08/09
Lab ID:	209794-011	Analyzed:	02/09/09
Matrix:	Miscell.	Cleanup Method:	EPA 3665A
Diln Fac:	20.00		

Analyte	Result	RL
Aroclor-1016	ND	130
Aroclor-1221	ND	260
Aroclor-1232	ND	130
Aroclor-1242	8,300	130
Aroclor-1248	ND	130
Aroclor-1254	ND	130
Aroclor-1260	ND	130

Surrogate	%REC	Limits
TCMX	DO	68-139
Decachlorobiphenyl	DO	52-147

Field ID:	B84MEZZRE0111	Batch#:	147765
Type:	SAMPLE	Prepared:	02/09/09
Lab ID:	209794-012	Analyzed:	02/12/09
Matrix:	Miscell.	Cleanup Method:	EPA 3665A
Diln Fac:	20.00		

Analyte	Result	RL
Aroclor-1016	ND	170
Aroclor-1221	ND	330
Aroclor-1232	ND	170
Aroclor-1242	9,600	170
Aroclor-1248	ND	170
Aroclor-1254	ND	170
Aroclor-1260	290	170

Surrogate	%REC	Limits
TCMX	DO	68-139
Decachlorobiphenyl	DO	52-147

*= Value outside of QC limits; see narrative
DO= Diluted Out
ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Polychlorinated Biphenyls (PCBs)

Lab #:	209794	Location:	B84 Mezzanine
Client:	Remedy Engeneering	Prep:	EPA 3550B
Project#:	101204	Analysis:	EPA 8082
Units:	ug/Kg	Sampled:	02/05/09
Basis:	as received	Received:	02/05/09

Field ID:	B84MEZZRE0112	Batch#:	147765
Type:	SAMPLE	Prepared:	02/09/09
Lab ID:	209794-013	Analyzed:	02/12/09
Matrix:	Miscell.	Cleanup Method:	EPA 3665A
Diln Fac:	20.00		

Analyte	Result	RL
Aroclor-1016	ND	170
Aroclor-1221	ND	330
Aroclor-1232	ND	170
Aroclor-1242	8,400	170
Aroclor-1248	ND	170
Aroclor-1254	ND	170
Aroclor-1260	180	170

Surrogate	%REC	Limits
TCMX	DO	68-139
Decachlorobiphenyl	DO	52-147

Field ID:	B84MEZZRE0113	Batch#:	147765
Type:	SAMPLE	Prepared:	02/09/09
Lab ID:	209794-014	Analyzed:	02/12/09
Matrix:	Miscell.	Cleanup Method:	EPA 3665A
Diln Fac:	20.00		

Analyte	Result	RL
Aroclor-1016	ND	170
Aroclor-1221	ND	330
Aroclor-1232	ND	170
Aroclor-1242	7,700	170
Aroclor-1248	ND	170
Aroclor-1254	ND	170
Aroclor-1260	260	170

Surrogate	%REC	Limits
TCMX	DO	68-139
Decachlorobiphenyl	DO	52-147

*= Value outside of QC limits; see narrative
DO= Diluted Out
ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Polychlorinated Biphenyls (PCBs)

Lab #:	209794	Location:	B84 Mezzanine
Client:	Remedy Engeneering	Prep:	EPA 3550B
Project#:	101204	Analysis:	EPA 8082
Units:	ug/Kg	Sampled:	02/05/09
Basis:	as received	Received:	02/05/09

Field ID:	B84MEZZRE0114	Batch#:	147765
Type:	SAMPLE	Prepared:	02/09/09
Lab ID:	209794-015	Analyzed:	02/12/09
Matrix:	Miscell.	Cleanup Method:	EPA 3665A
Diln Fac:	20.00		

Analyte	Result	RL
Aroclor-1016	ND	170
Aroclor-1221	ND	330
Aroclor-1232	ND	170
Aroclor-1242	9,200	170
Aroclor-1248	ND	170
Aroclor-1254	ND	170
Aroclor-1260	200	170

Surrogate	%REC	Limits
TCMX	DO	68-139
Decachlorobiphenyl	DO	52-147

Field ID:	B84MEZZRE0115	Batch#:	147765
Type:	SAMPLE	Prepared:	02/09/09
Lab ID:	209794-016	Analyzed:	02/12/09
Matrix:	Miscell.	Cleanup Method:	EPA 3665A
Diln Fac:	20.00		

Analyte	Result	RL
Aroclor-1016	ND	170
Aroclor-1221	ND	330
Aroclor-1232	ND	170
Aroclor-1242	11,000	170
Aroclor-1248	ND	170
Aroclor-1254	ND	170
Aroclor-1260	260	170

Surrogate	%REC	Limits
TCMX	DO	68-139
Decachlorobiphenyl	DO	52-147

*= Value outside of QC limits; see narrative
DO= Diluted Out
ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Polychlorinated Biphenyls (PCBs)

Lab #:	209794	Location:	B84 Mezzanine
Client:	Remedy Engeneering	Prep:	EPA 3550B
Project#:	101204	Analysis:	EPA 8082
Units:	ug/Kg	Sampled:	02/05/09
Basis:	as received	Received:	02/05/09

Field ID:	B84MEZZRE0116	Batch#:	147765
Type:	SAMPLE	Prepared:	02/09/09
Lab ID:	209794-017	Analyzed:	02/12/09
Matrix:	Miscell.	Cleanup Method:	EPA 3665A
Diln Fac:	20.00		

Analyte	Result	RL
Aroclor-1016	ND	170
Aroclor-1221	ND	330
Aroclor-1232	ND	170
Aroclor-1242	9,300	170
Aroclor-1248	ND	170
Aroclor-1254	ND	170
Aroclor-1260	ND	170

Surrogate	%REC	Limits
TCMX	DO	68-139
Decachlorobiphenyl	DO	52-147

Field ID:	B84MEZZRE0120	Batch#:	147765
Type:	SAMPLE	Prepared:	02/09/09
Lab ID:	209794-018	Analyzed:	02/12/09
Matrix:	Miscell.	Cleanup Method:	EPA 3665A
Diln Fac:	10.00		

Analyte	Result	RL
Aroclor-1016	ND	83
Aroclor-1221	ND	170
Aroclor-1232	ND	83
Aroclor-1242	5,800	83
Aroclor-1248	ND	83
Aroclor-1254	ND	83
Aroclor-1260	200	83

Surrogate	%REC	Limits
TCMX	DO	68-139
Decachlorobiphenyl	DO	52-147

*= Value outside of QC limits; see narrative
DO= Diluted Out
ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Polychlorinated Biphenyls (PCBs)

Lab #:	209794	Location:	B84 Mezzanine
Client:	Remedy Engeneering	Prep:	EPA 3550B
Project#:	101204	Analysis:	EPA 8082
Units:	ug/Kg	Sampled:	02/05/09
Basis:	as received	Received:	02/05/09

Field ID:	B84MEZZRE0117	Batch#:	147765
Type:	SAMPLE	Prepared:	02/09/09
Lab ID:	209794-019	Analyzed:	02/12/09
Matrix:	Miscell.	Cleanup Method:	EPA 3665A
Diln Fac:	20.00		

Analyte	Result	RL
Aroclor-1016	ND	170
Aroclor-1221	ND	330
Aroclor-1232	ND	170
Aroclor-1242	12,000	170
Aroclor-1248	ND	170
Aroclor-1254	ND	170
Aroclor-1260	190	170

Surrogate	%REC	Limits
TCMX	DO	68-139
Decachlorobiphenyl	DO	52-147

Field ID:	B84MEZZRE0118	Batch#:	147765
Type:	SAMPLE	Prepared:	02/09/09
Lab ID:	209794-020	Analyzed:	02/10/09
Matrix:	Miscell.	Cleanup Method:	EPA 3665A
Diln Fac:	20.00		

Analyte	Result	RL
Aroclor-1016	ND	170
Aroclor-1221	ND	330
Aroclor-1232	ND	170
Aroclor-1242	10,000	170
Aroclor-1248	ND	170
Aroclor-1254	ND	170
Aroclor-1260	180	170

Surrogate	%REC	Limits
TCMX	DO	68-139
Decachlorobiphenyl	DO	52-147

*= Value outside of QC limits; see narrative
DO= Diluted Out
ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Polychlorinated Biphenyls (PCBs)

Lab #:	209794	Location:	B84 Mezzanine
Client:	Remedy Engeneering	Prep:	EPA 3550B
Project#:	101204	Analysis:	EPA 8082
Units:	ug/Kg	Sampled:	02/05/09
Basis:	as received	Received:	02/05/09

ield ID:	B84MEZZRE0119	Batch#:	147765
ype:	SAMPLE	Prepared:	02/09/09
ab ID:	209794-021	Analyzed:	02/10/09
atrix:	Miscell.	Cleanup Method:	EPA 3665A
iln Fac:	20.00		

Analyte	Result	RL
Aroclor-1016	ND	170
Aroclor-1221	ND	330
Aroclor-1232	ND	170
Aroclor-1242	8,300	170
Aroclor-1248	ND	170
Aroclor-1254	ND	170
Aroclor-1260	ND	170

Surrogate	%REC	Limits
TCMX	DO	68-139
Decachlorobiphenyl	DO	52-147

ield ID:	B84MEZZRE0119D	Batch#:	147765
ype:	SAMPLE	Prepared:	02/09/09
ab ID:	209794-022	Analyzed:	02/10/09
atrix:	Miscell.	Cleanup Method:	EPA 3665A
iln Fac:	20.00		

Analyte	Result	RL
Aroclor-1016	ND	170
Aroclor-1221	ND	330
Aroclor-1232	ND	170
Aroclor-1242	11,000	170
Aroclor-1248	ND	170
Aroclor-1254	ND	170
Aroclor-1260	210	170

Surrogate	%REC	Limits
TCMX	DO	68-139
Decachlorobiphenyl	DO	52-147

*= Value outside of QC limits; see narrative
O= Diluted Out
D= Not Detected
L= Reporting Limit

Curtis & Tompkins, Ltd.

Polychlorinated Biphenyls (PCBs)

Lab #:	209794	Location:	B84 Mezzanine
Client:	Remedy Engeneering	Prep:	EPA 3550B
Project#:	101204	Analysis:	EPA 8082
Units:	ug/Kg	Sampled:	02/05/09
Basis:	as received	Received:	02/05/09

Type:	BLANK	Batch#:	147725
Lab ID:	QC482549	Prepared:	02/08/09
Matrix:	Soil	Analyzed:	02/08/09
Diln Fac:	1.000	Cleanup Method:	EPA 3665A

Analyte	Result	RL
Aroclor-1016	ND	12
Aroclor-1221	ND	24
Aroclor-1232	ND	12
Aroclor-1242	ND	12
Aroclor-1248	ND	12
Aroclor-1254	ND	12
Aroclor-1260	ND	12

Surrogate	%REC	Limits
TCMX	102	68-139
Decachlorobiphenyl	59	52-147

Type:	BLANK	Batch#:	147765
Lab ID:	QC482712	Prepared:	02/09/09
Matrix:	Miscell.	Analyzed:	02/10/09
Diln Fac:	1.000	Cleanup Method:	EPA 3665A

Analyte	Result	RL
Aroclor-1016	ND	12
Aroclor-1221	ND	24
Aroclor-1232	ND	12
Aroclor-1242	ND	12
Aroclor-1248	ND	12
Aroclor-1254	ND	12
Aroclor-1260	ND	12

Surrogate	%REC	Limits
TCMX	73	68-139
Decachlorobiphenyl	47 *	52-147

*= Value outside of QC limits; see narrative
DO= Diluted Out
ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

ıtch QC Report

Polychlorinated Biphenyls (PCBs)

ab #:	209794	Location:	B84 Mezzanine
lient:	Remedy Engeneering	Prep:	EPA 3550B
roject#:	101204	Analysis:	EPA 8082
ype:	LCS	Diln Fac:	1.000
ab ID:	QC482553	Batch#:	147725
atrix:	Soil	Prepared:	02/08/09
nits:	ug/Kg	Analyzed:	02/08/09
asis:	as received		

eanup Method: EPA 3665A

Analyte	Spiked	Result	%REC	Limits
roclor-1016	165.8	168.1	101	73-139
roclor-1260	165.8	164.8	99	76-143

Surrogate	%REC	Limits
CMX	105	68-139
ecachlorobiphenyl	56	52-147

Curtis & Tompkins, Ltd.

Batch QC Report

Polychlorinated Biphenyls (PCBs)

Lab #:	209794	Location:	B84 Mezzanine
Client:	Remedy Engeneering	Prep:	EPA 3550B
Project#:	101204	Analysis:	EPA 8082
Field ID:	ZZZZZZZZZZ	Batch#:	147725
MSS Lab ID:	209766-005	Sampled:	02/03/09
Matrix:	Soil	Received:	02/05/09
Units:	ug/Kg	Prepared:	02/08/09
Basis:	as received	Analyzed:	02/09/09
Diln Fac:	1.000		

Type: MS Cleanup Method: EPA 3665A
Lab ID: QC482554

Analyte	MSS Result	Spiked	Result	%REC	Limits
Aroclor-1016	<1.543	166.5	162.3	97	66-146
Aroclor-1260	<1.835	166.5	160.3	96	52-142

Surrogate	%REC	Limits
TCMX	92	68-139
Decachlorobiphenyl	53	52-147

Type: MSD Cleanup Method: EPA 3665A
Lab ID: QC482555

Analyte	Spiked	Result	%REC	Limits	RPD	Li
Aroclor-1016	165.8	156.2	94	66-146	3	28
Aroclor-1260	165.8	156.2	94	52-142	2	28

Surrogate	%REC	Limits
TCMX	88	68-139
Decachlorobiphenyl	49 *	52-147

*= Value outside of QC limits; see narrative
RPD= Relative Percent Difference

Curtis & Tompkins, Ltd.

Batch QC Report

Polychlorinated Biphenyls (PCBs)

Lab #:	209794	Location:	B84 Mezzanine
Client:	Remedy Engeneering	Prep:	EPA 3550B
Project#:	101204	Analysis:	EPA 8082
Matrix:	Miscell.	Batch#:	147765
Units:	ug/Kg	Prepared:	02/09/09
Basis:	as received	Analyzed:	02/10/09
Diln Fac:	1.000		

Type: BS Cleanup Method: EPA 3665A
Lab ID: QC482713

Analyte	Spiked	Result	%REC	Limits
Aroclor-1016	166.5	131.4	79	73-139
Aroclor-1260	166.5	149.9	90	76-143

Surrogate	%REC	Limits
TCMX	81	68-139
Decachlorobiphenyl	48 *	52-147

Type: BSD Cleanup Method: EPA 3665A
Lab ID: QC482714

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
Aroclor-1016	166.8	135.0	81	73-139	2	20
Aroclor-1260	166.8	142.7	86	76-143	5	22

Surrogate	%REC	Limits
TCMX	80	68-139
Decachlorobiphenyl	44 *	52-147

*= Value outside of QC limits; see narrative
RPD= Relative Percent Difference

Tier II Data Validation Report Summary

Client: Remedy Engineering	Laboratory: Curtis & Tompkins, Ltd.
Project Name: B84 Mezzanine	Sample Matrix: Concrete
Project Number: 03S-001-001	Sample Start Date: October 6, 2009
Date Validated: October 23, 2009	Sample End Date: October 6, 2009
Parameters Included: Polychlorinated Biphenyls (PCB) by Environmental Protection Agency (EPA) Method 8082	
Laboratory Project ID: 215476	
Data Validator: Jessica Swanson, Environmental Chemist	

DATA EVALUATION CRITERIA SUMMARY

A Tier II Data Validation was performed by Trihydro Corporation's Chemical Data Evaluation Services group on the analytical data report package generated by Curtis & Tompkins, Ltd. evaluating samples from the B84 Mezzanine site located in Mare Island, California.

Precision, accuracy, method compliance, and completeness of this data package were assessed during this data review. Precision was determined by evaluating the calculated relative percent difference (RPD) values of samples from laboratory duplicate pairs. Laboratory accuracy was established by reviewing the demonstrated percent recoveries of matrix spike (MS) and matrix spike duplicate (MSD) samples, and of laboratory control samples (LCS) to verify that none of the data were biased. Method compliance was established by reviewing holding times, detection limits, surrogate recoveries, method blanks, and the LCS percent recoveries against method specific requirements. Completeness was evaluated by determining the overall ratio of the number of samples planned versus the number of samples with valid analyses. Determination of completeness included a review of the chain-of-custody, laboratory analytical methods, and any other necessary documents associated with this analytical data set.

Data were evaluated in general accordance with validation criteria set forth in the USEPA Contract Laboratory Program (CLP) National Functional Guidelines for Superfund Organic Methods Data Review, document number USEPA-540-R-08-01, June 2008 with additional reference to USEPA Contract Laboratory Program (CLP) National Functional Guidelines for Organic Data Review, document number EPA 540/R-99-008 of October 1999. Review of duplicates is conducted in accordance with USEPA Region 1 Laboratory Data Validation Function Guidelines for Evaluation of Organic Analysis, December 1996.

SAMPLE NUMBERS TABLE

Client Sample ID	Laboratory Sample Number
B84MEZZRE0121	215476-001
B84MEZZRE0122	215476-002
B84MEZZRE0123	215476-003
B84MEZZRE0124	215476-004
B84MEZZRE0124D	215476-005
B84MEZZRE0125	215476-006
B84MEZZRE0126	215476-007
B84MEZZRE0127	215476-008
B84MEZZRE0128	215476-009

Tier II Data Validation Report

The samples were analyzed for client-specified analytes. Chain-of-custody (COC) completeness is included in Section #3. The laboratory data were reviewed to evaluate compliance with the required methods and the quality of the reported data. A leading check mark (✓) indicates that the referenced data were deemed acceptable. A preceding crossed circle (⊗) signifies problems with the referenced data that may have warranted attaching qualifiers to the data.

- ✓ Data Completeness
- ✓ COC Documentation
- ✓ Holding Times and Preservation
- ✓ Laboratory Blanks
- ✓ System Monitoring Compounds (i.e. Surrogates)
- ✓ Laboratory Control Samples (LCS)
- ✓ Matrix Spike/Matrix Spike Duplicates (MS/MSD)
- ✓ Laboratory Duplicates
- ✓ Field Duplicates

OVERALL DATA PACKAGE ASSESSMENT

Based on a data validation review, the data are acceptable as delivered. Data qualified by the laboratory are discussed in Section #2.

The purpose of validating data and assigning qualifiers is to assist in proper data interpretation. Data which are not qualified meet the site data quality objectives. If values are assigned qualifiers other than an R, the data may be used for site evaluation, with the reasons for qualification being given consideration when interpreting sample concentrations. Data points which are assigned an R qualifier should not be used for any site evaluation purposes. Data qualifiers were not used during this validation.

Data Completeness

The analyses appeared to be performed as requested on the chain-of-custody records. The associated samples were received by the laboratory and appeared to be analyzed properly. No data points were rejected. The data completeness measure for this data package is 100% and is acceptable.

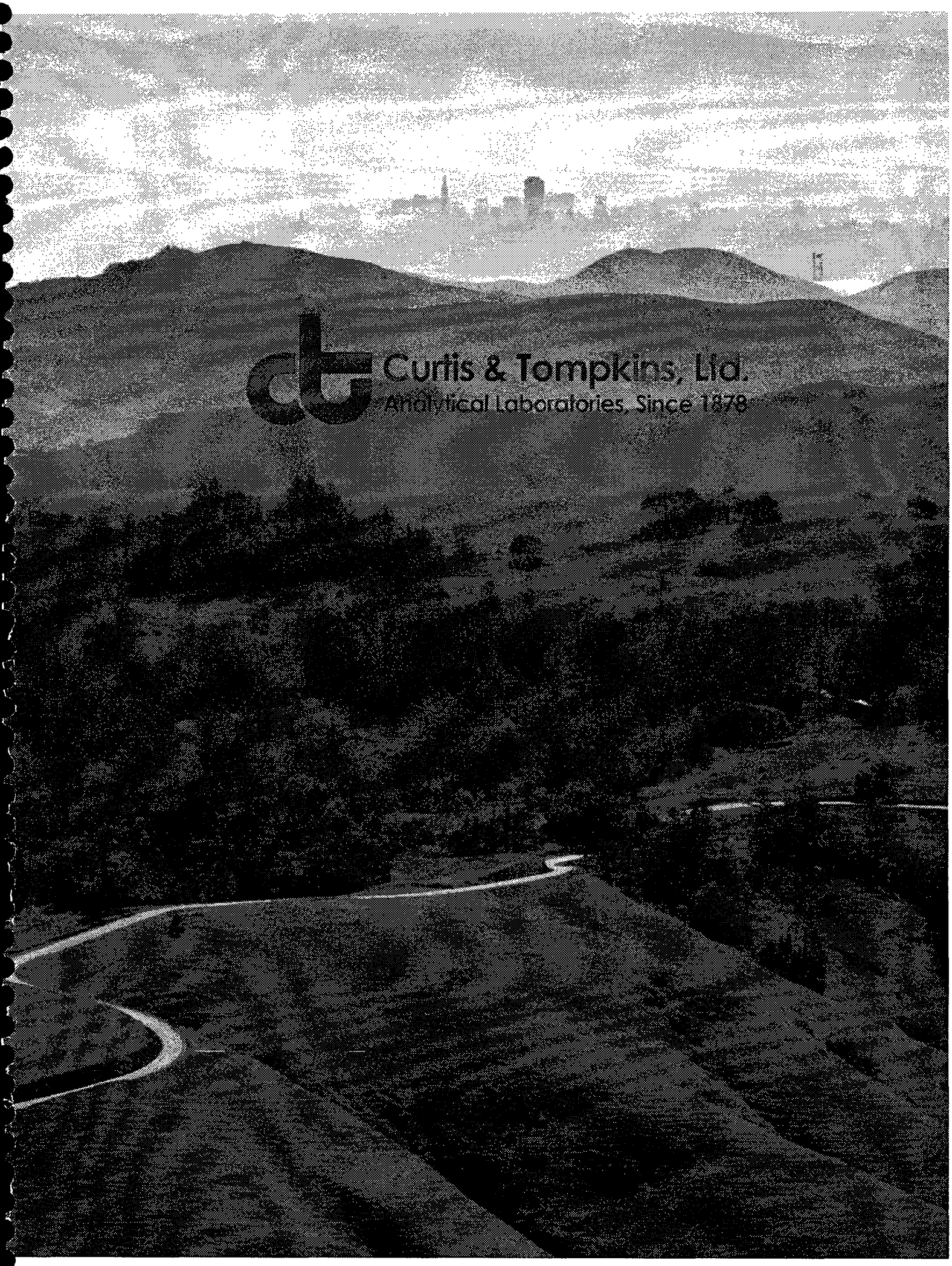
VALIDATION CRITERIA CHECKLIST	
1. Was the report free of any non-conformances related to the analytical data identified by the laboratory?	Yes
Comments: The laboratory report was free of non-conformances related to the analytical data.	
2. Were data qualification flags or any other notes used by the laboratory? If yes, define.	Yes
Comments: The laboratory did not use data qualification flags with this data set. The laboratory did note that all samples underwent sulfuric acid cleanup using EPA Method 3665A. All samples underwent sulfur cleanup using the copper option in EPA Method 3660B. No analytical problems were encountered.	
3. Were sample COC forms complete?	Yes
Comments: The COC forms were complete from the field to the laboratory. Custody was maintained by proper signatures, dates, and times of receipt.	
4. Were detection limits in accordance with the QAPP, permit, or method, or indicated as acceptable by the Tier I validator?	Yes
Comments: The detection limits were acceptable and dilutions were not required for the requested analysis.	
5. Were the requested analytical methods in compliance with the QAPP, permit, or COC?	Yes
Comments: The analytical methods were performed in accordance with the COC.	
6. Were samples received in good condition within method specified requirements?	No
Comments: The samples were received in good condition, with one exception. The samples were received above the recommended temperature range of 4°C +/- 2°C at 17°C, which was determined to be acceptable due to the sample matrix of concrete and since the samples were delivered immediately after collection, not having sufficient time to cool. Custody seals were not present, which was acceptable since the samples were delivered directly to the laboratory after collection and custody was maintained.	
7. Were samples analyzed within method specified or technical holding times?	Yes
Comments: The samples were analyzed within the holding times.	
8. Were reported units appropriate for the associated sample matrix/matrices and method(s) of analyses?	Yes
Comments: The sample results were reported in units of µg/Kg, which are acceptable for the concrete matrix and requested analysis.	
9. Do the laboratory reports include all constituents requested to be reported as indicated by the Tier I validator?	Yes
Comments: The laboratory report includes the requested constituents.	
10. Was there indication from the laboratory that the initial or continuing calibration verification results were within acceptable limits?	N/A
Comments: Initial and continuing calibration data were not included as part of this data set; however, these data are assumed to be acceptable as the laboratory did not note that any calibration verification results were outside acceptable limits.	
11. Was the total number of method blank samples prepared equal to at least 5% of the total number of samples, or analyzed as required by the method?	Yes
Comments: Method blank samples were prepared on at least a 5% basis.	
12. Were method blank samples free of analyte contamination?	Yes
Comments: There were no detections of the requested analytes reported in the method blank samples.	

VALIDATION CRITERIA CHECKLIST	
13. Was the total number of matrix spike samples prepared equal to at least 5% of the total number of samples, or analyzed as required by the method?	Yes
Comments: Matrix spike samples were prepared on at least a 5% basis for the total number of samples. The MS/MSD samples for PCB batch 155889 were prepared from sample B84MEZZRE0127.	
14. Were MS/MSD percent recoveries and MS/MSD RPD values within data validation or laboratory quality control (QC) limits?	Yes
Comments: The MS/MSD percent recoveries and the MS/MSD RPD values were within laboratory QC limits.	
15. Was the total number of LCSs analyzed equal to at least 5% of the total number of samples, or analyzed as required by the method?	Yes
Comments: The number of LCSs analyzed was at least 5% of the total number of samples.	
16. Were LCS/LCSD percent recoveries and LCS/LCSD RPD values within laboratory QC limits?	Yes
Comments: The LCS percent recoveries were within laboratory QC limits.	
17. Were surrogate recoveries within laboratory control limits?	Yes
Comments: The surrogate recoveries were within laboratory control limits.	
18. Was the number of equipment, trip, or field blanks collected equal to at least 10% of the total number of samples, or as required by the project guidelines, QAPP, SAP, or permit, or as indicated by the Tier I validator?	No
Comments: Equipment, trip, and field blanks were not collected and submitted with the samples of this data set.	
19. Were the trip blank, field blank, and/or equipment blank samples free of analyte contamination?	N/A
Comments: Equipment, trip, and field blanks were not collected and submitted with the samples of this data set.	
20. Were the field duplicates collected equal to at least 10% of the total number of samples, or as required by the project guidelines, QAPP, SAP, or permit, or as indicated by the Tier I validator?	Yes
Comments: One field duplicate, B84MEZZRE0124D was collected as a duplicate of sample B84MEZZRE0124, which is at least 10% of the total number of samples.	
21. Were field duplicate RPD values within data validation QC limits (soil 0-50%, water 0-30%, or air 0-25%)?	Yes
Comments: Field duplicate RPD values were within data validation limits as shown in the Field Duplicate Summary table at the end of this report.	
22. Were laboratory duplicate RPD values within laboratory-specified limits?	N/A
Comments: Laboratory duplicates were not prepared nor required for the requested analyses.	

FIELD DUPLICATE SUMMARY

Client Sample ID: B84MEZZRE0124 Field Duplicate Sample ID: B84MEZZRE0124D			
Analyte	**Laboratory Result (µg/Kg)**	**Duplicate Result (µg/Kg)**	**Relative Percent Difference (RPD)**
Aroclor-1242	160	200	22.2%

Field duplicate RPD control limits should not exceed 30% for water, 50% for soil, or 25% for air or vapor as established by USEPA Region 1 Laboratory Data Validation Function Guidelines for Evaluation of Organic Analysis, December 1996.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Analytical Laboratories, Since 1878

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2323 Fifth Street, Berkeley, CA 94710, Phone (510) 486-0900

Laboratory Job Number 215476
ANALYTICAL REPORT

Remedy Engeneering 1567 Yuba St Redding, CA 96001	Project : 101204 Location : B84 Mezzanine Level : II

Sample ID	Lab ID
B84MEZZRE0121	215476-001
B84MEZZRE0122	215476-002
B84MEZZRE0123	215476-003
B84MEZZRE0124	215476-004
B84MEZZRE0124D	215476-005
B84MEZZRE0125	215476-006
B84MEZZRE0126	215476-007
B84MEZZRE0127	215476-008
B84MEZZRE0128	215476-009

This data package has been reviewed for technical correctness and completeness. Release of this data has been authorized by the Laboratory Manager or the Manager's designee, as verified by the following signature. The results contained in this report meet all requirements of NELAC and pertain only to those samples which were submitted for analysis. This report may be reproduced only in its entirety.

Signature: Lisa Brooker
Project Manager

Date: 10/22/2009

NELAP # 01107CA

Curtis & Tompkins, Ltd.

CASE NARRATIVE

Laboratory number:	**215476**
Client:	**Remedy Engeneering**
Project:	**101204**
Location:	**B84 Mezzanine**
Request Date:	**10/06/09**
Samples Received:	**10/06/09**

This data package contains sample and QC results for nine concrete samples, requested for the above referenced project on 10/06/09. The samples were received on ice and intact, directly from the field.

PCBs (EPA 8082):

All samples underwent sulfuric acid cleanup using EPA Method 3665A. All samples underwent sulfur cleanup using the copper option in EPA Method 3660B. No analytical problems were encountered.

Curtis & Tompkins, Ltd.
Analytical Laboratory Since 1878
2323 Fifth Street
Berkeley, CA 94710
(510) 486-0900 Phone
(510) 486-0532 Fax

CHAIN OF CUSTODY

C & T LOGIN #: 215476

Sampler: N. BUSH

Project No.: 101204

Report To: JEFF MORRIS

Project Name: B84 MEZZANINE

Company: REMEDY ENGINEERING

Project P.O.: 101204

Telephone: 530-241-7658

Turnaround Time: STD

Fax: 530-241-7659

Analysis

Lab No.	Sample ID.	Sampling Date Time	Matrix: Soil	Matrix: Water	Matrix: Waste	# of Containers	Preservative: HCL	Preservative: H_2SO_4	Preservative: HNO_3	Preservative: ICE	PCB
1	B84MEZZRE0121	10/6/09 10:40			X	1				X	X
2	B84MEZZRE0122	10/6/09 10:55			X	1				X	X
3	B84MEZZRE0123	10/6/09 11:05			X	1				X	X
4	B84 MEZZRE0124	10/6/09 11:15			X	1				X	X
5	B84 MEZZRE0124D	10/6/09 11:15			X	1				X	X
6	B84 MEZZRE0125	10/6/09 11:45			X	1				X	X
7	B84 MEZZRE0126	10/6/09 11:55			X	1				X	X
8	B84 MEZZRE0127	10/6/09 12:05			X	1				X	X
↓	B84MEZZRE0127DUS	10/6/09 12:05			X	1				X	X
9	B84 MEZZRE0128	10/6/09 12:15			X	1				X	X

Notes:
SAMPLES ARE CONCRETE CHIPS/DUST

SAMPLE RECEIPT
☐ Intact ☐ Cold
☑ On Ice ☐ Ambient

Preservative Correct?
☐ Yes ☐ No ☐ N/A

RELINQUISHED BY:	DATE / TIME	RECEIVED BY:	DATE / TIME
[signature]	10/6/09 13:40	[signature]	10/6/09 13:40
[signature]	10/6/09 1700	[signature]	10/6/09 1700

2 of

COOLER RECEIPT CHECKLIST

Curtis & Tompkins, Ltd.

Login # 215476 Date Received 10-06-09 Number of coolers 1
Client REMEDY EGINEERING Project 884 MEZZANINE

Date Opened 10-06-09 By (print) J. EVANS (sign) [signature]
Date Logged in ↓ By (print) ↓ (sign) ↓

1. Did cooler come with a shipping slip (airbill, etc) ____ YES (NO)
   Shipping info ____
2A. Were custody seals present? ... ☐ YES (circle) on cooler on samples ☑ NO
   How many ____ Name ____ Date ____
2B. Were custody seals intact upon arrival? ____ YES NO (N/A)
3. Were custody papers dry and intact when received? ____ (YES) NO
4. Were custody papers filled out properly (ink, signed, etc)? ____ (YES) NO
5. Is the project identifiable from custody papers? (If so fill out top of form) ____ (YES) NO
6. Indicate the packing in cooler: (if other, describe) ____

☐ Bubble Wrap ☐ Foam blocks ☑ Bags ☐ None
☐ Cloth material ☑ Cardboard ☐ Styrofoam ☐ Paper towels

7. Temperature documentation:

Type of ice used: ☑ Wet ☐ Blue/Gel ☐ None Temp(°C) 17.0

☐ Samples Received on ice & cold without a temperature blank

☑ Samples received on ice directly from the field. Cooling process had begun

8. Were Method 5035 sampling containers present? ____ YES (NO)
   If YES, what time were they transferred to freezer? ____
9. Did all bottles arrive unbroken/unopened? ____ (YES) NO
10. Are samples in the appropriate containers for indicated tests? ____ (YES) NO
11. Are sample labels present, in good condition and complete? ____ (YES) NO
12. Do the sample labels agree with custody papers? ____ (YES) NO
13. Was sufficient amount of sample sent for tests requested? ____ (YES) NO
14. Are the samples appropriately preserved? ____ YES NO (N/A)
15. Are bubbles > 6mm absent in VOA samples? ____ YES NO (N/A)
16. Was the client contacted concerning this sample delivery? ____ YES NO
   If YES, Who was called? ____ By ____ Date: ____

COMMENTS
SAMPLE # 008 LOGGED AS MS/MSD AS PER LJB. [signature]

Curtis & Tompkins, Ltd.

Polychlorinated Biphenyls (PCBs)

Lab #:	215476	Location:	B84 Mezzanine
Client:	Remedy Engeneering	Prep:	EPA 3550B
Project#:	101204	Analysis:	EPA 8082
Units:	ug/Kg	Sampled:	10/06/09
Basis:	as received	Received:	10/06/09
Diln Fac:	1.000	Prepared:	10/09/09
Batch#:	155889		

Field ID:	B84MEZZRE0121	Matrix:	Miscell.
Type:	SAMPLE	Analyzed:	10/19/09
Lab ID:	215476-001		

Analyte	Result	RL
Aroclor-1016	ND	12
Aroclor-1221	ND	24
Aroclor-1232	ND	12
Aroclor-1242	65	12
Aroclor-1248	ND	12
Aroclor-1254	ND	12
Aroclor-1260	ND	12

Surrogate	%REC	Limits
TCMX	88	68-139
Decachlorobiphenyl	46	46-133

Field ID:	B84MEZZRE0122	Matrix:	Miscell.
Type:	SAMPLE	Analyzed:	10/19/09
Lab ID:	215476-002		

Analyte	Result	RL
Aroclor-1016	ND	12
Aroclor-1221	ND	24
Aroclor-1232	ND	12
Aroclor-1242	140	12
Aroclor-1248	ND	12
Aroclor-1254	ND	12
Aroclor-1260	ND	12

Surrogate	%REC	Limits
TCMX	108	68-139
Decachlorobiphenyl	56	46-133

Field ID:	B84MEZZRE0123	Matrix:	Miscell.
Type:	SAMPLE	Analyzed:	10/19/09
Lab ID:	215476-003		

Analyte	Result	RL
Aroclor-1016	ND	12
Aroclor-1221	ND	24
Aroclor-1232	ND	12
Aroclor-1242	110	12
Aroclor-1248	ND	12
Aroclor-1254	ND	12
Aroclor-1260	ND	12

Surrogate	%REC	Limits
TCMX	113	68-139
Decachlorobiphenyl	70	46-133

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Polychlorinated Biphenyls (PCBs)

Lab #:	215476	Location:	B84 Mezzanine
Client:	Remedy Engeneering	Prep:	EPA 3550B
Project#:	101204	Analysis:	EPA 8082
Units:	ug/Kg	Sampled:	10/06/09
Basis:	as received	Received:	10/06/09
Diln Fac:	1.000	Prepared:	10/09/09
Batch#:	155889		

Field ID:	B84MEZZRE0124	Matrix:	Miscell.
Type:	SAMPLE	Analyzed:	10/19/09
Lab ID:	215476-004		

Analyte	Result	RL
Aroclor-1016	ND	12
Aroclor-1221	ND	24
Aroclor-1232	ND	12
Aroclor-1242	160	12
Aroclor-1248	ND	12
Aroclor-1254	ND	12
Aroclor-1260	ND	12

Surrogate	%REC	Limits
TCMX	135	68-139
Decachlorobiphenyl	73	46-133

Field ID:	B84MEZZRE0124D	Matrix:	Miscell.
Type:	SAMPLE	Analyzed:	10/19/09
Lab ID:	215476-005		

Analyte	Result	RL
Aroclor-1016	ND	12
Aroclor-1221	ND	24
Aroclor-1232	ND	12
Aroclor-1242	200	12
Aroclor-1248	ND	12
Aroclor-1254	ND	12
Aroclor-1260	ND	12

Surrogate	%REC	Limits
TCMX	125	68-139
Decachlorobiphenyl	71	46-133

Field ID:	B84MEZZRE0125	Matrix:	Miscell.
Type:	SAMPLE	Analyzed:	10/19/09
Lab ID:	215476-006		

Analyte	Result	RL
Aroclor-1016	ND	12
Aroclor-1221	ND	24
Aroclor-1232	ND	12
Aroclor-1242	100	12
Aroclor-1248	ND	12
Aroclor-1254	ND	12
Aroclor-1260	ND	12

Surrogate	%REC	Limits
TCMX	111	68-139
Decachlorobiphenyl	59	46-133

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Polychlorinated Biphenyls (PCBs)

Lab #:	215476	Location:	B84 Mezzanine
Client:	Remedy Engeneering	Prep:	EPA 3550B
Project#:	101204	Analysis:	EPA 8082
Units:	ug/Kg	Sampled:	10/06/09
Basis:	as received	Received:	10/06/09
Diln Fac:	1.000	Prepared:	10/09/09
Batch#:	155889		

Field ID:	B84MEZZRE0126	Matrix:	Miscell.
Type:	SAMPLE	Analyzed:	10/19/09
Lab ID:	215476-007		

Analyte	Result	RL
Aroclor-1016	ND	12
Aroclor-1221	ND	24
Aroclor-1232	ND	12
Aroclor-1242	180	12
Aroclor-1248	ND	12
Aroclor-1254	ND	12
Aroclor-1260	ND	12

Surrogate	%REC	Limits
TCMX	99	68-139
Decachlorobiphenyl	51	46-133

Field ID:	B84MEZZRE0127	Matrix:	Miscell.
Type:	SAMPLE	Analyzed:	10/19/09
Lab ID:	215476-008		

Analyte	Result	RL
Aroclor-1016	ND	12
Aroclor-1221	ND	24
Aroclor-1232	ND	12
Aroclor-1242	71	12
Aroclor-1248	ND	12
Aroclor-1254	ND	12
Aroclor-1260	ND	12

Surrogate	%REC	Limits
TCMX	99	68-139
Decachlorobiphenyl	53	46-133

Field ID:	B84MEZZRE0128	Matrix:	Miscell.
Type:	SAMPLE	Analyzed:	10/19/09
Lab ID:	215476-009		

Analyte	Result	RL
Aroclor-1016	ND	12
Aroclor-1221	ND	24
Aroclor-1232	ND	12
Aroclor-1242	200	12
Aroclor-1248	ND	12
Aroclor-1254	ND	12
Aroclor-1260	ND	12

Surrogate	%REC	Limits
TCMX	101	68-139
Decachlorobiphenyl	53	46-133

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Polychlorinated Biphenyls (PCBs)

Lab #:	215476	Location:	B84 Mezzanine
Client:	Remedy Engeneering	Prep:	EPA 3550B
Project#:	101204	Analysis:	EPA 8082
Units:	ug/Kg	Sampled:	10/06/09
Basis:	as received	Received:	10/06/09
Diln Fac:	1.000	Prepared:	10/09/09
Batch#:	155889		

Type:	BLANK	Matrix:	Soil
Lab ID:	QC515990	Analyzed:	10/14/09

Analyte	Result	RL
Aroclor-1016	ND	12
Aroclor-1221	ND	24
Aroclor-1232	ND	12
Aroclor-1242	ND	12
Aroclor-1248	ND	12
Aroclor-1254	ND	12
Aroclor-1260	ND	12

Surrogate	%REC	Limits
TCMX	112	68-139
Decachlorobiphenyl	71	46-133

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Batch QC Report

Polychlorinated Biphenyls (PCBs)

Lab #:	215476	Location:	B84 Mezzanine
Client:	Remedy Engeneering	Prep:	EPA 3550B
Project#:	101204	Analysis:	EPA 8082
Type:	LCS	Diln Fac:	1.000
Lab ID:	QC515991	Batch#:	155889
Matrix:	Soil	Prepared:	10/09/09
Units:	ug/Kg	Analyzed:	10/16/09

Analyte	Spiked	Result	%REC	Limits
Aroclor-1016	165.9	159.0	96	78-142
Aroclor-1260	165.9	162.4	98	78-143

Surrogate	%REC	Limits
TCMX	105	68-139
Decachlorobiphenyl	71	46-133

Curtis & Tompkins, Ltd.

atch QC Report

Polychlorinated Biphenyls (PCBs)

Lab #:	215476	Location:	B84 Mezzanine
Client:	Remedy Engeneering	Prep:	EPA 3550B
Project#:	101204	Analysis:	EPA 8082
Field ID:	B84MEZZRE0127	Batch#:	155889
MSS Lab ID:	215476-008	Sampled:	10/06/09
Matrix:	Miscell.	Received:	10/06/09
Units:	ug/Kg	Prepared:	10/09/09
Basis:	as received	Analyzed:	10/21/09
Diln Fac:	1.000		

ype: MS Lab ID: QC515994

Analyte	MSS Result	Spiked	Result	%REC	Limits
Aroclor-1016	<0.7324	165.1	219.9	133	65-155
Aroclor-1260	<0.5329	165.1	149.8	91	48-150

Surrogate	%REC	Limits
TCMX	104	68-139
Decachlorobiphenyl	56	46-133

ype: MSD Lab ID: QC515995

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
Aroclor-1016	166.1	255.4	154	65-155	14	27
Aroclor-1260	166.1	150.4	91	48-150	0	30

Surrogate	%REC	Limits
TCMX	110	68-139
Decachlorobiphenyl	50	46-133

PD= Relative Percent Difference

Tier II+ Data Validation Report Summary

Client: Remedy Engineering	Laboratory: CH2MHILL
Project Name: Building 84 Mezzanine Floor Removal	Sample Matrix: Air
Project Number: 200-309-012	Sample Start Date: January 12, 2010
Date Validated: February 2, 2010	Sample End Date: January 13, 2010
Parameters Included: PCB Congeners by EPA Mod, Method E1668A	
Laboratory Project IDs: J1057	
Data Validator: Christina Hiegel, Civil Engineer, P.E.	

DATA EVALUATION CRITERIA SUMMARY

A Tier II+ Data Validation was performed by Trihydro Corporation's Chemical Data Evaluation Services group on the analytical data report package generated by Lancaster Laboratories evaluating samples from the Lennar Building 84 Mezzanine Floor Removal Site.

Precision, accuracy, method compliance, and completeness of this data package were assessed during this data review. Precision was determined by evaluating the calculated relative percent difference (RPD) values of samples from laboratory sample duplicate pairs. Laboratory accuracy was established by reviewing the demonstrated percent recoveries of matrix spike (MS) and matrix spike duplicate (MSD) samples, and of laboratory control samples (LCS) and laboratory control sample duplicates (LCSD) to verify that none of the data were biased. Additionally, field accuracy was established by collecting a trip blank to monitor for possible ambient or cross contamination during sampling. Method compliance was established by reviewing holding times, detection limits, surrogate recoveries, method blanks, and the LCS and LCSD percent recoveries against method specific requirements. Completeness was evaluated by determining the overall ratio of the number of samples planned versus the number of samples with valid analyses. Determination of completeness included a review of the chain-of-custody, laboratory analytical methods, and any other necessary documents associated with this analytical data set.

Data were evaluated in general accordance with validation criteria set forth in the USEPA Contract Laboratory Program (CLP) National Functional Guidelines for Superfund Organic Methods Data Review, document number USEPA-540-R-08-01, June 2008 with additional reference to USEPA Contract Laboratory Program (CLP) National Functional Guidelines for Organic Data Review, document number EPA 540/R-99-008 of October 1999.

SAMPLE NUMBERS TABLE

Client Sample ID	Laboratory Sample Number
B84IARE1	J105701
B84IARE2	J105702
B84IARE3	J105703
B84IARE3D	J105704
B84IARETB	J105705

Tier II+ Data Validation Report Summary

The samples were analyzed for client-specified analytes. Chain-of-custody (COC) completeness is included in Section #3. The laboratory data were reviewed to evaluate compliance with the required methods and the quality of the reported data. A leading check mark (✓) indicates that the referenced data were deemed acceptable. A preceding crossed circle (⊗) signifies problems with the referenced data that may have warranted attaching qualifiers to the data.

- ✓ Data Completeness
- ✓ COC Documentation
- ✓ Holding Times and Preservation
- ✓ Laboratory Blanks
- ✓ System Monitoring Compounds (i.e. Surrogates)
- ✓ Laboratory Control Samples (LCS)
- ✓ Field Duplicate
- ⊗ Initial and Continuing Calibrations
- ✓ Internal Standards
- ✓ Trip Blank

OVERALL DATA PACKAGE ASSESSMENT

Based on a data validation review, the data are acceptable as delivered. Data qualified by the laboratory are discussed in Section #2.

The purpose of validating data and assigning qualifiers is to assist in proper data interpretation. Data which are not qualified meet the site data quality objectives. If values are assigned qualifiers other than an R, the data may be used for site evaluation, with the reasons for qualification being given consideration when interpreting sample concentrations. Data points which are assigned an R qualifier should not be used for any site evaluation purposes. Laboratory J flags were preserved in the data and included in the Data Qualification Summary table. Data were also flagged due to out of range calibration recoveries.

Data qualifiers used during this validation included:

J – Estimated concentration

UJ – Estimated reporting limit

Data Completeness

The analyses appeared to be performed as requested on the chain-of-custody records. The associated samples were received by the laboratory and appeared to be analyzed properly. No data points were rejected. The data completeness measure for this data package is 100%.

VALIDATION CRITERIA CHECKLIST	
1. Was the report free of any non-conformances related to the analytical data indentified by the laboratory?	Yes
Comments: The laboratory reported that PCB-47L and PCB-178L were used as travel spiked and were not added to QC samples (XB1-0114 and BS1X0114). No recoveries were calculated for the surrogates in the samples.	
2. Were data qualification flags or any other notes used by the laboratory? If yes, define.	Yes
Comments: The laboratory applied the following qualification flags to these data sets: J – The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample. * – Values outside of QC limits.	
3. Were sample chain-of-custody (COC) forms complete?	Yes
Comments: The COC form was complete from the field to the laboratory.	
4. Were detection limits in accordance with the QAPP, permit, or method, or indicated as acceptable by the Tier I validator?	Yes
Comments: The detection limits appeared to be acceptable and no dilutions were required.	
5. Were the requested analytical methods in compliance with the QAPP, permit, or COC?	Yes
Comments: Requested analytical methods were in accordance with the COC form.	
6. Were samples received in good condition within method specified requirements?	Yes
Comments: Samples were received on ice, intact with custody seals within the 4°C±2°C acceptable range at 2.0°C. The sample custody seals were reported to be intact. Samples were collected using polyurethane-foam-based passive samplers (PUF-PAS) for PCB's in air.	
7. Were samples analyzed within method specified or technical holding times?	Yes
Comments: The holding times of 14 days to extraction and 40 days to analyses (National Functional Guidelines) for non-aqueous samples was met.	
8. Were reported units appropriate for the associated sample matrix/matrices and method(s) of analyses?	Yes
Comments: The results were reported in concentration units of ng/filter, which are acceptable for the air matrix.	
9. Do the laboratory reports include all constituents requested to be reported as indicated by the Tier I validator?	Yes
Comments: The laboratory reported the requested constituents in accordance with the permit and with the COC and the attached analyte list.	

VALIDATION CRITERIA CHECKLIST	
10. Was there indication from the laboratory that the initial or continuing calibration verification results were within acceptable limits?	No
Comments: Initial and continuing calibration results were within data validation QC limits, with the following exceptions. In the continuing calibration analyzed on 01/21/2010 at 14:30 the percent differences for the analytes PCB-126, PCB-138, PCB-129, PCB-158, PCB-128, PCB-167, PCB-156, PCB-157, PCB-169, PCB-187, and PCB-206 were outside data validation QC limits of 0-15% at 23.0%, 27.5%, 23.2%, 23.3%, 17.9%, 22.8%, 29.6%, 29.2%, 18.4%, 18.6%, and 24.7%, respectively. These analytes were qualified as J or UJ in the associated samples to indicate estimated concentrations or reporting limits. As this calibration was associated only with the method blank, no data were qualified. **In the continuing calibration analyzed on 01/22/2010 at 09:01 the percent differences for the analytes PCB-156 and PCB-157 were outside data validation QC limits of 0-15% at 17.9% and 17.8%, respectively. These analytes were qualified as J or UJ in the associated samples to indicate estimated concentrations or reporting limits. This calibration is associated with sample B84IARE1 and the laboratory control sample. The associated results were J/UJ qualified.** **In the continuing calibration analyzed on 01/25/2010 at 09:27 the percent differences for the analytes PCB-77, PCB-126, PCB-167, and PCB-156 were outside data validation QC limits of 0-15% at 17.7%, 15.3%, 17.1%, and 15.2%, respectively. These analytes were qualified as J or UJ in the associated samples to indicate estimated concentrations or reporting limits. This calibration is associated with sample B84IARE2, B84IARE3, B94IARE3D, B94IARETB. The associated results were J/UJ qualified.**	
11. Was the total number of method blank samples prepared equal to at least 5% of the total number of samples, or analyzed as required by the method?	Yes
Comments: Method blank samples were reported at a frequency greater than or equal to 5% of the total number of samples.	
12. Were laboratory blank samples free of analyte contamination?	Yes
Comments: There were no method blank detections reported for this data set.	
13. Was the total number of matrix spike samples prepared equal to at least 5% of the total number of samples, or analyzed as required by the method?	N/A
Comments: MS/MSD samples were not prepared for this data set.	
14. Were MS/MSD percent recoveries and MS/MSD RPDs within data validation or laboratory QC limits?	N/A
Comments: MS/MSD samples were not prepared for this data set.	
15. Was the total number of LCSs analyzed equal to at least 5% of the total number of samples, or analyzed as required by the method?	Yes
Comments: Laboratory control samples/blank spikes were reported at a frequency greater than or equal to 5% of the total number of samples.	
16. Were LCS/LCSD percent recoveries and LCS/LCSD RPDs with laboratory QC limits?	Yes
Comments: Laboratory control recoveries/blank spike recoveries were within laboratory QC limits.	
17. Were surrogate recoveries within laboratory control limits?	Yes
Comments: Surrogate recoveries were within laboratory control limits with the following exceptions. For sample XB1-0114 (Method Blank) and BS1x0114 (Laboratory Control Sample/Blank Spike) the surrogate recoveries for PCB-47L and PCB-178L were 0% where the acceptable range was 30-135% for each. As reported by the laboratory, PCB-47L and PCB-178L were used as travel spiked and were not added to QC samples (XB1-0114 and BS1X0114). No recoveries were calculated for the surrogates in the samples. No further action was determined to be required.	
18. Was the number of equipment, trip, or field blanks collected equal to at least 10% of the total number of samples, or as required by the project guidelines, QAPP, SAP, or permit, or as indicated by the Tier I validator?	Yes
Comments: One trip blank sample (B84IARETB) was submitted to the laboratory with the environmental samples.	

VALIDATION CRITERIA CHECKLIST	
19. Were the trip blank, field blank, and/or equipment blank samples free of analyte contamination? Comments: There were no detections reported in the trip blank.	Yes
20. Were the field duplicates collected equal to at least 10% of the total number of samples, or as required by the project guidelines, QAPP, SAP, or permit, or as indicated by the Tier I validator? Comments: A field duplicate was collected with this data set from B84IARE3 as B84IARE3D.	Yes
21. Were field duplicate RPD values less than the upper RPD limit (water [30%]), as specified by the laboratory or method? Comments: Field duplicate RPD values were less than or equal to 30%.	Yes
22. Were laboratory duplicate RPD values within laboratory-specified limits? Comments: There were no laboratory duplicates were prepared associated with this sample set.	N/A
23. General Comments: Comments: The internal standard data were reviewed and were acceptable.	

DATA QUALIFICATION SUMMARY

Analyte	Client Sample ID	Laboratory Assigned ID	Laboratory Result	Reviewer Qualifier	Reason for Qualification
PCB-129/163	B84IARE1	J105701	ND(0.0401)	UJ	CCV outside of acceptable range
PCB-156	B84IARE1	J105701	ND(0.0604)	UJ	CCV outside of acceptable range
PCB-157	B84IARE1	J105701	ND(0.0442)	UJ	CCV outside of acceptable range
PCB-179	B84IARE1	J105701	ND(0.0289)	UJ	CCV outside of acceptable range
PCB-77	B84IARE2	J105702	ND(0.062)	UJ	CCV outside of acceptable range
PCB-126	B84IARE2	J105702	ND(0.0401)	UJ	CCV outside of acceptable range
PCB-129/163	B84IARE2	J105702	ND(0.0289)	UJ	CCV outside of acceptable range
PCB-167	B84IARE2	J105702	ND(0.062)	UJ	CCV outside of acceptable range
PCB-156	B84IARE2	J105702	ND(0.0401)	UJ	CCV outside of acceptable range
PCB-77	B84IARE3	J105703	ND(0.0289)	UJ	CCV outside of acceptable range
PCB-126	B84IARE3	J105703	ND(0.062)	UJ	CCV outside of acceptable range
PCB-135	B84IARE3	J105703	ND(0.0401)	UJ	CCV outside of acceptable range
PCB-167	B84IARE3	J105703	ND(0.0442)	UJ	CCV outside of acceptable range
PCB-156	B84IARE3	J105703	ND(0.0289)	UJ	CCV outside of acceptable range
PCB-77	B84IARE3D	J105704	ND(0.062)	UJ	CCV outside of acceptable range
PCB-126	B84IARE3D	J105704	ND(0.0401)	UJ	CCV outside of acceptable range
PCB-135	B84IARE3D	J105704	ND(0.0401)	UJ	CCV outside of acceptable range

Analyte	Client Sample ID	Laboratory Assigned ID	Laboratory Result	Reviewer Qualifier	Reason for Qualification
PCB-141	B84IARE3D	J105704	ND(0.0604)	UJ	CCV outside of acceptable range
PCB-167	B84IARE3D	J105704	ND(0.0442)	UJ	CCV outside of acceptable range
PCB-156	B84IARE3D	J105704	ND(0.0289)	UJ	CCV outside of acceptable range
PCB-179	B84IARE3D	J105704	ND(0.062)	UJ	CCV outside of acceptable range
PCB-187	B84IARE3D	J105704	ND(0.0401)	UJ	CCV outside of acceptable range
PCB-174	B84IARE3D	J105704	ND(0.0289)	UJ	CCV outside of acceptable range
PCB-180	B84IARE3D	J105704	ND(0.062)	UJ	CCV outside of acceptable range
PCB-77	B84IARETB	J105705	ND(0.0401)	UJ	CCV outside of acceptable range
PCB-126	B84IARETB	J105705	ND(0.0289)	UJ	CCV outside of acceptable range
PCB-167	B84IARETB	J105705	ND(0.062)	UJ	CCV outside of acceptable range
PCB-156	B84IARETB	J105705	ND(0.0401)	UJ	CCV outside of acceptable range
PCB-129/163	B84IARE1	J105701	0.11	J	Flagged by the Laboratory
PCB-179	B84IARE1	J105701	0.12	J	Flagged by the Laboratory
PCB-129/163	B84IARE2	J105702	0.125	J	Flagged by the Laboratory
PCB-77	B84IARE3	J105703	0.17	J	CCV outside of acceptable range
PCB-135	B84IARE3	J105703	0.1	J	Flagged by the Laboratory
PCB-77	B84IARE3D	J105704	0.23	J	CCV outside of acceptable range
PCB-135	B84IARE3D	J105704	0.11	J	Flagged by the

Analyte	Client Sample ID	Laboratory Assigned ID	Laboratory Result	Reviewer Qualifier	Reason for Qualification
					Laboratory
PCB-141	B84IARE3D	J105704	0.11	J	Flagged by the Laboratory
PCB-179	B84IARE3D	J105704	0.08	J	Flagged by the Laboratory
PCB-187	B84IARE3D	J105704	0.11	J	Flagged by the Laboratory
PCB-174	B84IARE3D	J105704	0.065	J	Flagged by the Laboratory
PCB-180	B84IARE3D	J105704	0.06	J	Flagged by the Laboratory

FIELD DUPLICATE SUMMARY

Client Sample ID: B94IARE3 Field Duplicate Sample ID: B94IARE3D			
Analyte	Laboratory Result (ng)	Duplicate Result (ng)	Relative Percent Difference (RPD)
PCB-4	9.59	10.4	8.1%
PCB-9	1.36	1.61	16.8%
PCB-7	0.41	0.39	5.0%
PCB-6	4.65	5.13	9.8%
PCB-8	26.8	28.5	6.1%
PCB-15	7.96	8.72	9.1%
PCB-19	3.8	4.1	7.6%
PCB-18	36.4	39.2	7.4%
PCB-17	14.5	15.7	7.9%
PCB-16	2.16	2.29	5.8%
PCB-32	16.5	17.7	7.0%
PCB-27	9.76	10.2	4.4%
PCB-24	0.575	0.64	10.7%
PCB-26	2.67	2.79	4.4%
PCB-31	28.9	31.1	7.3%
PCB-28	27.2	28.7	5.4%
PCB-33	24.5	26.8	9.0%
PCB-25	2.81	3.06	8.5%
PCB-22	13.5	14.8	9.2%
PCB-37	5.67	6.1	7.3%
PCB-53	2.51	2.78	10.2%
PCB-45	3.87	4.13	6.5%
PCB-52	8.75	9.98	13.1%
PCB-48	2.74	3.02	9.7%
PCB-49	7.02	7.7	9.2%
PCB-46	3.73	4	7.0%
PCB-47	2.47	2.71	9.3%
PCB-44	8.1	8.81	8.4%
PCB-42	4.94	6.01	19.5%
PCB-71	2.72	3.14	14.3%
PCB-40/64	7.22	7.89	8.9%
PCB-74	3.71	4.04	8.5%
PCB-70	6.71	7.19	6.9%
PCB-66	3.55	3.79	6.5%
PCB-56	2.6	3.06	16.3%
PCB-60	1.94	2.12	8.9%
PCB-77	0.17	0.23	30.0%
PCB-95	1.92	2.23	14.9%
PCB-84/92	0.955	1.08	12.3%
PCB-101	1.83	1.41	25.9%

Client Sample ID: B94IARE3 Field Duplicate Sample ID: B94IARE3D			
Analyte	**Laboratory Result (ng)**	**Duplicate Result (ng)**	**Relative Percent Difference (RPD)**
PCB-99	0.66	0.715	8.0%
PCB-97	0.555	0.595	7.0%
PCB-87	0.715	0.76	6.1%
PCB-110	1.48	1.66	11.5%
PCB-82	0.23	0.225	2.2%
PCB-118	0.555	0.63	12.7%
PCB-105	0.245	0.24	2.1%
PCB-136	0.14	0.16	13.3%
PCB-151	0.185	0.22	17.3%
PCB-135	0.1	0.11	9.5%
PCB-149	0.545	0.55	0.9%
PCB-132/153/168	0.555	0.62	11.1%
PCB-141	ND(0.0353)	0.11	DL
PCB-138	0.235	0.27	13.9%
PCB-179	ND(0.0283)	0.08	DL
PCB-187	ND(0.0321)	0.11	DL
PCB-174	ND(0.0604)	0.065	DL
PCB-180	ND(0.0376)	0.06	DL
Total PCB	323	306	5.4%

Field duplicate RPD control limits should not exceed 30% for water, 50% for soil, or 25% for air or vapor as established by USEPA Region 1 Laboratory Data Validation Function Guidelines for Evaluation of Organic Analysis, December 1996.

DL – Indicates that one result was detected and one non-detect, and therefore an RPD could not be calculated. No data were qualified since the detection was within two times the reporting limit.

CH2M HILL
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CH2MHILL
Applied Sciences Laboratory (ASL)

February 18, 2010

Remedy Engineering - Building 84 Mezzanine Floor Removal
1567 Yuba Street
Redding, CA 96001

RE: Laboratory Report for Remedy Engineering - Building 84 Mezzanine Floor Removal
Applied Sciences Laboratory Reference No. J1057

Dear Noel Bush:

On January 14, 2010, CH2M HILL Applied Sciences Laboratory received five samples with a request for analysis of selected parameters. All analyses were performed by CH2M HILL unless otherwise indicated below. The results included in this report only relate to the samples listed on the following Sample Cross-Reference page. This report shall not be reproduced except in full, without the written approval of the laboratory.

The revised analytical results and associated quality control data are enclosed. Any unusual difficulties encountered during the analysis of your samples are discussed in the case narrative.

This data package meets standards requested by client and is not intended or implied to meet any other standard.

CH2M HILL Applied Sciences Laboratory appreciates your business and looks forward to serving your analytical needs again. If you should have any questions concerning the data, or if you need additional information, please call Ben Thompson at (541) 758-0235, extension 23132.

Sincerely,

Ben Thompson
Analytical Manager

Enclosures

Samples will be disposed at no additional cost to clients, 30 days (10 days for air) after the final report is issued. Storage of samples and containers beyond this may be available for an additional fee. Samples classed as hazardous based on hazardous waste regulations under Subtitile C of RCRA and 40CFR, will either be returned to client at the client's expense or the client will be charged a $5 per sample disposal fee.

CLIENT SAMPLE CROSS-REFERENCE

CH2M HILL Applied Sciences Laboratory Reference No. J1057

Sample ID	Client Sample ID	Date Collected	Time Collected
J105701	B84IARE1	01/12/2010	13:49
J105702	B84IARE2	01/13/2010	01:14
J105703	B84IARE3	01/12/2010	13:55
J105704	B84IARE3D	01/12/2010	21:03
J105705	B84IARETB	01/13/2010	01:15

Applied Sciences Laboratory

Organic CLP and CLP Like Data Qualifiers

U — The analyte was analyzed for, but not detected above the reported sample quantitation limit.

J — The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.

UJ — The analyte was not detected above the reported sample quantitation limit. However, the reported quantitation limit is approximate and may or may not represent the actual limit of quantitation necessary to accurately and precisely measure the analyte in the sample.

N — The analysis indicates the presence of an analyte for which there is presumptive evidence to make a "tentative identification".

NJ — The analysis indicates the presence of an analyte that has been "tentatively identified" and the associated numerical value represents its approximate concentration.

P — The primary and confirmation analyte result recoveries do not match.

E — The analyte was positively identified; the associated numerical value exceeded the instrument calibration range.

R — The sample results are rejected due to serious deficiencies in the ability to analyze the sample and meet quality control criteria. The presence or absence of the analyte cannot be verified.

Inorganic CLP and CLP Like Data Qualifiers

U — The analyte was analyzed for, but not detected above the reported sample quantitation limit.

J — The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.

UJ — The analyte was not detected above the reported sample quantitation limit. However, the reported quantitation limit is approximate and may or may not represent the actual limit of quantitation necessary to accurately and precisely measure the analyte in the sample.

E — The analyte was positively identified; the associated numerical value exceeded the instrument calibration range.

N — The matrix spike/matrix spike duplicate recovery for the analyte is outside of acceptance criteria—qualifier is applied to the native sample only.

R — The sample results are rejected due to serious deficiencies in the ability to analyze the sample and meet quality control criteria. The presence or absence of the analyte cannot be verified.

Chlorinated Biphenyl Congeners by E1668A Mod

CASE NARRATIVE
GC/MS SEMI-VOLATILES ANALYSIS

Lab Name: CH2M HILL/LAB/CVO ASL SDG#: J1057

Project: Remedy Engineering Project #: 921082.OTC

I. Method(s):

Analysis: E1668A MOD
Preparation: SW3545

II. Receipt/Holding Times:

All acceptance criteria were met.

III. Analysis:

A. Initial Calibration(s):

All acceptance criteria were met.

B. Calibration Verification(s):

All acceptance criteria were met.

C. Blank(s):

All acceptance criteria were met.

D. Laboratory Control Sample(s):

All acceptance criteria were met.

E. Matrix Spike/Matrix Spike Duplicate Sample(s):

Analyzed in accordance with standard operating procedure.

F. Surrogate Standard(s):

PCB-47L and PCB-178L were used as travel spikes and were not added to QC samples (XB1-0114 and BS1X0114). No recoveries were calculated for these surrogates in the samples.

G. DFTPP Tune Verification(s):

All acceptance criteria were met.

H. Internal Standard(s):

All acceptance criteria were met.

I. Analytical Exception(s):

None.

IV. Documentation Exception(s):

None.

V. I certify that this data package is in compliance with the terms and conditions agreed to by the client and CH2M HILL, both technically and for completeness, except for the conditions detailed above. Release of the data contained in this hardcopy data package has been authorized by the Laboratory Manager or designee, as verified by the following signatures.

Prepared by: Tiffany Hill Date: 1/27/10

Reviewed by: Date: 28 Jan 2010

SAMPLE DATA SUMMARY

1C

SEMI-VOLATILE ORGANICS ANALYSIS DATA SHEET

Field Sample ID: **B84IARE1**

SDG No.: J1057

Analysis Method: E1668A MOD

Matrix: AIR

Lab Name: CH2M HILL/LAB/CVO

Lab Sample ID: J105701

Lab File ID: J105701.D

Extraction Method: SW3545

Date Received: 01/14/10

Cleanup - GPC: N Sulfur: N

Date Extracted: 01/14/10

Concentrated Extract Volume: (ML) 0.5

Date Analyzed: 01/22/10

Injection Volume: (UL) 50

Dilution Factor: 1

Instrument: MSV

Concentration Units: ng

CAS No.	Analyte	MDL	PQL	Result	Q
2051-62-9	PCB-3	0.0494	0.125	0.0494	U
2051-61-8	PCB-2	0.0246	0.125	0.0246	U
2051-60-7	PCB-1 (1F)	0.0203	0.125	0.0203	U
13029-08-8	PCB-4	0.0620	0.125	8.78	
34883-39-1	PCB-9	0.0430	0.125	1.19	
33284-50-3	PCB-7	0.0480	0.125	0.380	
25569-80-6	PCB-6	0.0435	0.125	4.31	
34883-43-7	PCB-8	0.0380	0.125	24.4	
2050-68-2	PCB-15	0.0390	0.125	8.04	
38444-73-4	PCB-19	0.0375	0.125	3.66	
37680-65-2	PCB-18	0.0139	0.125	33.8	
37680-66-3	PCB-17	0.0510	0.125	14.0	
38444-78-9	PCB-16	0.0399	0.125	1.94	
38444-77-8	PCB-32	0.0456	0.125	16.2	
38444-76-7	PCB-27	0.0289	0.125	10.5	
55702-45-9	PCB-24	0.0390	0.125	0.580	
38444-81-4	PCB-26	0.0308	0.125	2.71	
16606-02-3	PCB-31	0.0422	0.125	28.1	
7012-37-5	PCB-28	0.0453	0.125	27.2	
38444-86-9	PCB-33	0.0399	0.125	26.5	
55712-37-3	PCB-25	0.0481	0.125	2.71	
38444-85-8	PCB-22	0.0265	0.125	14.2	
38444-90-5	PCB-37	0.0437	0.125	6.44	
15968-05-5	PCB-54	0.0259	0.125	0.0259	U
62796-65-0	PCB-50	0.0227	0.125	0.0227	U
41464-41-9	PCB-53	0.0240	0.125	2.73	
70362-45-7	PCB-45	0.0330	0.125	3.99	
35693-99-3	PCB-52	0.0226	0.125	9.68	
70362-47-9	PCB-48	0.0577	0.125	3.16	
41464-40-8	PCB-49	0.0275	0.125	7.72	
41464-47-5	PCB-46	0.0297	0.125	4.36	
2437-79-8	PCB-47	0.0223	0.125	2.88	
41464-39-5	PCB-44	0.0424	0.125	9.42	

1C

SEMI-VOLATILE ORGANICS ANALYSIS DATA SHEET

Field Sample ID: **B84IARE1**

SDG No.: J1057

Analysis Method: E1668A MOD

Matrix: AIR

Lab Name: CH2M HILL/LAB/CVO

Lab Sample ID: J105701

Lab File ID: J105701.D

Extraction Method: SW3545

Date Received: 01/14/10

Cleanup - GPC: N Sulfur: N

Date Extracted: 01/14/10

Concentrated Extract Volume: (ML) 0.5

Date Analyzed: 01/22/10

Injection Volume: (UL) 50

Dilution Factor: 1

Instrument: MSV

Concentration Units: ng

CAS No.	Analyte	MDL	PQL	Result	Q
36559-22-5	PCB-42	0.0435	0.125	5.84	
41464-46-4	PCB-71	0.0253	0.125	3.37	
38444-93-8/5	PCB-40/64	0.0367	0.250	8.58	
32690-93-0	PCB-74	0.0223	0.125	4.51	
32598-11-1	PCB-70	0.0278	0.125	8.43	
32598-10-0	PCB-66	0.0335	0.125	4.40	
41464-43-1	PCB-56	0.0226	0.125	3.45	
33025-41-1	PCB-60	0.0484	0.125	2.62	
70362-50-4	PCB-81	0.0388	0.125	0.0388	U
32598-13-3	PCB-77	0.0442	0.125	0.285	
56558-16-8	PCB-104	0.0566	0.125	0.0566	U
38379-99-6	PCB-95	0.0392	0.125	2.07	
52663-60-2/5	PCB-84/92	0.109	0.250	0.925	
37680-73-2	PCB-101	0.0349	0.125	1.63	
38380-01-7	PCB-99	0.0263	0.125	0.815	
56558-17-9	PCB-119	0.0408	0.500	0.0408	U
41464-51-1	PCB-97	0.0353	0.125	0.655	
38380-02-8	PCB-87	0.0384	0.125	0.830	
65510-45-4	PCB-85	0.0299	0.125	0.250	
38380-03-9	PCB-110	0.0308	0.125	1.68	
52663-62-4	PCB-82	0.0519	0.125	0.0519	U
65510-44-3	PCB-123	0.0610	0.125	0.0610	U
31508-00-6	PCB-118	0.0546	0.125	0.680	
74472-37-0	PCB-114	0.0308	0.125	0.0308	U
32598-14-4	PCB-105	0.0500	0.125	0.295	
57465-28-8	PCB-126	0.0289	0.125	0.0289	U
33979-03-2	PCB-155	0.0320	0.125	0.0320	U
38411-22-2	PCB-136	0.0175	0.125	0.170	
52663-63-5	PCB-151	0.0513	0.125	0.220	
52744-13-5	PCB-135	0.0321	0.125	0.125	
38380-04-0	PCB-149	0.0328	0.125	0.575	
51908-16-8	PCB-146	0.0532	0.125	0.0532	U
38380-05-1/3	PCB-132/153/168	0.0870	0.375	0.705	

1C

SEMI-VOLATILE ORGANICS ANALYSIS DATA SHEET

Field Sample ID:

B84IARE1

SDG No.: J1057

Analysis Method: E1668A MOD

Matrix: AIR

Lab Name: CH2M HILL/LAB/CVO

Lab Sample ID: J105701

Lab File ID: J105701.D

Extraction Method: SW3545

Date Received: 01/14/10

Cleanup - GPC: N Sulfur: N

Date Extracted: 01/14/10

Concentrated Extract Volume: (ML) 0.5

Date Analyzed: 01/22/10

Injection Volume: (UL) 50

Dilution Factor: 1

Instrument: MSV

Concentration Units: ng

CAS No.	Analyte	MDL	PQL	Result	Q
52712-04-6	PCB-141	0.0353	0.125	0.0353	U
35065-28-2	PCB-138	0.0494	0.125	0.290	
55215-18-4/7	PCB-129/163	0.104	0.250	0.110	J
74472-42-7	PCB-158	0.0525	0.500	0.0525	U
38380-07-3	PCB-128	0.0203	0.125	0.0203	U
52663-72-6	PCB-167	0.0620	0.125	0.0620	U
38380-08-4	PCB-156	0.0401	0.125	0.0401	U
69782-90-7	PCB-157	0.0604	0.125	0.0604	U
32774-16-6	PCB-169	0.0583	0.125	0.0583	U
74487-85-7	PCB-188	0.0575	0.125	0.0575	U
52663-64-6	PCB-179	0.0283	0.125	0.120	J
52663-68-0	PCB-187	0.0321	0.125	0.0321	U
52663-69-1	PCB-183	0.0492	0.125	0.0492	U
38411-25-5	PCB-174	0.0604	0.125	0.0604	U
52663-70-4	PCB-177	0.0500	0.125	0.0500	U
52663-71-5	PCB-171	0.0479	0.125	0.0479	U
35065-29-3	PCB-180	0.0376	0.125	0.0376	U
35065-30-6	PCB-170	0.0605	0.125	0.0605	U
39635-31-9	PCB-189	0.0615	0.125	0.0615	U
2136-99-4	PCB-202	0.0367	0.125	0.0367	U
52663-75-9	PCB-201	0.0484	0.125	0.0484	U
42740-50-1/5	PCB-196/203	0.101	0.250	0.101	U
52663-78-2	PCB-195	0.0623	0.125	0.0623	U
35694-08-7	PCB-194	0.0480	0.125	0.0480	U
74472-53-0	PCB-205	0.0494	0.125	0.0494	U
52663-77-1	PCB-208	0.0466	0.125	0.0466	U
40186-72-9	PCB-206	0.0604	0.125	0.0604	U
2051-24-3	PCB-209	0.0424	0.125	0.0424	U
1336-36-3	Total PCB	0.109	0.375	333	

1C

SEMI-VOLATILE ORGANICS ANALYSIS DATA SHEET

Field Sample ID:

B84IARE2

SDG No.: J1057

Analysis Method: E1668A MOD

Matrix: AIR

Lab Name: CH2M HILL/LAB/CVO

Lab Sample ID: J105702

Lab File ID: J105702.D

Extraction Method: SW3545

Date Received: 01/14/10

Cleanup - GPC: N Sulfur: N

Date Extracted: 01/14/10

Concentrated Extract Volume: (ML) 0.5

Date Analyzed: 01/25/10

Injection Volume: (UL) 50

Dilution Factor: 1

Instrument: MSV

Concentration Units: ng

CAS No.	Analyte	MDL	PQL	Result	Q
2051-62-9	PCB-3	0.0494	0.125	0.0494	U
2051-61-8	PCB-2	0.0246	0.125	0.0246	U
2051-60-7	PCB-1 (1F)	0.0203	0.125	0.0203	U
13029-08-8	PCB-4	0.0620	0.125	10.9	
34883-39-1	PCB-9	0.0430	0.125	1.64	
33284-50-3	PCB-7	0.0480	0.125	0.400	
25569-80-6	PCB-6	0.0435	0.125	4.98	
34883-43-7	PCB-8	0.0380	0.125	28.0	
2050-68-2	PCB-15	0.0390	0.125	8.59	
38444-73-4	PCB-19	0.0375	0.125	4.29	
37680-65-2	PCB-18	0.0139	0.125	40.9	
37680-66-3	PCB-17	0.0510	0.125	16.0	
38444-78-9	PCB-16	0.0399	0.125	2.40	
38444-77-8	PCB-32	0.0456	0.125	17.9	
38444-76-7	PCB-27	0.0289	0.125	10.9	
55702-45-9	PCB-24	0.0390	0.125	0.625	
38444-81-4	PCB-26	0.0308	0.125	2.92	
16606-02-3	PCB-31	0.0422	0.125	31.0	
7012-37-5	PCB-28	0.0453	0.125	28.6	
38444-86-9	PCB-33	0.0399	0.125	29.1	
55712-37-3	PCB-25	0.0481	0.125	2.92	
38444-85-8	PCB-22	0.0265	0.125	14.4	
38444-90-5	PCB-37	0.0437	0.125	6.04	
15968-05-5	PCB-54	0.0259	0.125	0.0259	U
62796-65-0	PCB-50	0.0227	0.125	0.0227	U
41464-41-9	PCB-53	0.0240	0.125	2.81	
70362-45-7	PCB-45	0.0330	0.125	4.24	
35693-99-3	PCB-52	0.0226	0.125	9.94	
70362-47-9	PCB-48	0.0577	0.125	3.21	
41464-40-8	PCB-49	0.0275	0.125	7.83	
41464-47-5	PCB-46	0.0297	0.125	4.25	
2437-79-8	PCB-47	0.0223	0.125	2.75	
41464-39-5	PCB-44	0.0424	0.125	9.03	

1C

SEMI-VOLATILE ORGANICS ANALYSIS DATA SHEET

Field Sample ID: **B84IARE2**

SDG No.: J1057

Analysis Method: E1668A MOD

Matrix: AIR

Lab Name: CH2M HILL/LAB/CVO

Lab Sample ID: J105702

Lab File ID: J105702.D

Extraction Method: SW3545

Date Received: 01/14/10

Cleanup - GPC: N Sulfur: N

Date Extracted: 01/14/10

Concentrated Extract Volume: (ML) 0.5

Date Analyzed: 01/25/10

Injection Volume: (UL) 50

Dilution Factor: 1

Instrument: MSV

Concentration Units: ng

CAS No.	Analyte	MDL	PQL	Result	Q
36559-22-5	PCB-42	0.0435	0.125	5.67	
41464-46-4	PCB-71	0.0253	0.125	2.96	
38444-93-8/5	PCB-40/64	0.0367	0.250	7.99	
32690-93-0	PCB-74	0.0223	0.125	4.07	
32598-11-1	PCB-70	0.0278	0.125	7.35	
32598-10-0	PCB-66	0.0335	0.125	3.77	
41464-43-1	PCB-56	0.0226	0.125	2.99	
33025-41-1	PCB-60	0.0484	0.125	2.17	
70362-50-4	PCB-81	0.0388	0.125	0.0388	U
32598-13-3	PCB-77	0.0442	0.125	0.0442	U
56558-16-8	PCB-104	0.0566	0.125	0.0566	U
38379-99-6	PCB-95	0.0392	0.125	2.61	
52663-60-2/5	PCB-84/92	0.109	0.250	1.24	
37680-73-2	PCB-101	0.0349	0.125	1.79	
38380-01-7	PCB-99	0.0263	0.125	0.905	
56558-17-9	PCB-119	0.0408	0.500	0.0408	U
41464-51-1	PCB-97	0.0353	0.125	0.735	
38380-02-8	PCB-87	0.0384	0.125	0.870	
65510-45-4	PCB-85	0.0299	0.125	0.395	
38380-03-9	PCB-110	0.0308	0.125	1.96	
52663-62-4	PCB-82	0.0519	0.125	0.230	
65510-44-3	PCB-123	0.0610	0.125	0.0610	U
31508-00-6	PCB-118	0.0546	0.125	0.805	
74472-37-0	PCB-114	0.0308	0.125	0.0308	U
32598-14-4	PCB-105	0.0500	0.125	0.350	
57465-28-8	PCB-126	0.0289	0.125	0.0289	U
33979-03-2	PCB-155	0.0320	0.125	0.0320	U
38411-22-2	PCB-136	0.0175	0.125	0.195	
52663-63-5	PCB-151	0.0513	0.125	0.265	
52744-13-5	PCB-135	0.0321	0.125	0.135	
38380-04-0	PCB-149	0.0328	0.125	0.695	
51908-16-8	PCB-146	0.0532	0.125	0.0532	U
38380-05-1/3	PCB-132/153/168	0.0870	0.375	0.730	

1C

SEMI-VOLATILE ORGANICS ANALYSIS DATA SHEET

Field Sample ID: **B84IARE2**

SDG No.: J1057

Analysis Method: E1668A MOD

Matrix: AIR

Lab Name: CH2M HILL/LAB/CVO

Lab Sample ID: J105702

Lab File ID: J105702.D

Extraction Method: SW3545

Date Received: 01/14/10

Cleanup - GPC: N Sulfur: N

Date Extracted: 01/14/10

Concentrated Extract Volume: (ML) 0.5

Date Analyzed: 01/25/10

Injection Volume: (UL) 50

Dilution Factor: 1

Instrument: MSV

Concentration Units: ng

CAS No.	Analyte	MDL	PQL	Result	Q
52712-04-6	PCB-141	0.0353	0.125	0.0353	U
35065-28-2	PCB-138	0.0494	0.125	0.330	
55215-18-4/7	PCB-129/163	0.104	0.250	0.125	J
74472-42-7	PCB-158	0.0525	0.500	0.0525	U
38380-07-3	PCB-128	0.0203	0.125	0.0203	U
52663-72-6	PCB-167	0.0620	0.125	0.0620	U
38380-08-4	PCB-156	0.0401	0.125	0.0401	U
69782-90-7	PCB-157	0.0604	0.125	0.0604	U
32774-16-6	PCB-169	0.0583	0.125	0.0583	U
74487-85-7	PCB-188	0.0575	0.125	0.0575	U
52663-64-6	PCB-179	0.0283	0.125	0.0283	U
52663-68-0	PCB-187	0.0321	0.125	0.0321	U
52663-69-1	PCB-183	0.0492	0.125	0.0492	U
38411-25-5	PCB-174	0.0604	0.125	0.0604	U
52663-70-4	PCB-177	0.0500	0.125	0.0500	U
52663-71-5	PCB-171	0.0479	0.125	0.0479	U
35065-29-3	PCB-180	0.0376	0.125	0.0376	U
35065-30-6	PCB-170	0.0605	0.125	0.0605	U
39635-31-9	PCB-189	0.0615	0.125	0.0615	U
2136-99-4	PCB-202	0.0367	0.125	0.0367	U
52663-75-9	PCB-201	0.0484	0.125	0.0484	U
42740-50-1/5	PCB-196/203	0.101	0.250	0.101	U
52663-78-2	PCB-195	0.0623	0.125	0.0623	U
35694-08-7	PCB-194	0.0480	0.125	0.0480	U
74472-53-0	PCB-205	0.0494	0.125	0.0494	U
52663-77-1	PCB-208	0.0466	0.125	0.0466	U
40186-72-9	PCB-206	0.0604	0.125	0.0604	U
2051-24-3	PCB-209	0.0424	0.125	0.0424	U
1336-36-3	Total PCB	0.109	0.375	358	

1C

SEMI-VOLATILE ORGANICS ANALYSIS DATA SHEET

Field Sample ID: **B84IARE3**

SDG No.: J1057

Analysis Method: E1668A MOD

Matrix: AIR

Lab Name: CH2M HILL/LAB/CVO

Lab Sample ID: J105703

Lab File ID: J105703.D

Extraction Method: SW3545

Date Received: 01/14/10

Cleanup - GPC: N Sulfur: N

Date Extracted: 01/14/10

Concentrated Extract Volume: (ML) 0.5

Date Analyzed: 01/25/10

Injection Volume: (UL) 50

Dilution Factor: 1

Instrument: MSV

Concentration Units: ng

CAS No.	Analyte	MDL	PQL	Result	Q
2051-62-9	PCB-3	0.0494	0.125	0.0494	U
2051-61-8	PCB-2	0.0246	0.125	0.0246	U
2051-60-7	PCB-1 (1F)	0.0203	0.125	0.0203	U
13029-08-8	PCB-4	0.0620	0.125	9.59	
34883-39-1	PCB-9	0.0430	0.125	1.36	
33284-50-3	PCB-7	0.0480	0.125	0.410	
25569-80-6	PCB-6	0.0435	0.125	4.65	
34883-43-7	PCB-8	0.0380	0.125	26.8	
2050-68-2	PCB-15	0.0390	0.125	7.96	
38444-73-4	PCB-19	0.0375	0.125	3.80	
37680-65-2	PCB-18	0.0139	0.125	36.4	
37680-66-3	PCB-17	0.0510	0.125	14.5	
38444-78-9	PCB-16	0.0399	0.125	2.16	
38444-77-8	PCB-32	0.0456	0.125	16.5	
38444-76-7	PCB-27	0.0289	0.125	9.76	
55702-45-9	PCB-24	0.0390	0.125	0.575	
38444-81-4	PCB-26	0.0308	0.125	2.67	
16606-02-3	PCB-31	0.0422	0.125	28.9	
7012-37-5	PCB-28	0.0453	0.125	27.2	
38444-86-9	PCB-33	0.0399	0.125	24.5	
55712-37-3	PCB-25	0.0481	0.125	2.81	
38444-85-8	PCB-22	0.0265	0.125	13.5	
38444-90-5	PCB-37	0.0437	0.125	5.67	
15968-05-5	PCB-54	0.0259	0.125	0.0259	U
62796-65-0	PCB-50	0.0227	0.125	0.0227	U
41464-41-9	PCB-53	0.0240	0.125	2.51	
70362-45-7	PCB-45	0.0330	0.125	3.87	
35693-99-3	PCB-52	0.0226	0.125	8.75	
70362-47-9	PCB-48	0.0577	0.125	2.74	
41464-40-8	PCB-49	0.0275	0.125	7.02	
41464-47-5	PCB-46	0.0297	0.125	3.73	
2437-79-8	PCB-47	0.0223	0.125	2.47	
41464-39-5	PCB-44	0.0424	0.125	8.10	

1C

SEMI-VOLATILE ORGANICS ANALYSIS DATA SHEET

Field Sample ID:

B84IARE3

SDG No.: J1057

Analysis Method: E1668A MOD

Matrix: AIR

Lab Name: CH2M HILL/LAB/CVO

Lab Sample ID: J105703

Lab File ID: J105703.D

Extraction Method: SW3545

Date Received: 01/14/10

Cleanup - GPC: N Sulfur: N

Date Extracted: 01/14/10

Concentrated Extract Volume: (ML) 0.5

Date Analyzed: 01/25/10

Injection Volume: (UL) 50

Dilution Factor: 1

Instrument: MSV

Concentration Units: ng

CAS No.	Analyte	MDL	PQL	Result	Q
36559-22-5	PCB-42	0.0435	0.125	4.94	
41464-46-4	PCB-71	0.0253	0.125	2.72	
38444-93-8/5	PCB-40/64	0.0367	0.250	7.22	
32690-93-0	PCB-74	0.0223	0.125	3.71	
32598-11-1	PCB-70	0.0278	0.125	6.71	
32598-10-0	PCB-66	0.0335	0.125	3.55	
41464-43-1	PCB-56	0.0226	0.125	2.60	
33025-41-1	PCB-60	0.0484	0.125	1.94	
70362-50-4	PCB-81	0.0388	0.125	0.0388	U
32598-13-3	PCB-77	0.0442	0.125	0.170	
56558-16-8	PCB-104	0.0566	0.125	0.0566	U
38379-99-6	PCB-95	0.0392	0.125	1.92	
52663-60-2/5	PCB-84/92	0.109	0.250	0.955	
37680-73-2	PCB-101	0.0349	0.125	1.83	
38380-01-7	PCB-99	0.0263	0.125	0.660	
56558-17-9	PCB-119	0.0408	0.500	0.0408	U
41464-51-1	PCB-97	0.0353	0.125	0.555	
38380-02-8	PCB-87	0.0384	0.125	0.715	
65510-45-4	PCB-85	0.0299	0.125	0.0299	U
38380-03-9	PCB-110	0.0308	0.125	1.48	
52663-62-4	PCB-82	0.0519	0.125	0.230	
65510-44-3	PCB-123	0.0610	0.125	0.0610	U
31508-00-6	PCB-118	0.0546	0.125	0.555	
74472-37-0	PCB-114	0.0308	0.125	0.0308	U
32598-14-4	PCB-105	0.0500	0.125	0.245	
57465-28-8	PCB-126	0.0289	0.125	0.0289	U
33979-03-2	PCB-155	0.0320	0.125	0.0320	U
38411-22-2	PCB-136	0.0175	0.125	0.140	
52663-63-5	PCB-151	0.0513	0.125	0.185	
52744-13-5	PCB-135	0.0321	0.125	0.100	J
38380-04-0	PCB-149	0.0328	0.125	0.545	
51908-16-8	PCB-146	0.0532	0.125	0.0532	U
38380-05-1/3	PCB-132/153/168	0.0870	0.375	0.555	

1C

SEMI-VOLATILE ORGANICS ANALYSIS DATA SHEET

Field Sample ID: B84IARE3

SDG No.: J1057

Analysis Method: E1668A MOD

Matrix: AIR

Lab Name: CH2M HILL/LAB/CVO

Lab Sample ID: J105703

Lab File ID: J105703.D

Extraction Method: SW3545

Date Received: 01/14/10

Cleanup - GPC: N Sulfur: N

Date Extracted: 01/14/10

Concentrated Extract Volume: (ML) 0.5

Date Analyzed: 01/25/10

Injection Volume: (UL) 50

Dilution Factor: 1

Instrument: MSV

Concentration Units: ng

CAS No.	Analyte	MDL	PQL	Result	Q
52712-04-6	PCB-141	0.0353	0.125	0.0353	U
35065-28-2	PCB-138	0.0494	0.125	0.235	
55215-18-4/7	PCB-129/163	0.104	0.250	0.104	U
74472-42-7	PCB-158	0.0525	0.500	0.0525	U
38380-07-3	PCB-128	0.0203	0.125	0.0203	U
52663-72-6	PCB-167	0.0620	0.125	0.0620	U
38380-08-4	PCB-156	0.0401	0.125	0.0401	U
69782-90-7	PCB-157	0.0604	0.125	0.0604	U
32774-16-6	PCB-169	0.0583	0.125	0.0583	U
74487-85-7	PCB-188	0.0575	0.125	0.0575	U
52663-64-6	PCB-179	0.0283	0.125	0.0283	U
52663-68-0	PCB-187	0.0321	0.125	0.0321	U
52663-69-1	PCB-183	0.0492	0.125	0.0492	U
38411-25-5	PCB-174	0.0604	0.125	0.0604	U
52663-70-4	PCB-177	0.0500	0.125	0.0500	U
52663-71-5	PCB-171	0.0479	0.125	0.0479	U
35065-29-3	PCB-180	0.0376	0.125	0.0376	U
35065-30-6	PCB-170	0.0605	0.125	0.0605	U
39635-31-9	PCB-189	0.0615	0.125	0.0615	U
2136-99-4	PCB-202	0.0367	0.125	0.0367	U
52663-75-9	PCB-201	0.0484	0.125	0.0484	U
42740-50-1/5	PCB-196/203	0.101	0.250	0.101	U
52663-78-2	PCB-195	0.0623	0.125	0.0623	U
35694-08-7	PCB-194	0.0480	0.125	0.0480	U
74472-53-0	PCB-205	0.0494	0.125	0.0494	U
52663-77-1	PCB-208	0.0466	0.125	0.0466	U
40186-72-9	PCB-206	0.0604	0.125	0.0604	U
2051-24-3	PCB-209	0.0424	0.125	0.0424	U
1336-36-3	Total PCB	0.109	0.375	323	

1C

SEMI-VOLATILE ORGANICS ANALYSIS DATA SHEET

Field Sample ID: **B84IARE3D**

SDG No.: J1057

Analysis Method: E1668A MOD

Matrix: AIR

Lab Name: CH2M HILL/LAB/CVO

Lab Sample ID: J105704

Lab File ID: J105704.D

Extraction Method: SW3545

Date Received: 01/14/10

Cleanup - GPC: N Sulfur: N

Date Extracted: 01/14/10

Concentrated Extract Volume: (ML) 0.5

Date Analyzed: 01/25/10

Injection Volume: (UL) 50

Dilution Factor: 1

Instrument: MSV

Concentration Units: ng

CAS No.	Analyte	MDL	PQL	Result	Q
2051-62-9	PCB-3	0.0494	0.125	0.0494	U
2051-61-8	PCB-2	0.0246	0.125	0.0246	U
2051-60-7	PCB-1 (1F)	0.0203	0.125	0.0203	U
13029-08-8	PCB-4	0.0620	0.125	10.4	
34883-39-1	PCB-9	0.0430	0.125	1.61	
33284-50-3	PCB-7	0.0480	0.125	0.390	
25569-80-6	PCB-6	0.0435	0.125	5.13	
34883-43-7	PCB-8	0.0380	0.125	28.5	
2050-68-2	PCB-15	0.0390	0.125	8.72	
38444-73-4	PCB-19	0.0375	0.125	4.10	
37680-65-2	PCB-18	0.0139	0.125	39.2	
37680-66-3	PCB-17	0.0510	0.125	15.7	
38444-78-9	PCB-16	0.0399	0.125	2.29	
38444-77-8	PCB-32	0.0456	0.125	17.7	
38444-76-7	PCB-27	0.0289	0.125	10.2	
55702-45-9	PCB-24	0.0390	0.125	0.640	
38444-81-4	PCB-26	0.0308	0.125	2.79	
16606-02-3	PCB-31	0.0422	0.125	31.1	
7012-37-5	PCB-28	0.0453	0.125	28.7	
38444-86-9	PCB-33	0.0399	0.125	26.8	
55712-37-3	PCB-25	0.0481	0.125	3.06	
38444-85-8	PCB-22	0.0265	0.125	14.8	
38444-90-5	PCB-37	0.0437	0.125	6.10	
15968-05-5	PCB-54	0.0259	0.125	0.0259	U
62796-65-0	PCB-50	0.0227	0.125	0.0227	U
41464-41-9	PCB-53	0.0240	0.125	2.78	
70362-45-7	PCB-45	0.0330	0.125	4.13	
35693-99-3	PCB-52	0.0226	0.125	9.98	
70362-47-9	PCB-48	0.0577	0.125	3.02	
41464-40-8	PCB-49	0.0275	0.125	7.70	
41464-47-5	PCB-46	0.0297	0.125	4.00	
2437-79-8	PCB-47	0.0223	0.125	2.71	
41464-39-5	PCB-44	0.0424	0.125	8.81	

1C

SEMI-VOLATILE ORGANICS ANALYSIS DATA SHEET

Field Sample ID: **B84IARE3D**

SDG No.: J1057

Analysis Method: E1668A MOD

Matrix: AIR

Lab Name: CH2M HILL/LAB/CVO

Lab Sample ID: J105704

Lab File ID: J105704.D

Extraction Method: SW3545

Date Received: 01/14/10

Cleanup - GPC: N Sulfur: N

Date Extracted: 01/14/10

Concentrated Extract Volume: (ML) 0.5

Date Analyzed: 01/25/10

Injection Volume: (UL) 50

Dilution Factor: 1

Instrument: MSV

Concentration Units: ng

CAS No.	Analyte	MDL	PQL	Result	Q
36559-22-5	PCB-42	0.0435	0.125	6.01	
41464-46-4	PCB-71	0.0253	0.125	3.14	
38444-93-8/5	PCB-40/64	0.0367	0.250	7.89	
32690-93-0	PCB-74	0.0223	0.125	4.04	
32598-11-1	PCB-70	0.0278	0.125	7.19	
32598-10-0	PCB-66	0.0335	0.125	3.79	
41464-43-1	PCB-56	0.0226	0.125	3.06	
33025-41-1	PCB-60	0.0484	0.125	2.12	
70362-50-4	PCB-81	0.0388	0.125	0.0388	U
32598-13-3	PCB-77	0.0442	0.125	0.230	
56558-16-8	PCB-104	0.0566	0.125	0.0566	U
38379-99-6	PCB-95	0.0392	0.125	2.23	
52663-60-2/5	PCB-84/92	0.109	0.250	1.08	
37680-73-2	PCB-101	0.0349	0.125	1.41	
38380-01-7	PCB-99	0.0263	0.125	0.715	
56558-17-9	PCB-119	0.0408	0.500	0.0408	U
41464-51-1	PCB-97	0.0353	0.125	0.595	
38380-02-8	PCB-87	0.0384	0.125	0.760	
65510-45-4	PCB-85	0.0299	0.125	0.0299	U
38380-03-9	PCB-110	0.0308	0.125	1.66	
52663-62-4	PCB-82	0.0519	0.125	0.225	
65510-44-3	PCB-123	0.0610	0.125	0.0610	U
31508-00-6	PCB-118	0.0546	0.125	0.630	
74472-37-0	PCB-114	0.0308	0.125	0.0308	U
32598-14-4	PCB-105	0.0500	0.125	0.240	
57465-28-8	PCB-126	0.0289	0.125	0.0289	U
33979-03-2	PCB-155	0.0320	0.125	0.0320	U
38411-22-2	PCB-136	0.0175	0.125	0.160	
52663-63-5	PCB-151	0.0513	0.125	0.220	
52744-13-5	PCB-135	0.0321	0.125	0.110	J
38380-04-0	PCB-149	0.0328	0.125	0.550	
51908-16-8	PCB-146	0.0532	0.125	0.0532	U
38380-05-1/3	PCB-132/153/168	0.0870	0.375	0.620	

1C

SEMI-VOLATILE ORGANICS ANALYSIS DATA SHEET

Field Sample ID:

B84IARE3D

SDG No.: J1057

Analysis Method: E1668A MOD

Matrix: AIR

Lab Name: CH2M HILL/LAB/CVO

Lab Sample ID: J105704

Lab File ID: J105704.D

Extraction Method: SW3545

Date Received: 01/14/10

Cleanup - GPC: N Sulfur: N

Date Extracted: 01/14/10

Concentrated Extract Volume: (ML) 0.5

Date Analyzed: 01/25/10

Injection Volume: (UL) 50

Dilution Factor: 1

Instrument: MSV

Concentration Units: ng

CAS No.	Analyte	MDL	PQL	Result	Q
52712-04-6	PCB-141	0.0353	0.125	0.110	J
35065-28-2	PCB-138	0.0494	0.125	0.270	
55215-18-4/7	PCB-129/163	0.104	0.250	0.104	U
74472-42-7	PCB-158	0.0525	0.500	0.0525	U
38380-07-3	PCB-128	0.0203	0.125	0.0203	U
52663-72-6	PCB-167	0.0620	0.125	0.0620	U
38380-08-4	PCB-156	0.0401	0.125	0.0401	U
69782-90-7	PCB-157	0.0604	0.125	0.0604	U
32774-16-6	PCB-169	0.0583	0.125	0.0583	U
74487-85-7	PCB-188	0.0575	0.125	0.0575	U
52663-64-6	PCB-179	0.0283	0.125	0.0800	J
52663-68-0	PCB-187	0.0321	0.125	0.110	J
52663-69-1	PCB-183	0.0492	0.125	0.0492	U
38411-25-5	PCB-174	0.0604	0.125	0.0650	J
52663-70-4	PCB-177	0.0500	0.125	0.0500	U
52663-71-5	PCB-171	0.0479	0.125	0.0479	U
35065-29-3	PCB-180	0.0376	0.125	0.0600	J
35065-30-6	PCB-170	0.0605	0.125	0.0605	U
39635-31-9	PCB-189	0.0615	0.125	0.0615	U
2136-99-4	PCB-202	0.0367	0.125	0.0367	U
52663-75-9	PCB-201	0.0484	0.125	0.0484	U
42740-50-1/5	PCB-196/203	0.101	0.250	0.101	U
52663-78-2	PCB-195	0.0623	0.125	0.0623	U
35694-08-7	PCB-194	0.0480	0.125	0.0480	U
74472-53-0	PCB-205	0.0494	0.125	0.0494	U
52663-77-1	PCB-208	0.0466	0.125	0.0466	U
40186-72-9	PCB-206	0.0604	0.125	0.0604	U
2051-24-3	PCB-209	0.0424	0.125	0.0424	U
1336-36-3	Total PCB	0.109	0.375	350	

1C

SEMI-VOLATILE ORGANICS ANALYSIS DATA SHEET

Field Sample ID: **B84IARETB**

SDG No.: J1057

Analysis Method: E1668A MOD

Matrix: AIR

Lab Name: CH2M HILL/LAB/CVO

Lab Sample ID: J105705

Lab File ID: J105705.D

Extraction Method: SW3545

Date Received: 01/14/10

Cleanup - GPC: N Sulfur: N

Date Extracted: 01/14/10

Concentrated Extract Volume: (ML) 0.5

Date Analyzed: 01/25/10

Injection Volume: (UL) 50

Dilution Factor: 1

Instrument: MSV

Concentration Units: ng

CAS No.	Analyte	MDL	PQL	Result	Q
2051-62-9	PCB-3	0.0494	0.125	0.0494	U
2051-61-8	PCB-2	0.0246	0.125	0.0246	U
2051-60-7	PCB-1 (1F)	0.0203	0.125	0.0203	U
13029-08-8	PCB-4	0.0620	0.125	0.0620	U
34883-39-1	PCB-9	0.0430	0.125	0.0430	U
33284-50-3	PCB-7	0.0480	0.125	0.0480	U
25569-80-6	PCB-6	0.0435	0.125	0.0435	U
34883-43-7	PCB-8	0.0380	0.125	0.0380	U
2050-68-2	PCB-15	0.0390	0.125	0.0390	U
38444-73-4	PCB-19	0.0375	0.125	0.0375	U
37680-65-2	PCB-18	0.0139	0.125	0.0139	U
37680-66-3	PCB-17	0.0510	0.125	0.0510	U
38444-78-9	PCB-16	0.0399	0.125	0.0399	U
38444-77-8	PCB-32	0.0456	0.125	0.0456	U
38444-76-7	PCB-27	0.0289	0.125	0.0289	U
55702-45-9	PCB-24	0.0390	0.125	0.0390	U
38444-81-4	PCB-26	0.0308	0.125	0.0308	U
16606-02-3	PCB-31	0.0422	0.125	0.0422	U
7012-37-5	PCB-28	0.0453	0.125	0.0453	U
38444-86-9	PCB-33	0.0399	0.125	0.0399	U
55712-37-3	PCB-25	0.0481	0.125	0.0481	U
38444-85-8	PCB-22	0.0265	0.125	0.0265	U
38444-90-5	PCB-37	0.0437	0.125	0.0437	U
15968-05-5	PCB-54	0.0259	0.125	0.0259	U
62796-65-0	PCB-50	0.0227	0.125	0.0227	U
41464-41-9	PCB-53	0.0240	0.125	0.0240	U
70362-45-7	PCB-45	0.0330	0.125	0.0330	U
35693-99-3	PCB-52	0.0226	0.125	0.0226	U
70362-47-9	PCB-48	0.0577	0.125	0.0577	U
41464-40-8	PCB-49	0.0275	0.125	0.0275	U
41464-47-5	PCB-46	0.0297	0.125	0.0297	U
2437-79-8	PCB-47	0.0223	0.125	0.0223	U
41464-39-5	PCB-44	0.0424	0.125	0.0424	U

1C

SEMI-VOLATILE ORGANICS ANALYSIS DATA SHEET

Field Sample ID:

B84IARETB

SDG No.: J1057

Analysis Method: E1668A MOD

Matrix: AIR

Lab Name: CH2M HILL/LAB/CVO

Lab Sample ID: J105705

Lab File ID: J105705.D

Extraction Method: SW3545

Date Received: 01/14/10

Cleanup - GPC: N Sulfur: N

Date Extracted: 01/14/10

Concentrated Extract Volume: (ML) 0.5

Date Analyzed: 01/25/10

Injection Volume: (UL) 50

Dilution Factor: 1

Instrument: MSV

Concentration Units: ng

CAS No.	Analyte	MDL	PQL	Result	Q
36559-22-5	PCB-42	0.0435	0.125	0.0435	U
41464-46-4	PCB-71	0.0253	0.125	0.0253	U
38444-93-8/5	PCB-40/64	0.0367	0.250	0.0367	U
32690-93-0	PCB-74	0.0223	0.125	0.0223	U
32598-11-1	PCB-70	0.0278	0.125	0.0278	U
32598-10-0	PCB-66	0.0335	0.125	0.0335	U
41464-43-1	PCB-56	0.0226	0.125	0.0226	U
33025-41-1	PCB-60	0.0484	0.125	0.0484	U
70362-50-4	PCB-81	0.0388	0.125	0.0388	U
32598-13-3	PCB-77	0.0442	0.125	0.0442	U
56558-16-8	PCB-104	0.0566	0.125	0.0566	U
38379-99-6	PCB-95	0.0392	0.125	0.0392	U
52663-60-2/5	PCB-84/92	0.109	0.250	0.109	U
37680-73-2	PCB-101	0.0349	0.125	0.0349	U
38380-01-7	PCB-99	0.0263	0.125	0.0263	U
56558-17-9	PCB-119	0.0408	0.500	0.0408	U
41464-51-1	PCB-97	0.0353	0.125	0.0353	U
38380-02-8	PCB-87	0.0384	0.125	0.0384	U
65510-45-4	PCB-85	0.0299	0.125	0.0299	U
38380-03-9	PCB-110	0.0308	0.125	0.0308	U
52663-62-4	PCB-82	0.0519	0.125	0.0519	U
65510-44-3	PCB-123	0.0610	0.125	0.0610	U
31508-00-6	PCB-118	0.0546	0.125	0.0546	U
74472-37-0	PCB-114	0.0308	0.125	0.0308	U
32598-14-4	PCB-105	0.0500	0.125	0.0500	U
57465-28-8	PCB-126	0.0289	0.125	0.0289	U
33979-03-2	PCB-155	0.0320	0.125	0.0320	U
38411-22-2	PCB-136	0.0175	0.125	0.0175	U
52663-63-5	PCB-151	0.0513	0.125	0.0513	U
52744-13-5	PCB-135	0.0321	0.125	0.0321	U
38380-04-0	PCB-149	0.0328	0.125	0.0328	U
51908-16-8	PCB-146	0.0532	0.125	0.0532	U
38380-05-1/3	PCB-132/153/168	0.0870	0.375	0.0870	U

1C

SEMI-VOLATILE ORGANICS ANALYSIS DATA SHEET

Field Sample ID: **B84IARETB**

SDG No.: J1057

Analysis Method: E1668A MOD

Matrix: AIR

Lab Name: CH2M HILL/LAB/CVO

Lab Sample ID: J105705

Lab File ID: J105705.D

Extraction Method: SW3545

Date Received: 01/14/10

Cleanup - GPC: N Sulfur: N

Date Extracted: 01/14/10

Concentrated Extract Volume: (ML) 0.5

Date Analyzed: 01/25/10

Injection Volume: (UL) 50

Dilution Factor: 1

Instrument: MSV

Concentration Units: ng

CAS No.	Analyte	MDL	PQL	Result	Q
52712-04-6	PCB-141	0.0353	0.125	0.0353	U
35065-28-2	PCB-138	0.0494	0.125	0.0494	U
55215-18-4/7	PCB-129/163	0.104	0.250	0.104	U
74472-42-7	PCB-158	0.0525	0.500	0.0525	U
38380-07-3	PCB-128	0.0203	0.125	0.0203	U
52663-72-6	PCB-167	0.0620	0.125	0.0620	U
38380-08-4	PCB-156	0.0401	0.125	0.0401	U
69782-90-7	PCB-157	0.0604	0.125	0.0604	U
32774-16-6	PCB-169	0.0583	0.125	0.0583	U
74487-85-7	PCB-188	0.0575	0.125	0.0575	U
52663-64-6	PCB-179	0.0283	0.125	0.0283	U
52663-68-0	PCB-187	0.0321	0.125	0.0321	U
52663-69-1	PCB-183	0.0492	0.125	0.0492	U
38411-25-5	PCB-174	0.0604	0.125	0.0604	U
52663-70-4	PCB-177	0.0500	0.125	0.0500	U
52663-71-5	PCB-171	0.0479	0.125	0.0479	U
35065-29-3	PCB-180	0.0376	0.125	0.0376	U
35065-30-6	PCB-170	0.0605	0.125	0.0605	U
39635-31-9	PCB-189	0.0615	0.125	0.0615	U
2136-99-4	PCB-202	0.0367	0.125	0.0367	U
52663-75-9	PCB-201	0.0484	0.125	0.0484	U
42740-50-1/5	PCB-196/203	0.101	0.250	0.101	U
52663-78-2	PCB-195	0.0623	0.125	0.0623	U
35694-08-7	PCB-194	0.0480	0.125	0.0480	U
74472-53-0	PCB-205	0.0494	0.125	0.0494	U
52663-77-1	PCB-208	0.0466	0.125	0.0466	U
40186-72-9	PCB-206	0.0604	0.125	0.0604	U
2051-24-3	PCB-209	0.0424	0.125	0.0424	U
1336-36-3	Total PCB	0.109	0.375	0.109	U

1C

SEMI-VOLATILE ORGANICS ANALYSIS DATA SHEET

Field Sample ID: **XB1-0114**

SDG No.: J1057

Analysis Method: E1668A MOD

Matrix: AIR

Lab Name: CH2M HILL/LAB/CVO

Lab Sample ID: XB1-0114

Lab File ID: XB1-0114.D

Extraction Method: SW3545

Date Received: / /

Cleanup - GPC: N Sulfur: N

Date Extracted: 01/14/10

Concentrated Extract Volume: (ML) 0.5

Date Analyzed: 01/21/10

Injection Volume: (UL) 50

Dilution Factor: 1

Instrument: MSV

Concentration Units: ng

CAS No.	Analyte	MDL	PQL	Result	Q
2051-62-9	PCB-3	0.0494	0.125	0.0494	U
2051-61-8	PCB-2	0.0246	0.125	0.0246	U
2051-60-7	PCB-1 (1F)	0.0203	0.125	0.0650	J
13029-08-8	PCB-4	0.0620	0.125	0.0620	U
34883-39-1	PCB-9	0.0430	0.125	0.0430	U
33284-50-3	PCB-7	0.0480	0.125	0.0480	U
25569-80-6	PCB-6	0.0435	0.125	0.0435	U
34883-43-7	PCB-8	0.0380	0.125	0.0380	U
2050-68-2	PCB-15	0.0390	0.125	0.0390	U
38444-73-4	PCB-19	0.0375	0.125	0.0375	U
37680-65-2	PCB-18	0.0139	0.125	0.0139	U
37680-66-3	PCB-17	0.0510	0.125	0.0510	U
38444-78-9	PCB-16	0.0399	0.125	0.0399	U
38444-77-8	PCB-32	0.0456	0.125	0.0456	U
38444-76-7	PCB-27	0.0289	0.125	0.0289	U
55702-45-9	PCB-24	0.0390	0.125	0.0390	U
38444-81-4	PCB-26	0.0308	0.125	0.0308	U
16606-02-3	PCB-31	0.0422	0.125	0.0422	U
7012-37-5	PCB-28	0.0453	0.125	0.0453	U
38444-86-9	PCB-33	0.0399	0.125	0.0399	U
55712-37-3	PCB-25	0.0481	0.125	0.0481	U
38444-85-8	PCB-22	0.0265	0.125	0.0265	U
38444-90-5	PCB-37	0.0437	0.125	0.0437	U
15968-05-5	PCB-54	0.0259	0.125	0.0259	U
62796-65-0	PCB-50	0.0227	0.125	0.0227	U
41464-41-9	PCB-53	0.0240	0.125	0.0240	U
70362-45-7	PCB-45	0.0330	0.125	0.0330	U
35693-99-3	PCB-52	0.0226	0.125	0.0226	U
70362-47-9	PCB-48	0.0577	0.125	0.0577	U
41464-40-8	PCB-49	0.0275	0.125	0.0275	U
41464-47-5	PCB-46	0.0297	0.125	0.0297	U
2437-79-8	PCB-47	0.0223	0.125	0.0223	U
41464-39-5	PCB-44	0.0424	0.125	0.0424	U

1C

SEMI-VOLATILE ORGANICS ANALYSIS DATA SHEET

Field Sample ID: XB1-0114

SDG No.: J1057

Analysis Method: E1668A MOD

Matrix: AIR

Lab Name: CH2M HILL/LAB/CVO

Lab Sample ID: XB1-0114

Lab File ID: XB1-0114.D

Extraction Method: SW3545

Date Received: / /

Cleanup - GPC: N Sulfur: N

Date Extracted: 01/14/10

Concentrated Extract Volume: (ML) 0.5

Date Analyzed: 01/21/10

Injection Volume: (UL) 50

Dilution Factor: 1

Instrument: MSV

Concentration Units: ng

CAS No.	Analyte	MDL	PQL	Result	Q
36559-22-5	PCB-42	0.0435	0.125	0.0435	U
41464-46-4	PCB-71	0.0253	0.125	0.0253	U
38444-93-8/5	PCB-40/64	0.0367	0.250	0.0367	U
32690-93-0	PCB-74	0.0223	0.125	0.0223	U
32598-11-1	PCB-70	0.0278	0.125	0.0278	U
32598-10-0	PCB-66	0.0335	0.125	0.0335	U
41464-43-1	PCB-56	0.0226	0.125	0.0226	U
33025-41-1	PCB-60	0.0484	0.125	0.0484	U
70362-50-4	PCB-81	0.0388	0.125	0.0388	U
32598-13-3	PCB-77	0.0442	0.125	0.0442	U
56558-16-8	PCB-104	0.0566	0.125	0.0566	U
38379-99-6	PCB-95	0.0392	0.125	0.0392	U
52663-60-2/5	PCB-84/92	0.109	0.250	0.109	U
37680-73-2	PCB-101	0.0349	0.125	0.0349	U
38380-01-7	PCB-99	0.0263	0.125	0.0263	U
56558-17-9	PCB-119	0.0408	0.500	0.0408	U
41464-51-1	PCB-97	0.0353	0.125	0.0353	U
38380-02-8	PCB-87	0.0384	0.125	0.0384	U
65510-45-4	PCB-85	0.0299	0.125	0.0299	U
38380-03-9	PCB-110	0.0308	0.125	0.0308	U
52663-62-4	PCB-82	0.0519	0.125	0.0519	U
65510-44-3	PCB-123	0.0610	0.125	0.0610	U
31508-00-6	PCB-118	0.0546	0.125	0.0546	U
74472-37-0	PCB-114	0.0308	0.125	0.0308	U
32598-14-4	PCB-105	0.0500	0.125	0.0500	U
57465-28-8	PCB-126	0.0289	0.125	0.0289	U
33979-03-2	PCB-155	0.0320	0.125	0.0320	U
38411-22-2	PCB-136	0.0175	0.125	0.0175	U
52663-63-5	PCB-151	0.0513	0.125	0.0513	U
52744-13-5	PCB-135	0.0321	0.125	0.0321	U
38380-04-0	PCB-149	0.0328	0.125	0.0328	U
51908-16-8	PCB-146	0.0532	0.125	0.0532	U
38380-05-1/3	PCB-132/153/168	0.0870	0.375	0.0870	U

1C

SEMI-VOLATILE ORGANICS ANALYSIS DATA SHEET

Field Sample ID: **XB1-0114**

SDG No.: J1057

Analysis Method: E1668A MOD

Matrix: AIR

Lab Name: CH2M HILL/LAB/CVO

Lab Sample ID: XB1-0114

Lab File ID: XB1-0114.D

Extraction Method: SW3545

Date Received: / /

Cleanup - GPC: N Sulfur: N

Date Extracted: 01/14/10

Concentrated Extract Volume: (ML) 0.5

Date Analyzed: 01/21/10

Injection Volume: (UL) 50

Dilution Factor: 1

Instrument: MSV

Concentration Units: ng

CAS No.	Analyte	MDL	PQL	Result	Q
52712-04-6	PCB-141	0.0353	0.125	0.0353	U
35065-28-2	PCB-138	0.0494	0.125	0.0494	U
55215-18-4/7	PCB-129/163	0.104	0.250	0.104	U
74472-42-7	PCB-158	0.0525	0.500	0.0525	U
38380-07-3	PCB-128	0.0203	0.125	0.0203	U
52663-72-6	PCB-167	0.0620	0.125	0.0620	U
38380-08-4	PCB-156	0.0401	0.125	0.0401	U
69782-90-7	PCB-157	0.0604	0.125	0.0604	U
32774-16-6	PCB-169	0.0583	0.125	0.0583	U
74487-85-7	PCB-188	0.0575	0.125	0.0575	U
52663-64-6	PCB-179	0.0283	0.125	0.0283	U
52663-68-0	PCB-187	0.0321	0.125	0.0321	U
52663-69-1	PCB-183	0.0492	0.125	0.0492	U
38411-25-5	PCB-174	0.0604	0.125	0.0604	U
52663-70-4	PCB-177	0.0500	0.125	0.0500	U
52663-71-5	PCB-171	0.0479	0.125	0.0479	U
35065-29-3	PCB-180	0.0376	0.125	0.0376	U
35065-30-6	PCB-170	0.0605	0.125	0.0605	U
39635-31-9	PCB-189	0.0615	0.125	0.0615	U
2136-99-4	PCB-202	0.0367	0.125	0.0367	U
52663-75-9	PCB-201	0.0484	0.125	0.0484	U
42740-50-1/5	PCB-196/203	0.101	0.250	0.101	U
52663-78-2	PCB-195	0.0623	0.125	0.0623	U
35694-08-7	PCB-194	0.0480	0.125	0.0480	U
74472-53-0	PCB-205	0.0494	0.125	0.0494	U
52663-77-1	PCB-208	0.0466	0.125	0.0466	U
40186-72-9	PCB-206	0.0604	0.125	0.0604	U
2051-24-3	PCB-209	0.0424	0.125	0.0424	U
1336-36-3	Total PCB	0.109	0.375	0.109	U

QC SUMMARY

AIR SEMI-VOLATILE SURROGATE RECOVERY

SDG No.: J1057 Lab Name: CH2M HILL/LAB/CVO

Analysis Method: E1668A MOD

GC Column: ZB-XLB ID: 0.25 (mm) Instrument Name: MSV

	Field/QC Sample ID	S1	S2	S3	S4	S5	S6	S7	S8	S9	S10	S11	S12	# Out
1	XB1-0114	41	45	45	43	0 *	56	52	61	0 *	58	53	55	2
2	BS1X0114	50	54	54	53	0 *	69	67	72	0 *	68	67	63	2
3	B84IARE1	47	52	56	62	100	71	69	73	89	69	69	62	
4	B84IARE2	53	57	57	52	103	67	66	73	93	69	70	69	
5	B84IARE3	46	50	51	47	101	63	60	67	91	65	64	63	
6	B84IARE3D	43	46	48	43	104	56	53	60	92	57	57	55	
7	B84IARETB	56	59	57	56	101	68	64	75	93	69	68	63	

* Values outside of QC limits

D Surrogate diluted out

		QC Limits
S1:	PCB-3L	(25-150)
S2:	PCB-15L	(25-150)
S3:	PCB-28L	(25-150)
S4:	PCB-52L	(25-150)
S5:	PCB-47L	(30-135)
S6:	PCB-118L	(25-150)
S7:	PCB-153L	(25-150)
S8:	PCB-180L	(25-150)
S9:	PCB-178L	(30-135)
S10:	PCB-194L	(25-150)
S11:	PCB-208L	(25-150)
S12:	PCB-209L	(25-150)

AIR SEMI-VOLATILE BLANK SPIKE RECOVERY

SDG No.: J1057 Lab Name: CH2M HILL/LAB/CVO

Analysis Method: E1668A MOD Blank Spike ID: BS1X0114

GC Column: ZB-XLB ID: 0.25 (mm) Instrument Name: MSV

Analyte	Spike Added (ng)	BS Result (ng)	%R	QC Limits %R	Q
PCB-3	12.5	13.4	107	50-150	
PCB-2	12.5	12.9	103	50-150	
PCB-1 (1F)	12.5	13.4	107	50-150	
PCB-4	12.5	14.0	112	50-150	
PCB-9	12.5	12.6	101	50-150	
PCB-7	12.5	13.4	107	50-150	
PCB-6	12.5	13.8	110	50-150	
PCB-8	12.5	10.3	83	50-150	
PCB-15	12.5	13.7	110	50-150	
PCB-19	12.5	14.1	112	50-150	
PCB-18	12.5	14.5	116	50-150	
PCB-17	12.5	13.4	107	50-150	
PCB-16	12.5	13.1	105	50-150	
PCB-32	12.5	13.4	107	50-150	
PCB-27	12.5	13.6	109	50-150	
PCB-24	12.5	13.2	106	50-150	
PCB-26	12.5	13.6	108	50-150	
PCB-31	12.5	14.0	112	50-150	
PCB-28	12.5	14.5	116	50-150	
PCB-33	12.5	13.8	110	50-150	
PCB-25	12.5	13.5	108	50-150	
PCB-22	12.5	14.2	114	50-150	
PCB-37	12.5	14.7	118	50-150	
PCB-54	12.5	13.7	109	50-150	
PCB-50	12.5	13.1	105	50-150	
PCB-53	12.5	13.2	106	50-150	
PCB-45	12.5	13.1	105	50-150	
PCB-52	12.5	14.1	113	50-150	
PCB-48	12.5	12.3	98	50-150	
PCB-49	12.5	13.5	108	50-150	
PCB-46	12.5	13.2	105	50-150	
PCB-47	12.5	12.8	103	50-150	
PCB-44	12.5	14.4	115	50-150	
PCB-42	12.5	14.1	113	50-150	

* Values outside of QC limits

Comments:

3D

AIR SEMI-VOLATILE BLANK SPIKE RECOVERY

SDG No.: J1057 Lab Name: CH2M HILL/LAB/CVO

Analysis Method: E1668A MOD Blank Spike ID: BS1X0114

GC Column: ZB-XLB ID: 0.25 (mm) Instrument Name: MSV

Analyte	Spike Added (ng)	BS Result (ng)	%R	QC Limits %R	Q
PCB-71	12.5	14.3	114	50-150	
PCB-40/64	25.0	28.3	113	50-150	
PCB-74	12.5	15.4	124	50-150	
PCB-70	12.5	14.3	114	50-150	
PCB-66	12.5	15.1	121	50-150	
PCB-56	12.5	15.5	124	50-150	
PCB-60	12.5	16.4	131	50-150	
PCB-81	12.5	17.4	140	50-150	
PCB-77	12.5	15.4	123	50-150	
PCB-104	12.5	12.2	97	50-150	
PCB-95	12.5	12.0	96	50-150	
PCB-84/92	25.0	24.9	99	50-150	
PCB-101	12.5	13.4	107	50-150	
PCB-99	12.5	13.0	104	50-150	
PCB-119	12.5	13.0	104	50-150	
PCB-97	12.5	13.4	107	50-150	
PCB-87	12.5	12.5	100	50-150	
PCB-85	12.5	12.7	102	50-150	
PCB-110	12.5	13.2	106	50-150	
PCB-82	12.5	13.9	111	50-150	
PCB-123	12.5	15.8	126	50-150	
PCB-118	12.5	13.3	106	50-150	
PCB-114	12.5	15.7	126	50-150	
PCB-105	12.5	16.1	129	50-150	
PCB-126	12.5	12.3	99	50-150	
PCB-155	12.5	11.9	96	50-150	
PCB-136	12.5	11.9	95	50-150	
PCB-151	12.5	13.3	106	50-150	
PCB-135	12.5	13.5	108	50-150	
PCB-149	12.5	13.5	108	50-150	
PCB-146	12.5	14.8	118	50-150	
PCB-132/153/168	37.5	39.1	104	50-150	
PCB-141	12.5	15.0	120	50-150	
PCB-138	12.5	13.3	106	50-150	

* Values outside of QC limits

Comments:

AIR SEMI-VOLATILE BLANK SPIKE RECOVERY

SDG No.: J1057 Lab Name: CH2M HILL/LAB/CVO

Analysis Method: E1668A MOD Blank Spike ID: BS1X0114

GC Column: ZB-XLB ID: 0.25 (mm) Instrument Name: MSV

Analyte	Spike Added (ng)	BS Result (ng)	%R	QC Limits %R	Q
PCB-129/163	25.0	25.0	100	50-150	
PCB-158	12.5	11.4	91	50-150	
PCB-128	12.5	14.7	118	50-150	
PCB-167	12.5	15.9	127	50-150	
PCB-156	12.5	14.2	114	50-150	
PCB-157	12.5	14.2	114	50-150	
PCB-169	12.5	12.6	101	50-150	
PCB-188	12.5	13.5	108	50-150	
PCB-179	12.5	13.8	110	50-150	
PCB-187	12.5	12.5	100	50-150	
PCB-183	12.5	13.0	104	50-150	
PCB-174	12.5	13.9	111	50-150	
PCB-177	12.5	13.7	110	50-150	
PCB-171	12.5	14.3	114	50-150	
PCB-180	12.5	12.7	102	50-150	
PCB-170	12.5	14.1	113	50-150	
PCB-189	12.5	14.3	114	50-150	
PCB-202	12.5	13.1	104	50-150	
PCB-201	12.5	13.5	108	50-150	
PCB-196/203	25.0	24.0	96	50-150	
PCB-195	12.5	13.8	111	50-150	
PCB-194	12.5	12.4	99	50-150	
PCB-205	12.5	13.3	106	50-150	
PCB-208	12.5	12.3	98	50-150	
PCB-206	12.5	12.4	99	50-150	
DCBP	12.5	14.3	114	50-150	

* Values outside of QC limits

Comments:

4B

AIR SEMI-VOLATILE METHOD BLANK SUMMARY

Field Sample ID:

XB1-0114

SDG No.: J1057

Lab Name: CH2M HILL/LAB/CVO

Analysis Method: E1668A MOD

Lab Sample ID: XB1-0114

Lab File ID: XB1-0114.D

Date Extracted: 01/14/10

GC Column: ZB-XLB ID: 0.25 (mm)

Date Analyzed: 01/21/10

Instrument: MSV

Time Analyzed: 1643

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

	Field Sample ID	Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed
1	BS1X0114	BS1X0114	BS1X0114.D	01/22/10	1122
2	B84IARE1	J105701	J105701.D	01/22/10	1616
3	B84IARE2	J105702	J105702.D	01/25/10	1140
4	B84IARE3	J105703	J105703.D	01/25/10	1353
5	B84IARE3D	J105704	J105704.D	01/25/10	1607
6	B84IARETB	J105705	J105705.D	01/25/10	1820

Comments:

5B

SEMIVOLATILE ORGANIC RUN LOG

SDG No.: J1057

Analysis Method: E1668A MOD

Lab Name: CH2M HILL/LAB/CVO

Lab File ID: T1-0110.D

Instrument ID: MSV

THIS CHECK APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS, AND STANDARDS:

	Field Sample ID	Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed
1	Level 2	Level 2	Level 2.D	01/11/10	1402
2	Level 3	Level 3	Level 3.D	01/11/10	1615
3	Level 4	Level 4	Level 4.D	01/11/10	1829
4	Level 5	Level 5	Level 5.D	01/11/10	2042
5	Level 6	Level 6	Level 6.D	01/11/10	2255

5B

SEMIVOLATILE ORGANIC RUN LOG

SDG No.: J1057

Analysis Method: E1668A MOD

Lab Name: CH2M HILL/LAB/CVO

Lab File ID: T2-0110.D

Instrument ID: MSV

THIS CHECK APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS, AND STANDARDS:

	Field Sample ID	Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed
1	Level 7	Level 7	Level 7.D	01/12/10	0108

5B

SEMIVOLATILE ORGANIC RUN LOG

SDG No.: J1057

Analysis Method: E1668A MOD

Lab Name: CH2M HILL/LAB/CVO

Lab File ID: T3-0110.D

Instrument ID: MSV

THIS CHECK APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS, AND STANDARDS:

	Field Sample ID	Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed
1	Level 1	Level 1	Level 1r.D	01/12/10	1102
2	ICV-0111	ICV-0111	ICV-0111r.D	01/12/10	1528
3	ICV2-0111	ICV2-0111	ICV2-0111r.D	01/12/10	1742
4	ICV3-0111	ICV3-0111	ICV3-0111r.D	01/12/10	1955

5B

SEMIVOLATILE ORGANIC RUN LOG

SDG No.: J1057

Analysis Method: E1668A MOD

Lab Name: CH2M HILL/LAB/CVO

Lab File ID: T1-0121.D

Instrument ID: MSV

THIS CHECK APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS, AND STANDARDS:

	Field Sample ID	Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed
1	CV1-0121	CV1-0121	CV1-0121.D	01/21/10	1430
2	XB1-0114	XB1-0114	XB1-0114.D	01/21/10	1643

5B

SEMIVOLATILE ORGANIC RUN LOG

SDG No.: J1057

Analysis Method: E1668A MOD

Lab Name: CH2M HILL/LAB/CVO

Lab File ID: T1-0122.D

Instrument ID: MSV

THIS CHECK APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS, AND STANDARDS:

	Field Sample ID	Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed
1	CV1-0122	CV1-0122	CV1-0122.D	01/22/10	0901
2	BS1X0114	BS1X0114	BS1X0114.D	01/22/10	1122
3	B84IARE1	J105701	J105701.D	01/22/10	1616

5B

SEMIVOLATILE ORGANIC RUN LOG

SDG No.: J1057

Analysis Method: E1668A MOD

Lab Name: CH2M HILL/LAB/CVO

Lab File ID: T1-0125.D

Instrument ID: MSV

THIS CHECK APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS, AND STANDARDS:

	Field Sample ID	Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed
1	CV1-0125	CV1-0125	CV1-0125.D	01/25/10	0927
2	B84IARE2	J105702	J105702.D	01/25/10	1140
3	B84IARE3	J105703	J105703.D	01/25/10	1353
4	B84IARE3D	J105704	J105704.D	01/25/10	1607
5	B84IARETB	J105705	J105705.D	01/25/10	1820

SEMI-VOLATILE ORGANICS INITIAL CALIBRATION DATA

SDG No.: J1057 Lab Name: CH2M HILL/LAB/CVO

Analysis Method: E1668A MOD Calibration Date(s): 01/11/10 01/12/10

Instrument Name: MSV Calibration Times: 1402 1102

GC Column: ZB-XLB ID: 0.25 (mm) Concentration Units: NG

ICAL Sample IDs: Level 1 Level 2 Level 3 Level 4 Level 5 Level 6

ICAL File IDs: Level 1r.D Level 2.D Level 3.D Level 4.D Level 5.D Level 6.D

Analyte	Std 1	RF 1	Std 2	RF 2	Std 3	RF 3	Std 4	RF 4	Std 5	RF 5	Std 6	RF 6
PCB-3	.25	1.237	1	1.009	5	1.102	10	1.069	25	1.126	50	1.121
PCB-2	.25	1.171	1	0.972	5	1.018	10	1.026	25	1.073	50	1.077
PCB-1 (1F)	.25	1.264	1	1.027	5	1.113	10	1.075	25	1.104	50	1.113
PCB-4	.25	0.638	1	0.546	5	0.597	10	0.558	25	0.594	50	0.600
PCB-9	.25	1.207	1	0.944	5	0.995	10	1.009	25	1.049	50	1.028
PCB-7	.25	1.230	1	0.934	5	0.958	10	0.901	25	0.930	50	1.025
PCB-6	.25	1.083	1	0.860	5	0.889	10	0.894	25	0.943	50	0.946
PCB-8	.25	1.229	1	1.025	5	1.179	10	1.035	25	1.064	50	1.082
PCB-15	.25	1.286	1	0.979	5	1.049	10	1.012	25	1.053	50	1.061
PCB-19	.25	0.736	1	0.552	5	0.605	10	0.582	25	0.607	50	0.610
PCB-18	.25	0.741	1	0.574	5	0.631	10	0.615	25	0.641	50	0.652
PCB-17	.25	0.894	1	0.607	5	0.626	10	0.656	25	0.670	50	0.672
PCB-16	.25	1.186	1	0.860	5	0.913	10	0.910	25	0.942	50	0.960
PCB-32	.25	0.629	1	0.525	5	0.502	10	0.502	25	0.518	50	0.509
PCB-27	.25	1.067	1	0.926	5	0.871	10	0.897	25	0.927	50	0.930
PCB-24	.25	1.066	1	0.911	5	0.904	10	0.865	25	0.904	50	0.923
PCB-26	.25	1.136	1	0.859	5	0.930	10	0.938	25	0.972	50	1.014
PCB-31	.25	1.235	1	0.957	5	0.920	10	0.971	25	0.997	50	1.010
PCB-28	.25	1.368	1	0.988	5	1.127	10	1.024	25	1.054	50	1.074
PCB-33	.25	1.087	1	0.882	5	0.806	10	0.887	25	0.883	50	0.888
PCB-25	.25	1.144	1	0.859	5	0.930	10	0.938	25	0.972	50	1.016
PCB-22	.25	1.015	1	0.856	5	0.853	10	0.859	25	0.901	50	0.904
PCB-37	.25	1.081	1	0.962	5	0.938	10	1.017	25	1.064	50	1.121
PCB-54	.25	2.676	1	1.263	5	1.407	10	1.376	25	1.409	50	1.410
PCB-50	.25	1.126	1	0.970	5	0.889	10	0.935	25	0.968	50	0.948
PCB-53	.25	1.151	1	0.858	5	0.900	10	0.953	25	0.984	50	0.958
PCB-45	.25	1.096	1	0.860	5	0.771	10	0.817	25	0.833	50	0.820
PCB-52	.25	1.286	1	1.039	5	1.126	10	1.106	25	1.107	50	1.138
PCB-48	.25	1.200	1	1.046	5	0.872	10	1.029	25	1.024	50	0.999
PCB-49	.25	1.301	1	1.016	5	0.969	10	0.984	25	1.021	50	1.009

* SPCC # CCC

SEMI-VOLATILE ORGANICS INITIAL CALIBRATION DATA

SDG No.: J1057 Lab Name: CH2M HILL/LAB/CVO

Analysis Method: E1668A MOD Calibration Date(s): 01/11/10 01/12/10

Instrument Name: MSV Calibration Times: 1402 1102

GC Column: ZB-XLB ID: 0.25 (mm) Concentration Units: NG

ICAL Sample IDs: Level 1 Level 2 Level 3 Level 4 Level 5 Level 6

ICAL File IDs: Level 1r.D Level 2.D Level 3.D Level 4.D Level 5.D Level 6.D

Analyte	Std 1	RF 1	Std 2	RF 2	Std 3	RF 3	Std 4	RF 4	Std 5	RF 5	Std 6	RF 6
PCB-46	.25	1.069	1	0.874	5	0.771	10	0.817	25	0.833	50	0.820
PCB-47L	100	1.143	100	1.119	100	1.108	100	1.114	100	1.103	100	1.080
PCB-47	.25	1.444	1	1.186	5	1.071	10	1.132	25	1.135	50	1.114
PCB-44	.25	1.089	1	0.969	5	0.984	10	0.973	25	0.978	50	1.006
PCB-42	.25	1.008	1	0.893	5	0.845	10	0.883	25	0.888	50	0.877
PCB-71	.25	1.576	1	1.193	5	1.266	10	1.324	25	1.354	50	1.361
PCB-40/64	.5	1.128	2	0.951	10	0.928	20	0.994	50	1.016	100	1.021
PCB-74	.25	1.328	1	1.218	5	1.240	10	1.306	25	1.322	50	1.338
PCB-70	.25	1.633	1	1.383	5	1.283	10	1.415	25	1.396	50	1.408
PCB-66	.25	2.044	1	1.721	5	1.767	10	1.774	25	1.788	50	1.845
PCB-56	.25	1.428	1	1.304	5	1.332	10	1.419	25	1.457	50	1.478
PCB-60	.25	1.282	1	1.149	5	1.152	10	1.220	25	1.250	50	1.334
PCB-81	.25	1.613	1	1.526	5	1.632	10	1.719	25	1.749	50	2.025
PCB-77L	100	1.223	100	1.281	100	1.276	100	1.322	100	1.260	100	1.308
PCB-77	.25	1.673	1	1.597	5	1.591	10	1.576	25	1.523	50	1.590
PCB-104	.25	2.497	1	1.027	5	1.135	10	1.079	25	1.149	50	1.066
PCB-95	.25	0.845	1	0.669	5	0.604	10	0.618	25	0.640	50	0.604
PCB-84/92	.5	0.717	2	0.632	10	0.618	20	0.623	50	0.660	100	0.610
PCB-92	.25	1.381	1	1.248	5	1.234	10	1.243	25	1.320	50	1.218
PCB-101	.25	1.044	1	1.216	5	0.926	10	0.886	25	0.952	50	0.909
PCB-99	.25	0.885	1	0.752	5	0.747	10	0.746	25	0.784	50	0.749
PCB-119	.25	2.164	1	0.910	5	0.949	10	0.921	25	0.965	50	0.967
PCB-97	.25	0.575	1	0.596	5	0.588	10	0.575	25	0.603	50	0.589
PCB-87	.25	0.755	1	0.723	5	0.692	10	0.660	25	0.696	50	0.671
PCB-85	.25	0.754	1	0.657	5	0.590	10	0.596	25	0.656	50	0.640
PCB-110	.25	0.920	1	0.737	5	0.739	10	0.709	25	0.759	50	0.756
PCB-82	.25	0.538	1	0.430	5	0.495	10	0.516	25	0.507	50	0.537
PCB-123	.25	1.027	1	0.686	5	0.859	10	0.800	25	0.829	50	0.915
PCB-118	.25	1.260	1	1.109	5	1.090	10	1.047	25	1.046	50	1.070
PCB-114	.25	0.944	1	0.712	5	0.888	10	0.849	25	0.885	50	0.980

* SPCC # CCC

SEMI-VOLATILE ORGANICS INITIAL CALIBRATION DATA

SDG No.: J1057 Lab Name: CH2M HILL/LAB/CVO

Analysis Method: E1668A MOD Calibration Date(s): 01/11/10 01/12/10

Instrument Name: MSV Calibration Times: 1402 1102

GC Column: ZB-XLB ID: 0.25 (mm) Concentration Units: NG

ICAL Sample IDs:	Level 1	Level 2	Level 3	Level 4	Level 5	Level 6
ICAL File IDs:	Level 1r.D	Level 2.D	Level 3.D	Level 4.D	Level 5.D	Level 6.D

Analyte	Std 1	RF 1	Std 2	RF 2	Std 3	RF 3	Std 4	RF 4	Std 5	RF 5	Std 6	RF 6
PCB-105	.25	0.908	1	0.665	5	0.848	10	0.852	25	0.889	50	1.00
PCB-126L	100	1.110	100	1.088	100	1.102	100	1.039	100	1.030	100	1.01
PCB-126	.25	1.516	1	1.214	5	1.193	10	1.102	25	1.113	50	1.11
PCB-155	.25	1.662	1	1.456	5	1.474	10	1.465	25	1.551	50	1.46
PCB-136	.25	1.227	1	1.168	5	1.098	10	1.099	25	1.151	50	1.08
PCB-151	.25	0.700	1	0.578	5	0.690	10	0.722	25	0.743	50	0.74
PCB-135	.25	0.787	1	0.635	5	0.713	10	0.696	25	0.736	50	0.75
PCB-149	.25	0.900	1	0.769	5	0.749	10	0.791	25	0.829	50	0.84
PCB-146	.25	0.737	1	0.667	5	0.777	10	0.817	25	0.856	50	0.88
PCB-132/153/168	.75	1.094	3	1.001	15	0.991	30	0.977	75	1.003	150	1.03
PCB-141	.25	0.613	1	0.468	5	0.532	10	0.549	25	0.583	50	0.61
PCB-138	.25	1.069	1	0.893	5	1.180	10	1.042	25	1.121	50	1.06
PCB-129/163	.5	0.998	2	0.923	10	1.023	20	0.976	50	1.022	100	0.98
PCB-158	.25	1.593	1	1.376	5	1.330	10	1.284	25	1.367	50	1.30
PCB-128	.25	0.719	1	0.707	5	0.802	10	0.735	25	0.756	50	0.80
PCB-167	.25	1.145	1	1.107	5	1.293	10	1.213	25	1.233	50	1.48
PCB-156	.25	1.180	1	0.833	5	0.974	10	0.857	25	0.870	50	1.03
PCB-157	.25	0.974	1	0.773	5	0.977	10	0.921	25	0.876	50	1.02
PCB-169L	100	1.175	100	1.226	100	1.228	100	1.206	100	1.153	100	1.18
PCB-169	.25	1.621	1	1.331	5	1.394	10	1.365	25	1.348	50	1.38
PCB-188	.25	1.032	1	1.062	5	1.134	10	1.178	25	1.260	50	1.23
PCB-179	.25	0.917	1	0.780	5	0.822	10	0.915	25	0.982	50	0.95
PCB-178L	100	0.893	100	0.873	100	0.873	100	0.871	100	0.922	100	0.80
PCB-187	.25	1.005	1	0.971	5	1.136	10	0.991	25	1.097	50	1.04
PCB-183	.25	0.792	1	0.729	5	0.832	10	0.808	25	0.869	50	0.83
PCB-174	.25	0.679	1	0.681	5	0.705	10	0.707	25	0.734	50	0.75
PCB-177	.25	0.444	1	0.522	5	0.581	10	0.615	25	0.676	50	0.68
PCB-171	.25	0.575	1	0.569	5	0.656	10	0.644	25	0.701	50	0.71
PCB-180	.25	1.126	1	1.067	5	1.079	10	1.030	25	1.051	50	1.05
PCB-170	.25	0.757	1	0.701	5	0.800	10	0.773	25	0.805	50	0.88

* SPCC # CCC

SEMI-VOLATILE ORGANICS INITIAL CALIBRATION DATA

SDG No.: J1057 Lab Name: CH2M HILL/LAB/CVO

Analysis Method: E1668A MOD Calibration Date(s): 01/11/10 01/12/10

Instrument Name: MSV Calibration Times: 1402 1102

GC Column: ZB-XLB ID: 0.25 (mm) Concentration Units: NG

ICAL Sample IDs: Level 1 Level 2 Level 3 Level 4 Level 5 Level 6

ICAL File IDs: Level 1r.D Level 2.D Level 3.D Level 4.D Level 5.D Level 6.D

Analyte	Std 1	RF 1	Std 2	RF 2	Std 3	RF 3	Std 4	RF 4	Std 5	RF 5	Std 6	RF 6
PCB-189	.25	1.101	1	0.961	5	1.163	10	1.168	25	1.217	50	1.327
PCB-202	.25	1.7193	1	0.9846	5	1.0758	10	1.0566	25	1.1474	50	1.0895
PCB-201	.25	5.481	1	6.046	5	6.182	10	6.440	25	6.812	50	6.724
PCB-196/203	.5	7.295	2	7.025	10	6.668	20	6.849	50	7.173	100	6.564
PCB-195	.25	5.681	1	5.598	5	6.530	10	6.595	25	7.024	50	7.041
PCB-194	.25	7.216	1	6.316	5	6.327	10	6.481	25	6.488	50	6.458
PCB-205	.25	1.0990	1	0.8580	5	0.9807	10	0.9631	25	1.0277	50	1.0720
PCB-208	.25	1.3215	1	1.1153	5	1.1655	10	1.1408	25	1.1660	50	1.1444
PCB-206	.25	7.438	1	5.703	5	6.213	10	5.588	25	6.034	50	6.117
DCBP	.25	6.526	1	4.602	5	4.667	10	4.460	25	4.520	50	4.434

* SPCC # CCC

SEMI-VOLATILE ORGANICS INITIAL CALIBRATION DATA

SDG No.: J1057 Lab Name: CH2M HILL/LAB/CVO

Analysis Method: E1668A MOD Calibration Date(s): 01/11/10 01/12/10

Instrument Name: MSV Calibration Times: 1402 1102

GC Column: ZB-XLB ID: 0.25 (mm) Concentration Units: NG

ICAL Sample IDs: Level 7

ICAL File IDs: Level 7.D

Analyte	Std 7	RF 7	Std 8	RF 8	Std 9	RF 9						
PCB-3	100	1.107										
PCB-2	100	1.094										
PCB-1 (1F)	100	1.107										
PCB-4	100	0.588										
PCB-9	100	1.042										
PCB-7	100	0.992										
PCB-6	100	0.958										
PCB-8	100	1.066										
PCB-15	100	1.077										
PCB-19	100	0.594										
PCB-18	100	0.636										
PCB-17	100	0.677										
PCB-16	100	0.954										
PCB-32	100	0.511										
PCB-27	100	0.932										
PCB-24	100	0.920										
PCB-26	100	1.014										
PCB-31	100	1.016										
PCB-28	100	1.078										
PCB-33	100	0.934										
PCB-25	100	1.016										
PCB-22	100	0.923										
PCB-37	100	1.098										
PCB-54	100	1.382										
PCB-50	100	0.961										
PCB-53	100	0.976										
PCB-45	100	0.841										
PCB-52	100	1.110										
PCB-48	100	1.012										
PCB-49	100	1.039										

* SPCC # CCC

SEMI-VOLATILE ORGANICS INITIAL CALIBRATION DATA

SDG No.: J1057 Lab Name: CH2M HILL/LAB/CVO

Analysis Method: E1668A MOD Calibration Date(s): 01/11/10 01/12/10

Instrument Name: MSV Calibration Times: 1402 1102

GC Column: ZB-XLB ID: 0.25 (mm) Concentration Units: NG

ICAL Sample IDs: Level 7

ICAL File IDs: Level 7.D

Analyte	Std 7	RF 7	Std 8	RF 8	Std 9	RF 9						
PCB-46	100	0.837										
PCB-47L	100	1.096										
PCB-47	100	1.129										
PCB-44	100	1.000										
PCB-42	100	0.907										
PCB-71	100	1.380										
PCB-40/64	200	1.048										
PCB-74	100	1.433										
PCB-70	100	1.474										
PCB-66	100	1.856										
PCB-56	100	1.548										
PCB-60	100	1.406										
PCB-81	100	2.074										
PCB-77L	100	1.345										
PCB-77	100	1.637										
PCB-104	100	0.984										
PCB-95	100	0.584										
PCB-84/92	200	0.593										
PCB-92	100	1.188										
PCB-101	100	0.859										
PCB-99	100	0.737										
PCB-119	100	0.951										
PCB-97	100	0.586										
PCB-87	100	0.648										
PCB-85	100	0.636										
PCB-110	100	0.747										
PCB-82	100	0.535										
PCB-123	100	0.890										
PCB-118	100	1.028										
PCB-114	100	0.958										

* SPCC # CCC

SEMI-VOLATILE ORGANICS INITIAL CALIBRATION DATA

SDG No.: J1057 Lab Name: CH2M HILL/LAB/CVO

Analysis Method: E1668A MOD Calibration Date(s): 01/11/10 01/12/10

Instrument Name: MSV Calibration Times: 1402 1102

GC Column: ZB-XLB ID: 0.25 (mm) Concentration Units: NG

ICAL Sample IDs: Level 7

ICAL File IDs: Level 7.D

Analyte	Std 7	RF 7	Std 8	RF 8	Std 9	RF 9						
PCB-105	100	0.987										
PCB-126L	100	0.973										
PCB-126	100	1.038										
PCB-155	100	1.359										
PCB-136	100	1.027										
PCB-151	100	0.715										
PCB-135	100	0.729										
PCB-149	100	0.821										
PCB-146	100	0.863										
PCB-132/153/168	300	0.984										
PCB-141	100	0.599										
PCB-138	100	0.978										
PCB-129/163	200	0.890										
PCB-158	100	1.224										
PCB-128	100	0.756										
PCB-167	100	1.322										
PCB-156	100	0.956										
PCB-157	100	0.976										
PCB-169L	100	1.141										
PCB-169	100	1.162										
PCB-188	100	1.198										
PCB-179	100	0.950										
PCB-178L	100	0.801										
PCB-187	100	0.983										
PCB-183	100	0.819										
PCB-174	100	0.750										
PCB-177	100	0.689										
PCB-171	100	0.729										
PCB-180	100	1.004										
PCB-170	100	0.838										

* SPCC # CCC

SEMI-VOLATILE ORGANICS INITIAL CALIBRATION DATA

SDG No.: J1057 Lab Name: CH2M HILL/LAB/CVO

Analysis Method: E1668A MOD Calibration Date(s): 01/11/10 01/12/10

Instrument Name: MSV Calibration Times: 1402 1102

GC Column: ZB-XLB ID: 0.25 (mm) Concentration Units: NG

ICAL Sample IDs: Level 7

ICAL File IDs: Level 7.D

Analyte	Std 7	RF 7	Std 8	RF 8	Std 9	RF 9						
PCB-189	100	1.262										
PCB-202	100	1.0420										
PCB-201	100	6.471										
PCB-196/203	200	6.299										
PCB-195	100	6.577										
PCB-194	100	6.133										
PCB-205	100	0.9842										
PCB-208	100	1.0925										
PCB-206	100	5.620										
DCBP	100	4.718										

* SPCC # CCC

SEMI-VOLATILE ORGANICS INITIAL CALIBRATION DATA

SDG No.: J1057 Lab Name: CH2M HILL/LAB/CVO

Analysis Method: E1668A MOD Calibration Date(s): 01/11/10 01/12/10

Instrument Name: MSV Calibration Times: 1402 1102

GC Column: ZB-XLB ID: 0.25 (mm) Concentration Units: NG

Analyte	Curve Type	Avg. RF	%RSD	Mean %RSD	r	COD	Q
PCB-3	AVG	1.110	6.22	9.18			
PCB-2	AVG	1.061	6.02	9.18			
PCB-1 (1F)	AVG	1.115	6.53	9.18			
PCB-4	AVG	0.589	5.10	9.18			
PCB-9	AVG	1.039	7.88	9.18			
PCB-7	AVG	0.996	11.2	9.18			
PCB-6	AVG	0.939	7.78	9.18			
PCB-8	AVG	1.097	7.00	9.18			
PCB-15	AVG	1.074	9.26	9.18			
PCB-19	AVG	0.613	9.49	9.18			
PCB-18	AVG	0.641	7.90	9.18			
PCB-17	AVG	0.686	13.9	9.18			
PCB-16	AVG	0.961	10.9	9.18			
PCB-32	AVG	0.528	8.57	9.18			
PCB-27	AVG	0.936	6.66	9.18			
PCB-24	AVG	0.927	6.87	9.18			
PCB-26	AVG	0.980	8.91	9.18			
PCB-31	AVG	1.015	10.1	9.18			
PCB-28	AVG	1.102	11.4	9.18			
PCB-33	AVG	0.910	9.53	9.18			
PCB-25	AVG	0.982	9.16	9.18			
PCB-22	AVG	0.902	6.33	9.18			
PCB-37	AVG	1.040	6.70	9.18			
PCB-54	LINR	1.560			1.000		
PCB-50	AVG	0.971	7.59	9.18			
PCB-53	AVG	0.968	9.51	9.18			
PCB-45	AVG	0.863	12.3	9.18			
PCB-52	AVG	1.130	6.70	9.18			
PCB-48	AVG	1.026	9.37	9.18			
PCB-49	AVG	1.048	10.8	9.18			

* SPCC # CCC

6C

SEMI-VOLATILE ORGANICS INITIAL CALIBRATION DATA

SDG No.: J1057 Lab Name: CH2M HILL/LAB/CVO

Analysis Method: E1668A MOD Calibration Date(s): 01/11/10 01/12/10

Instrument Name: MSV Calibration Times: 1402 1102

GC Column: ZB-XLB ID: 0.25 (mm) Concentration Units: NG

Analyte	Curve Type	Avg. RF	%RSD	Mean %RSD	r	COD	Q
PCB-46	AVG	0.860	11.3	9.18			
PCB-47L	AVG	1.109	1.77	9.18			
PCB-47	AVG	1.173	10.6	9.18			
PCB-44	AVG	1.000	4.17	9.18			
PCB-42	AVG	0.900	5.69	9.18			
PCB-71	AVG	1.351	8.80	9.18			
PCB-40/64	AVG	1.012	6.49	9.18			
PCB-74	AVG	1.312	5.37	9.18			
PCB-70	AVG	1.427	7.52	9.18			
PCB-66	AVG	1.828	5.79	9.18			
PCB-56	AVG	1.424	5.89	9.18			
PCB-60	AVG	1.256	7.47	9.18			
PCB-81	AVG	1.763	11.9	9.18			
PCB-77L	AVG	1.288	3.17	9.18			
PCB-77	AVG	1.598	2.95	9.18			
PCB-104	LINR	1.277			0.998		
PCB-95	AVG	0.652	13.7	9.18			
PCB-84/92	AVG	0.636	6.49	9.18			
PCB-92	AVG	1.262	5.24	9.18			
PCB-101	AVG	0.970	12.7	9.18			
PCB-99	AVG	0.771	6.75	9.18			
PCB-119	LINR	1.118			1.000		
PCB-97	AVG	0.587	1.75	9.18			
PCB-87	AVG	0.692	5.37	9.18			
PCB-85	AVG	0.647	8.40	9.18			
PCB-110	AVG	0.767	9.08	9.18			
PCB-82	AVG	0.508	7.54	9.18			
PCB-123	AVG	0.858	12.3	9.18			
PCB-118	AVG	1.093	7.19	9.18			
PCB-114	AVG	0.888	10.2	9.18			

* SPCC # CCC

SEMI-VOLATILE ORGANICS INITIAL CALIBRATION DATA

SDG No.: J1057 Lab Name: CH2M HILL/LAB/CVO

Analysis Method: E1668A MOD Calibration Date(s): 01/11/10 01/12/10

Instrument Name: MSV Calibration Times: 1402 1102

GC Column: ZB-XLB ID: 0.25 (mm) Concentration Units: NG

Analyte	Curve Type	Avg. RF	%RSD	Mean %RSD	r	COD	Q
PCB-105	AVG	0.879	12.9	9.18			
PCB-126L	AVG	1.051	4.87	9.18			
PCB-126	AVG	1.185	13.3	9.18			
PCB-155	AVG	1.490	6.31	9.18			
PCB-136	AVG	1.122	5.82	9.18			
PCB-151	AVG	0.699	8.17	9.18			
PCB-135	AVG	0.721	6.62	9.18			
PCB-149	AVG	0.814	6.19	9.18			
PCB-146	AVG	0.799	9.68	9.18			
PCB-132/153/168	AVG	1.011	4.00	9.18			
PCB-141	AVG	0.566	9.43	9.18			
PCB-138	AVG	1.049	8.89	9.18			
PCB-129/163	AVG	0.973	5.13	9.18			
PCB-158	AVG	1.354	8.68	9.18			
PCB-128	AVG	0.754	5.06	9.18			
PCB-167	AVG	1.257	10.0	9.18			
PCB-156	AVG	0.957	12.7	9.18			
PCB-157	AVG	0.931	9.02	9.18			
PCB-169L	AVG	1.188	2.88	9.18			
PCB-169	AVG	1.373	9.81	9.18			
PCB-188	AVG	1.157	7.38	9.18			
PCB-179	AVG	0.902	8.17	9.18			
PCB-178L	AVG	0.863	5.09	9.18			
PCB-187	AVG	1.033	6.09	9.18			
PCB-183	AVG	0.812	5.41	9.18			
PCB-174	AVG	0.716	4.31	9.18			
PCB-177	LINR	0.602			1.000		
PCB-171	AVG	0.656	9.93	9.18			
PCB-180	AVG	1.059	3.62	9.18			
PCB-170	AVG	0.793	7.29	9.18			

* SPCC # CCC

6C

SEMI-VOLATILE ORGANICS INITIAL CALIBRATION DATA

SDG No.: J1057 Lab Name: CH2M HILL/LAB/CVO

Analysis Method: E1668A MOD Calibration Date(s): 01/11/10 01/12/10

Instrument Name: MSV Calibration Times: 1402 1102

GC Column: ZB-XLB ID: 0.25 (mm) Concentration Units: NG

Analyte	Curve Type	Avg. RF	%RSD	Mean %RSD	r	COD	Q
PCB-189	AVG	1.171	10.1	9.18			
PCB-202	LINR	1.1593			0.999		
PCB-201	AVG	6.308	7.21	9.18			
PCB-196/203	AVG	6.839	5.18	9.18			
PCB-195	AVG	6.435	9.06	9.18			
PCB-194	AVG	6.488	5.31	9.18			
PCB-205	AVG	9.978	7.96	9.18			
PCB-208	AVG	1.1637	6.40	9.18			
PCB-206	AVG	6.102	10.5	9.18			
DCBP	LINR	4.847			0.999		

* SPCC # CCC

7B

SEMI-VOLATILE INITIAL CALIBRATION CHECK

SDG No.: J1057 | Lab Name: CH2M HILL/LAB/CVO

Analysis Method: E1668A MOD | Calibration Date/Time: 01/12/10 1528

Instrument ID: MSV | Init. Calib. Date(s): 01/11/10 01/12/10

2nd Source ID: ICV-0111 | Init. Calib. Time(s): 1402 1102

Lab File ID: ICV-0111r.D | GC Column: ZB-XLB ID: 0.25 (mm)

Heat Purge:(Y/N) N | Concentration Units: NG

Analyte	Expected	Found	RRF	Min. RRF	%D	Max. %D	Q
PCB-3	25.0	21.0	0.931	0.000	-16.2	30	
PCB-1 (1F)	25.0	20.8	0.928	0.000	-16.7	30	
PCB-4	25.0	21.9	0.515	0.000	-12.6	30	
PCB-8	25.0	20.6	0.905	0.000	-17.5	30	
PCB-15	25.0	20.9	0.896	0.000	-16.5	30	
PCB-19	25.0	22.0	0.540	0.000	-11.9	30	
PCB-18	25.0	23.2	0.594	0.000	-7.35	30	
PCB-28	25.0	21.4	0.941	0.000	-14.6	30	
PCB-37	25.0	18.8	0.783	0.000	-24.7	30	
PCB-54	25.0	21.8	1.215	0.000	-13.0	30	
PCB-52	25.0	21.3	0.961	0.000	-15.0	30	
PCB-44	25.0	19.3	0.772	0.000	-22.8	30	
PCB-66	25.0	21.5	1.575	0.000	-13.8	30	
PCB-81	25.0	22.3	1.572	0.000	-10.8	30	
PCB-77	25.0	21.1	1.350	0.000	-15.5	30	
PCB-104	25.0	28.9	1.195	0.000	15.4	30	
PCB-101	25.0	17.7	0.688	0.000	-29.1	30	
PCB-123	25.0	19.3	0.662	0.000	-22.9	30	
PCB-118	25.0	20.3	0.886	0.000	-18.9	30	
PCB-114	25.0	19.7	0.701	0.000	-21.0	30	
PCB-105	25.0	24.0	0.844	0.000	-3.96	30	
PCB-126	25.0	19.9	0.943	0.000	-20.5	30	
PCB-155	25.0	21.3	1.268	0.000	-14.9	30	
PCB-132/153/168	25.0	23.2	0.312	0.000	-7.40	30	
PCB-138	25.0	24.0	1.006	0.000	-4.09	30	
PCB-128	25.0	22.8	0.687	0.000	-8.95	30	
PCB-167	25.0	21.6	1.087	0.000	-13.5	30	
PCB-156	25.0	23.9	0.914	0.000	-4.45	30	
PCB-157	25.0	22.2	0.825	0.000	-11.4	30	
PCB-169	25.0	17.7	0.972	0.000	-29.2	30	
PCB-188	25.0	17.9	0.829	0.000	-28.4	30	
PCB-187	25.0	20.9	0.864	0.000	-16.4	30	
PCB-180	25.0	17.7	0.748	0.000	-29.4	30	
PCB-170	25.0	18.0	0.571	0.000	-28.0	30	
PCB-189	25.0	17.7	0.827	0.000	-29.4	30	

* SPCC # CCC

Mean Absolute %D:18.0

7B

SEMI-VOLATILE INITIAL CALIBRATION CHECK

SDG No.: J1057

Lab Name: CH2M HILL/LAB/CVO

Analysis Method: E1668A MOD

Calibration Date/Time: 01/12/10 1528

Instrument ID: MSV

Init. Calib. Date(s): 01/11/10 01/12/10

2nd Source ID: ICV-0111

Init. Calib. Time(s): 1402 1102

Lab File ID: ICV-0111r.D

GC Column: ZB-XLB ID: 0.25 (mm)

Heat Purge: (Y/N) N

Concentration Units: NG

Analyte	Expected	Found	RRF	Min. RRF	%D	Max. %D	Q
PCB-202	25.0	30.4	12.992	0.000	21.7	30	
PCB-195	25.0	20.7	5.314	0.000	-17.4	30	
PCB-205	25.0	19.1	7.638	0.000	-23.5	30	
PCB-208	25.0	17.7	8.230	0.000	-29.3	30	
PCB-206	25.0	18.0	4.381	0.000	-28.2	30	
DCBP	25.0	19.0	3.475	0.000	-24.0	30	

* SPCC # CCC

Mean Absolute %D:18.0

7B

SEMI-VOLATILE INITIAL CALIBRATION CHECK

SDG No.: J1057

Lab Name: CH2M HILL/LAB/CVO

Analysis Method: E1668A MOD

Calibration Date/Time: 01/12/10 1742

Instrument ID: MSV

Init. Calib. Date(s): 01/11/10 01/12/10

2nd Source ID: ICV2-0111

Init. Calib. Time(s): 1402 1102

Lab File ID: ICV2-0111r.D

GC Column: ZB-XLB ID: 0.25 (mm)

Heat Purge:(Y/N) N

Concentration Units: NG

Analyte	Expected	Found	RRF	Min. RRF	%D	Max. %D	Q
PCB-2	25.0	21.0	0.891	0.000	-16.1	30	
PCB-9	25.0	21.2	0.881	0.000	-15.2	30	
PCB-7	25.0	21.2	0.845	0.000	-15.1	30	
PCB-6	25.0	23.2	0.872	0.000	-7.14	30	
PCB-17	25.0	21.4	0.587	0.000	-14.4	30	
PCB-16	25.0	22.2	0.855	0.000	-11.0	30	
PCB-32	25.0	21.6	0.456	0.000	-13.7	30	
PCB-27	25.0	23.8	0.889	0.000	-5.02	30	
PCB-24	25.0	22.0	0.815	0.000	-12.1	30	
PCB-26	25.0	22.0	0.861	0.000	-12.2	30	
PCB-31	25.0	22.0	0.894	0.000	-12.0	30	
PCB-33	25.0	23.6	0.860	0.000	-5.49	30	
PCB-25	25.0	21.9	0.861	0.000	-12.4	30	
PCB-22	25.0	22.5	0.812	0.000	-9.98	30	
PCB-50	25.0	24.0	0.930	0.000	-4.22	30	
PCB-53	25.0	24.6	0.952	0.000	-1.70	30	
PCB-45	25.0	22.8	0.786	0.000	-8.89	30	
PCB-48	25.0	22.0	0.901	0.000	-12.2	30	
PCB-49	25.0	22.8	0.955	0.000	-8.90	30	
PCB-46	25.0	22.8	0.786	0.000	-8.64	30	
PCB-47	25.0	22.8	1.072	0.000	-8.67	30	
PCB-42	25.0	21.8	0.785	0.000	-12.8	30	
PCB-71	25.0	23.0	1.244	0.000	-7.90	30	
PCB-40/64	50.0	46.5	0.941	0.000	-7.05	30	
PCB-70	25.0	22.8	1.304	0.000	-8.66	30	
PCB-56	25.0	23.7	1.349	0.000	-5.24	30	
PCB-60	25.0	21.8	1.096	0.000	-12.7	30	
PCB-95	25.0	22.9	0.596	0.000	-8.55	30	
PCB-84/92	50.0	48.7	0.620	0.000	-2.56	30	
PCB-99	25.0	23.6	0.729	0.000	-5.48	30	
PCB-119	25.0	31.7	1.212	0.000	26.8	30	
PCB-97	25.0	23.9	0.561	0.000	-4.48	30	
PCB-87	25.0	24.9	0.690	0.000	-0.27	30	
PCB-85	25.0	26.3	0.680	0.000	5.15	30	
PCB-110	25.0	26.0	0.796	0.000	3.81	30	

* SPCC # CCC

Mean Absolute %D:11.0

SEMI-VOLATILE INITIAL CALIBRATION CHECK

SDG No.: J1057

Lab Name: CH2M HILL/LAB/CVO

Analysis Method: E1668A MOD

Calibration Date/Time: 01/12/10 1742

Instrument ID: MSV

Init. Calib. Date(s): 01/11/10 01/12/10

2nd Source ID: ICV2-0111

Init. Calib. Time(s): 1402 1102

Lab File ID: ICV2-0111r.D

GC Column: ZB-XLB ID: 0.25 (mm)

Heat Purge:(Y/N) N

Concentration Units: NG

Analyte	Expected	Found	RRF	Min. RRF	%D	Max. %D	Q
PCB-82	25.0	24.5	0.497	0.000	-2.12	30	
PCB-136	25.0	22.5	1.009	0.000	-10.0	30	
PCB-151	25.0	22.1	0.619	0.000	-11.5	30	
PCB-135	25.0	22.8	0.657	0.000	-8.85	30	
PCB-149	25.0	21.1	0.688	0.000	-15.5	30	
PCB-146	25.0	20.4	0.652	0.000	-18.4	30	
PCB-132/153/168	50.0	39.0	0.526	0.000	-22.0	30	
PCB-141	25.0	19.5	0.441	0.000	-22.1	30	
PCB-129/163	50.0	48.6	0.947	0.000	-2.72	30	
PCB-158	25.0	21.7	1.174	0.000	-13.3	30	
PCB-179	25.0	20.8	0.750	0.000	-16.9	30	
PCB-183	25.0	22.1	0.719	0.000	-11.4	30	
PCB-174	25.0	19.7	0.565	0.000	-21.1	30	
PCB-177	25.0	19.6	0.527	0.000	-21.7	30	
PCB-171	25.0	20.2	0.529	0.000	-19.4	30	
PCB-201	25.0	20.4	5.142	0.000	-18.5	30	
PCB-196/203	50.0	43.6	5.962	0.000	-12.8	30	
PCB-194	25.0	20.3	5.278	0.000	-18.7	30	

* SPCC # CCC

Mean Absolute %D:11.0

7B

SEMI-VOLATILE INITIAL CALIBRATION CHECK

SDG No.: J1057

Lab Name: CH2M HILL/LAB/CVO

Analysis Method: E1668A MOD

Calibration Date/Time: 01/12/10 1955

Instrument ID: MSV

Init. Calib. Date(s): 01/11/10 01/12/10

2nd Source ID: ICV3-0111

Init. Calib. Time(s): 1402 1102

Lab File ID: ICV3-0111r.D

GC Column: ZB-XLB ID: 0.25 (mm)

Heat Purge: (Y/N) N

Concentration Units: NG

Analyte	Expected	Found	RRF	Min. RRF	%D	Max. %D	Q
PCB-54	25.0	20.4	1.140	0.000	-18.4	30	
PCB-104	25.0	23.4	0.978	0.000	-6.60	30	
PCB-119	25.0	19.8	0.760	0.000	-20.7	30	
PCB-202	25.0	17.9	7.753	0.000	-28.4	30	

* SPCC # CCC

Mean Absolute %D:19.0

7B

SEMI-VOLATILE CONTINUING CALIBRATION CHECK

SDG No.: J1057 Lab Name: CH2M HILL/LAB/CVO

Analysis Method: E1668A MOD Calibration Date/Time: 01/21/10 1430

Instrument ID: MSV Init. Calib. Date(s): 01/11/10 01/12/10

Cal Check ID: CV1-0121 Init. Calib. Time(s): 1402 1102

Lab File ID: CV1-0121.D GC Column: ZB-XLB ID: 0.25 (mm)

Heat Purge:(Y/N) N Concentration Units: ug/L

Analyte	Expected	Found	RRF	Min. RRF	%D	Max. %D	Q
PCB-3	10.0	9.62	1.067	0.000	-3.85	50	
PCB-2	10.0	9.51	1.009	0.000	-4.94	30	
PCB-1 (1F)	10.0	9.47	1.056	0.000	-5.30	30	
PCB-4	10.0	10.5	0.620	0.000	5.30	30	
PCB-9	10.0	10.0	1.042	0.000	0.27	30	
PCB-7	10.0	10.5	1.043	0.000	4.77	30	
PCB-6	10.0	10.6	0.993	0.000	5.80	30	
PCB-8	10.0	10.3	1.124	0.000	2.49	30	
PCB-15	10.0	9.56	1.026	0.000	-4.44	50	
PCB-19	10.0	10.0	0.614	0.000	0.31	30	
PCB-18	10.0	10.1	0.648	0.000	1.05	30	
PCB-17	10.0	9.90	0.679	0.000	-1.02	30	
PCB-16	10.0	9.90	0.951	0.000	-1.01	30	
PCB-32	10.0	9.87	0.521	0.000	-1.31	30	
PCB-27	10.0	10.1	0.947	0.000	1.16	30	
PCB-24	10.0	9.86	0.914	0.000	-1.45	30	
PCB-26	10.0	9.73	0.954	0.000	-2.70	30	
PCB-31	10.0	9.73	0.988	0.000	-2.69	30	
PCB-28	10.0	9.35	1.030	0.000	-6.52	50	
PCB-33	10.0	10.1	0.919	0.000	1.08	30	
PCB-25	10.0	9.71	0.954	0.000	-2.87	30	
PCB-22	10.0	10.0	0.905	0.000	0.37	30	
PCB-37	10.0	8.93	0.929	0.000	-10.7	30	
PCB-54	10.0	9.55	1.348	0.000	-4.50	30	
PCB-50	10.0	9.59	0.931	0.000	-4.13	30	
PCB-53	10.0	9.80	0.950	0.000	-1.95	30	
PCB-45	10.0	9.51	0.820	0.000	-4.92	30	
PCB-52	10.0	9.69	1.095	0.000	-3.11	50	
PCB-48	10.0	8.54	0.876	0.000	-14.6	30	
PCB-49	10.0	9.34	0.980	0.000	-6.55	30	
PCB-46	10.0	9.53	0.820	0.000	-4.66	30	
PCB-47L	100	99.6	1.105	0.000	-0.37	50	
PCB-47	10.0	9.51	1.116	0.000	-4.86	50	
PCB-44	10.0	9.52	0.952	0.000	-4.75	30	
PCB-42	10.0	9.70	0.873	0.000	-2.99	30	

* SPCC # CCC Mean Absolute %D: 7.3

SEMI-VOLATILE CONTINUING CALIBRATION CHECK

SDG No.: J1057

Lab Name: CH2M HILL/LAB/CVO

Analysis Method: E1668A MOD

Calibration Date/Time: 01/21/10 1430

Instrument ID: MSV

Init. Calib. Date(s): 01/11/10 01/12/10

Cal Check ID: CV1-0121

Init. Calib. Time(s): 1402 1102

Lab File ID: CV1-0121.D

GC Column: ZB-XLB ID: 0.25 (mm)

Heat Purge:(Y/N) N

Concentration Units: ug/L

Analyte	Expected	Found	RRF	Min. RRF	%D	Max. %D	Q
PCB-71	10.0	9.64	1.303	0.000	-3.55	30	
PCB-40	20.0	19.5	0.985	0.000	-2.72	30	
PCB-74	10.0	9.19	1.206	0.000	-8.06	30	
PCB-70	10.0	8.86	1.265	0.000	-11.4	30	
PCB-66	10.0	9.26	1.692	0.000	-7.43	30	
PCB-56	10.0	9.49	1.351	0.000	-5.12	30	
PCB-60	10.0	9.34	1.174	0.000	-6.57	30	
PCB-81	10.0	8.68	1.530	0.000	-13.2	30	
PCB-77	10.0	8.04	1.285	0.000	-19.6	30	
PCB-104	10.0	10.2	1.138	0.000	1.46	30	
PCB-95	10.0	9.80	0.639	0.000	-2.04	30	
PCB-84	20.0	20.8	0.660	0.000	3.79	30	
PCB-92	10.0	10.5	1.320	0.000	4.63	30	
PCB-101	10.0	9.69	0.941	0.000	-3.07	30	
PCB-99	10.0	10.1	0.781	0.000	1.25	30	
PCB-119	10.0	10.3	0.990	0.000	2.85	30	
PCB-97	10.0	10.7	0.629	0.000	7.00	30	
PCB-87	10.0	9.60	0.665	0.000	-3.96	30	
PCB-85	10.0	10.0	0.647	0.000	0.05	30	
PCB-110	10.0	9.62	0.738	0.000	-3.79	30	
PCB-82	10.0	10.2	0.517	0.000	1.66	30	
PCB-123	10.0	9.42	0.808	0.000	-5.82	30	
PCB-118	10.0	9.42	1.030	0.000	-5.78	50	
PCB-114	10.0	9.47	0.841	0.000	-5.29	30	
PCB-105	10.0	8.95	0.787	0.000	-10.5	30	
PCB-126	10.0	7.70	0.913	0.000	-23.0	30	
PCB-155	10.0	9.40	1.402	0.000	-5.95	30	
PCB-136	10.0	9.20	1.032	0.000	-7.99	30	
PCB-151	10.0	9.94	0.694	0.000	-0.65	30	
PCB-135	10.0	10.2	0.732	0.000	1.57	30	
PCB-149	10.0	9.84	0.801	0.000	-1.59	30	
PCB-146	10.0	9.89	0.790	0.000	-1.13	30	
PCB-153	30.0	27.2	0.918	0.000	-9.27	50	
PCB-141	10.0	9.42	0.533	0.000	-5.82	30	
PCB-138	10.0	7.25	0.760	0.000	-27.5	30	

* SPCC # CCC

Mean Absolute %D: 7.3

SEMI-VOLATILE CONTINUING CALIBRATION CHECK

SDG No.: J1057

Lab Name: CH2M HILL/LAB/CVO

Analysis Method: E1668A MOD

Calibration Date/Time: 01/21/10 1430

Instrument ID: MSV

Init. Calib. Date(s): 01/11/10 01/12/10

Cal Check ID: CV1-0121

Init. Calib. Time(s): 1402 1102

Lab File ID: CV1-0121.D

GC Column: ZB-XLB ID: 0.25 (mm)

Heat Purge:(Y/N) N

Concentration Units: ug/L

Analyte	Expected	Found	RRF	Min. RRF	%D	Max. %D	Q
PCB-129	20.0	15.4	0.748	0.000	-23.2	30	
PCB-158	10.0	7.67	1.039	0.000	-23.3	30	
PCB-128	10.0	8.21	0.620	0.000	-17.9	30	
PCB-167	10.0	7.72	0.970	0.000	-22.8	30	
PCB-156	10.0	7.04	0.674	0.000	-29.6	30	
PCB-157	10.0	7.08	0.659	0.000	-29.2	30	
PCB-169	10.0	8.16	1.121	0.000	-18.4	30	
PCB-188	10.0	10.6	1.222	0.000	5.62	30	
PCB-179	10.0	10.1	0.910	0.000	0.83	30	
PCB-178L	100	102	0.882	0.000	2.15	50	
PCB-187	10.0	8.14	0.841	0.000	-18.6	30	
PCB-183	10.0	8.71	0.708	0.000	-12.9	30	
PCB-174	10.0	9.17	0.656	0.000	-8.31	30	
PCB-177	10.0	8.95	0.582	0.000	-10.5	30	
PCB-171	10.0	9.53	0.625	0.000	-4.73	30	
PCB-180	10.0	8.96	0.948	0.000	-10.4	50	
PCB-170	10.0	8.99	0.713	0.000	-10.1	30	
PCB-189	10.0	8.91	1.044	0.000	-10.9	30	
PCB-202	10.0	8.71	9.759	0.000	-13.0	30	
PCB-201	10.0	9.36	5.906	0.000	-6.37	30	
PCB-196	20.0	18.7	6.405	0.000	-6.35	30	
PCB-195	10.0	9.60	6.181	0.000	-3.95	30	
PCB-194	10.0	9.10	5.906	0.000	-8.97	50	
PCB-205	10.0	8.70	8.683	0.000	-13.0	30	
PCB-208	10.0	8.74	10.174	0.000	-12.6	50	
PCB-206	10.0	7.53	4.597	0.000	-24.7	30	
DCBP	10.0	10.5	4.714	0.000	5.28	50	

* SPCC # CCC

Mean Absolute %D: 7.3

SEMI-VOLATILE CONTINUING CALIBRATION CHECK

SDG No.: J1057

Lab Name: CH2M HILL/LAB/CVO

Analysis Method: E1668A MOD

Calibration Date/Time: 01/22/10 0901

Instrument ID: MSV

Init. Calib. Date(s): 01/11/10 01/12/10

Cal Check ID: CV1-0122

Init. Calib. Time(s): 1402 1102

Lab File ID: CV1-0122.D

GC Column: ZB-XLB ID: 0.25 (mm)

Heat Purge:(Y/N) N

Concentration Units: NG

Analyte	Expected	Found	RRF	Min. RRF	%D	Max. %D	Q
PCB-3	10.0	10.1	1.118	0.000	0.69	50	
PCB-2	10.0	9.69	1.028	0.000	-3.15	30	
PCB-1 (1F)	10.0	9.60	1.071	0.000	-3.97	30	
PCB-4	10.0	10.8	0.633	0.000	7.49	30	
PCB-9	10.0	10.2	1.064	0.000	2.36	30	
PCB-7	10.0	10.5	1.044	0.000	4.86	30	
PCB-6	10.0	10.5	0.987	0.000	5.08	30	
PCB-8	10.0	11.5	1.256	0.000	14.5	30	
PCB-15	10.0	9.64	1.036	0.000	-3.56	50	
PCB-19	10.0	10.2	0.624	0.000	1.81	30	
PCB-18	10.0	10.2	0.657	0.000	2.43	30	
PCB-17	10.0	9.99	0.685	0.000	-0.12	30	
PCB-16	10.0	9.99	0.960	0.000	-0.11	30	
PCB-32	10.0	10.4	0.549	0.000	4.00	30	
PCB-27	10.0	10.2	0.955	0.000	2.02	30	
PCB-24	10.0	10.2	0.945	0.000	1.91	30	
PCB-26	10.0	10.2	0.998	0.000	1.80	30	
PCB-31	10.0	9.82	0.996	0.000	-1.84	30	
PCB-28	10.0	10.1	1.116	0.000	1.30	50	
PCB-33	10.0	10.4	0.944	0.000	3.82	30	
PCB-25	10.0	10.2	0.996	0.000	1.47	30	
PCB-22	10.0	9.75	0.879	0.000	-2.53	30	
PCB-37	10.0	8.98	0.934	0.000	-10.2	30	
PCB-54	10.0	9.85	1.390	0.000	-1.50	30	
PCB-50	10.0	9.72	0.943	0.000	-2.82	30	
PCB-53	10.0	9.87	0.956	0.000	-1.26	30	
PCB-45	10.0	9.53	0.822	0.000	-4.67	30	
PCB-52	10.0	9.77	1.105	0.000	-2.27	50	
PCB-48	10.0	8.81	0.904	0.000	-11.9	30	
PCB-49	10.0	9.37	0.982	0.000	-6.33	30	
PCB-46	10.0	9.56	0.822	0.000	-4.41	30	
PCB-47L	100	98.8	1.096	0.000	-1.22	50	
PCB-47	10.0	10.0	1.178	0.000	0.40	50	
PCB-44	10.0	9.83	0.983	0.000	-1.68	30	
PCB-42	10.0	9.59	0.863	0.000	-4.15	30	

* SPCC # CCC

Mean Absolute %D: 4.9

7B

SEMI-VOLATILE CONTINUING CALIBRATION CHECK

SDG No.: J1057

Lab Name: CH2M HILL/LAB/CVO

Analysis Method: E1668A MOD

Calibration Date/Time: 01/22/10 0901

Instrument ID: MSV

Init. Calib. Date(s): 01/11/10 01/12/10

Cal Check ID: CV1-0122

Init. Calib. Time(s): 1402 1102

Lab File ID: CV1-0122.D

GC Column: ZB-XLB ID: 0.25 (mm)

Heat Purge: (Y/N) N

Concentration Units: NG

Analyte	Expected	Found	RRF	Min. RRF	%D	Max. %D	Q
PCB-71	10.0	9.73	1.314	0.000	-2.73	30	
PCB-40/64	20.0	19.8	1.003	0.000	-0.92	30	
PCB-74	10.0	9.80	1.287	0.000	-1.95	30	
PCB-70	10.0	9.42	1.345	0.000	-5.78	30	
PCB-66	10.0	9.23	1.687	0.000	-7.68	30	
PCB-56	10.0	9.56	1.360	0.000	-4.44	30	
PCB-60	10.0	9.32	1.170	0.000	-6.84	30	
PCB-81	10.0	9.17	1.617	0.000	-8.27	30	
PCB-77	10.0	9.05	1.446	0.000	-9.53	30	
PCB-104	10.0	10.4	1.161	0.000	3.82	30	
PCB-95	10.0	10.5	0.685	0.000	5.07	30	
PCB-84/92	20.0	21.4	0.679	0.000	6.76	30	
PCB-101	10.0	10.1	0.976	0.000	0.63	30	
PCB-99	10.0	10.7	0.826	0.000	7.12	30	
PCB-119	10.0	10.5	1.013	0.000	5.25	30	
PCB-97	10.0	11.1	0.651	0.000	10.8	30	
PCB-87	10.0	10.8	0.745	0.000	7.56	30	
PCB-85	10.0	10.7	0.692	0.000	6.96	30	
PCB-110	10.0	10.0	0.769	0.000	0.29	30	
PCB-82	10.0	10.7	0.543	0.000	6.94	30	
PCB-123	10.0	9.86	0.846	0.000	-1.42	30	
PCB-118	10.0	9.65	1.055	0.000	-3.46	50	
PCB-114	10.0	9.79	0.870	0.000	-2.09	30	
PCB-105	10.0	9.46	0.832	0.000	-5.36	30	
PCB-126	10.0	8.67	1.027	0.000	-13.3	30	
PCB-155	10.0	10.4	1.544	0.000	3.58	30	
PCB-136	10.0	10.3	1.160	0.000	3.39	30	
PCB-151	10.0	10.7	0.748	0.000	6.95	30	
PCB-135	10.0	9.96	0.718	0.000	-0.44	30	
PCB-149	10.0	9.67	0.787	0.000	-3.30	30	
PCB-146	10.0	10.3	0.819	0.000	2.46	30	
PCB-132/153/168	30.0	27.8	0.937	0.000	-7.35	30	
PCB-141	10.0	9.73	0.550	0.000	-2.69	30	
PCB-138	10.0	10.2	1.071	0.000	2.10	30	
PCB-129/163	20.0	19.9	0.969	0.000	-0.44	30	

* SPCC # CCC

Mean Absolute %D: 4.9

SEMI-VOLATILE CONTINUING CALIBRATION CHECK

SDG No.: J1057

Lab Name: CH2M HILL/LAB/CVO

Analysis Method: E1668A MOD

Calibration Date/Time: 01/22/10 0901

Instrument ID: MSV

Init. Calib. Date(s): 01/11/10 01/12/10

Cal Check ID: CV1-0122

Init. Calib. Time(s): 1402 1102

Lab File ID: CV1-0122.D

GC Column: ZB-XLB ID: 0.25 (mm)

Heat Purge:(Y/N) N

Concentration Units: NG

Analyte	Expected	Found	RRF	Min. RRF	%D	Max. %D	Q
PCB-158	10.0	10.1	1.369	0.000	1.10	30	
PCB-128	10.0	9.32	0.703	0.000	-6.83	30	
PCB-167	10.0	8.82	1.108	0.000	-11.8	30	
PCB-156	10.0	8.21	0.786	0.000	-17.9	30	
PCB-157	10.0	8.22	0.765	0.000	-17.8	30	
PCB-169	10.0	9.07	1.246	0.000	-9.27	30	
PCB-188	10.0	10.2	1.183	0.000	2.24	30	
PCB-179	10.0	10.2	0.923	0.000	2.25	30	
PCB-178L	100	108	0.935	0.000	8.29	50	
PCB-187	10.0	10.1	1.044	0.000	1.08	30	
PCB-183	10.0	9.92	0.806	0.000	-0.83	30	
PCB-174	10.0	9.63	0.690	0.000	-3.66	30	
PCB-177	10.0	9.65	0.631	0.000	-3.46	30	
PCB-171	10.0	9.78	0.642	0.000	-2.20	30	
PCB-180	10.0	9.28	0.982	0.000	-7.23	50	
PCB-170	10.0	9.06	0.719	0.000	-9.39	30	
PCB-189	10.0	9.52	1.115	0.000	-4.81	30	
PCB-202	10.0	8.93	9.990	0.000	-10.7	30	
PCB-201	10.0	9.32	5.878	0.000	-6.81	30	
PCB-196/203	20.0	19.0	6.483	0.000	-5.21	30	
PCB-195	10.0	9.44	6.075	0.000	-5.60	30	
PCB-194	10.0	9.35	6.069	0.000	-6.47	50	
PCB-205	10.0	9.17	9.150	0.000	-8.29	30	
PCB-208	10.0	9.17	10.672	0.000	-8.29	50	
PCB-206	10.0	8.89	5.422	0.000	-11.1	30	
DCBP	10.0	10.9	4.870	0.000	8.60	50	

* SPCC # CCC

Mean Absolute %D: 4.9

7B

SEMI-VOLATILE CONTINUING CALIBRATION CHECK

SDG No.: J1057

Lab Name: CH2M HILL/LAB/CVO

Analysis Method: E1668A MOD

Calibration Date/Time: 01/25/10 0927

Instrument ID: MSV

Init. Calib. Date(s): 01/11/10 01/12/10

Cal Check ID: CV1-0125

Init. Calib. Time(s): 1402 1102

Lab File ID: CV1-0125.D

GC Column: ZB-XLB ID: 0.25 (mm)

Heat Purge:(Y/N) N

Concentration Units: NG

Analyte	Expected	Found	RRF	Min. RRF	%D	Max. %D	Q
PCB-3	10.0	10.1	1.117	0.000	0.63	50	
PCB-2	10.0	9.74	1.034	0.000	-2.59	30	
PCB-1 (1F)	10.0	9.59	1.070	0.000	-4.06	30	
PCB-4	10.0	10.9	0.640	0.000	8.73	30	
PCB-9	10.0	10.4	1.078	0.000	3.70	30	
PCB-7	10.0	10.5	1.046	0.000	5.06	30	
PCB-6	10.0	10.7	1.005	0.000	7.03	30	
PCB-8	10.0	10.3	1.128	0.000	2.81	30	
PCB-15	10.0	9.67	1.038	0.000	-3.35	50	
PCB-19	10.0	10.3	0.634	0.000	3.41	30	
PCB-18	10.0	10.4	0.664	0.000	3.45	30	
PCB-17	10.0	9.94	0.682	0.000	-0.62	30	
PCB-16	10.0	9.90	0.951	0.000	-1.01	30	
PCB-32	10.0	9.87	0.521	0.000	-1.27	30	
PCB-27	10.0	10.1	0.946	0.000	1.06	30	
PCB-24	10.0	9.79	0.908	0.000	-2.09	30	
PCB-26	10.0	9.79	0.960	0.000	-2.08	30	
PCB-31	10.0	9.76	0.991	0.000	-2.36	30	
PCB-28	10.0	9.41	1.037	0.000	-5.87	50	
PCB-33	10.0	9.39	0.854	0.000	-6.08	30	
PCB-25	10.0	9.78	0.960	0.000	-2.25	30	
PCB-22	10.0	9.81	0.884	0.000	-1.94	30	
PCB-37	10.0	8.67	0.902	0.000	-13.3	30	
PCB-54	10.0	9.89	1.396	0.000	-1.08	30	
PCB-50	10.0	9.76	0.948	0.000	-2.41	30	
PCB-53	10.0	9.94	0.962	0.000	-0.64	30	
PCB-45	10.0	9.69	0.836	0.000	-3.10	30	
PCB-52	10.0	10.0	1.132	0.000	0.13	50	
PCB-48	10.0	10.0	1.028	0.000	0.15	30	
PCB-49	10.0	9.81	1.028	0.000	-1.91	30	
PCB-46	10.0	9.72	0.836	0.000	-2.84	30	
PCB-47L	100	99.8	1.107	0.000	-0.19	50	
PCB-47	10.0	9.58	1.124	0.000	-4.17	50	
PCB-44	10.0	9.82	0.982	0.000	-1.75	30	
PCB-42	10.0	9.81	0.883	0.000	-1.89	30	

* SPCC # CCC

Mean Absolute %D: 5.0

7B

SEMI-VOLATILE CONTINUING CALIBRATION CHECK

SDG No.: J1057 | Lab Name: CH2M HILL/LAB/CVO

Analysis Method: E1668A MOD | Calibration Date/Time: 01/25/10 0927

Instrument ID: MSV | Init. Calib. Date(s): 01/11/10 01/12/10

Cal Check ID: CV1-0125 | Init. Calib. Time(s): 1402 1102

Lab File ID: CV1-0125.D | GC Column: ZB-XLB ID: 0.25 (mm)

Heat Purge:(Y/N) N | Concentration Units: NG

Analyte	Expected	Found	RRF	Min. RRF	%D	Max. %D	Q
PCB-71	10.0	9.91	1.339	0.000	-0.88	30	
PCB-40/64	20.0	20.0	1.011	0.000	-0.15	30	
PCB-74	10.0	10.0	1.312	0.000	-0.03	30	
PCB-70	10.0	9.61	1.372	0.000	-3.88	30	
PCB-66	10.0	9.41	1.719	0.000	-5.93	30	
PCB-56	10.0	10.1	1.436	0.000	0.84	30	
PCB-60	10.0	10.1	1.269	0.000	1.04	30	
PCB-81	10.0	9.65	1.702	0.000	-3.47	30	
PCB-77	10.0	8.23	1.315	0.000	-17.7	30	
PCB-104	10.0	10.2	1.146	0.000	2.30	30	
PCB-95	10.0	10.5	0.684	0.000	4.85	30	
PCB-84/92	20.0	21.3	0.678	0.000	6.63	30	
PCB-101	10.0	9.80	0.951	0.000	-1.97	30	
PCB-99	10.0	10.8	0.834	0.000	8.13	30	
PCB-119	10.0	10.8	1.040	0.000	8.05	30	
PCB-97	10.0	11.3	0.665	0.000	13.2	30	
PCB-87	10.0	10.3	0.712	0.000	2.86	30	
PCB-85	10.0	10.4	0.670	0.000	3.61	30	
PCB-110	10.0	10.2	0.784	0.000	2.23	30	
PCB-82	10.0	10.9	0.552	0.000	8.55	30	
PCB-123	10.0	9.76	0.838	0.000	-2.37	30	
PCB-118	10.0	9.46	1.033	0.000	-5.45	50	
PCB-114	10.0	10.4	0.926	0.000	4.22	30	
PCB-105	10.0	10.2	0.898	0.000	2.11	30	
PCB-126	10.0	8.47	1.004	0.000	-15.3	30	
PCB-155	10.0	10.3	1.542	0.000	3.43	30	
PCB-136	10.0	9.88	1.108	0.000	-1.24	30	
PCB-151	10.0	11.0	0.770	0.000	10.1	30	
PCB-135	10.0	10.7	0.773	0.000	7.28	30	
PCB-149	10.0	10.5	0.858	0.000	5.43	30	
PCB-146	10.0	10.8	0.865	0.000	8.23	30	
PCB-132/153/168	30.0	29.3	0.987	0.000	-2.37	30	
PCB-141	10.0	9.86	0.558	0.000	-1.35	30	
PCB-138	10.0	8.81	0.924	0.000	-11.9	30	
PCB-129/163	20.0	18.2	0.885	0.000	-9.06	30	

* SPCC # CCC

Mean Absolute %D: 5.0

7B

SEMI-VOLATILE CONTINUING CALIBRATION CHECK

SDG No.: J1057

Lab Name: CH2M HILL/LAB/CVO

Analysis Method: E1668A MOD

Calibration Date/Time: 01/25/10 0927

Instrument ID: MSV

Init. Calib. Date(s): 01/11/10 01/12/10

Cal Check ID: CV1-0125

Init. Calib. Time(s): 1402 1102

Lab File ID: CV1-0125.D

GC Column: ZB-XLB ID: 0.25 (mm)

Heat Purge:(Y/N) N

Concentration Units: NG

Analyte	Expected	Found	RRF	Min. RRF	%D	Max. %D	Q
PCB-158	10.0	8.92	1.207	0.000	-10.8	30	
PCB-128	10.0	9.52	0.718	0.000	-4.77	30	
PCB-167	10.0	11.7	1.472	0.000	17.1	30	
PCB-156	10.0	8.49	0.812	0.000	-15.2	30	
PCB-157	10.0	8.96	0.834	0.000	-10.4	30	
PCB-169	10.0	9.53	1.308	0.000	-4.73	30	
PCB-188	10.0	10.7	1.232	0.000	6.47	30	
PCB-179	10.0	10.9	0.984	0.000	9.01	30	
PCB-178L	100	97.8	0.844	0.000	-2.21	50	
PCB-187	10.0	8.57	0.885	0.000	-14.3	30	
PCB-183	10.0	9.40	0.764	0.000	-6.02	30	
PCB-174	10.0	9.87	0.706	0.000	-1.30	30	
PCB-177	10.0	10.2	0.666	0.000	1.65	30	
PCB-171	10.0	10.6	0.698	0.000	6.35	30	
PCB-180	10.0	9.57	1.013	0.000	-4.34	50	
PCB-170	10.0	10.3	0.814	0.000	2.56	30	
PCB-189	10.0	10.7	1.254	0.000	7.04	30	
PCB-202	10.0	8.34	9.380	0.000	-16.6	30	
PCB-201	10.0	9.71	6.122	0.000	-2.95	30	
PCB-196/203	20.0	18.6	6.373	0.000	-6.81	30	
PCB-195	10.0	9.81	6.314	0.000	-1.88	30	
PCB-194	10.0	9.60	6.229	0.000	-4.00	50	
PCB-205	10.0	9.54	9.524	0.000	-4.55	30	
PCB-208	10.0	9.25	10.770	0.000	-7.45	50	
PCB-206	10.0	8.75	5.342	0.000	-12.5	30	
DCBP	10.0	11.0	4.940	0.000	10.1	50	

* SPCC # CCC

Mean Absolute %D: 5.0

8B

SEMI-VOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

SDG No.: J1057

Analysis Method: E1668A MOD

Lab Name: CH2M HILL/LAB/CVO

Lab Sample ID: Level 5

Date Analyzed: 01/11/10

Lab File ID: Level 5.D

Time Analyzed: 2042

Instrument Name: MSV

Heat Purge: (Y/N)

GC Column: ZB-XLB ID: 0.25 (mm)

		IS1		IS2		IS3	
		AREA #	RT #	AREA #	RT #	AREA #	RT #
	Reference Cal	821139	77.39	854047	93.86	701825	104.9
	Upper Limit	1642278	77.89	1708094	94.36	1403650	105.4
	Lower Limit	410570	76.89	427024	93.36	350913	104.4
Field Sample ID	Lab Sample ID						
ICV-0111	ICV-0111	952265	77.36	1085859	93.84	883614	104.9
ICV2-0111	ICV2-0111	1029789	77.39	1124715	93.83	932930	104.9
ICV3-0111	ICV3-0111	816053	77.38	920153	93.84	752952	104.9

IS1: PCB-77L

IS2: PCB-126L

IS3: PCB-169L

IS4:

IS5:

IS6:

AREA UPPER LIMIT = + 100% of Internal Standard Area
AREA LOWER LIMIT = - 50% of Internal Standard Area
RT UPPER LIMIT = + 0.50 of Internal Standard RT
RT LOWER LIMIT = - 0.50 of Internal Standard RT

Column used to flag values outside of QC limits with an asterisk

8B

SEMI-VOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

SDG No.: J1057

Analysis Method: E1668A MOD

Lab Name: CH2M HILL/LAB/CVO

Lab Sample ID: CV1-0121

Date Analyzed: 01/21/10

Lab File ID: CV1-0121.D

Time Analyzed: 1430

Instrument Name: MSV

Heat Purge: (Y/N)

GC Column: ZB-XLB ID: 0.25 (mm)

		IS1		IS2		IS3	
		AREA #	RT #	AREA #	RT #	AREA #	RT #
	Reference Cal	977451	77.37	959078	93.83	827605	104.9
	Upper Limit	1954902	77.87	1918156	94.33	1655210	105.4
	Lower Limit	488726	76.87	479539	93.33	413803	104.4
Field Sample ID	Lab Sample ID						
XB1-0114	XB1-0114	774859	77.38	802071	93.84	637642	104.9

IS1: PCB-77L

IS2: PCB-126L

IS3: PCB-169L

IS4:

IS5:

IS6:

AREA UPPER LIMIT = + 100% of Internal Standard Area
AREA LOWER LIMIT = - 50% of Internal Standard Area
RT UPPER LIMIT = + 0.50 of Internal Standard RT
RT LOWER LIMIT = - 0.50 of Internal Standard RT

Column used to flag values outside of QC limits with an asterisk

8B

SEMI-VOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

SDG No.: J1057

Analysis Method: E1668A MOD

Lab Name: CH2M HILL/LAB/CVO

Lab Sample ID: CV1-0122

Date Analyzed: 01/22/10

Lab File ID: CV1-0122.D

Time Analyzed: 0901

Instrument Name: MSV

Heat Purge: (Y/N)

GC Column: ZB-XLB ID: 0.25 (mm)

		IS1		IS2		IS3	
		AREA #	RT #	AREA #	RT #	AREA #	RT #
	Reference Cal	647595	77.36	644519	93.83	538201	104.9
	Upper Limit	1295190	77.86	1289038	94.33	1076402	105.4
	Lower Limit	323798	76.86	322260	93.33	269101	104.4
Field Sample ID	Lab Sample ID						
BS1X0114	BS1X0114	795647	77.35	810585	93.82	655976	104.9
B84IARE1	J105701	777349	77.37	808462	93.82	660478	104.9

IS1: PCB-77L

IS2: PCB-126L

IS3: PCB-169L

IS4:

IS5:

IS6:

AREA UPPER LIMIT = + 100% of Internal Standard Area
AREA LOWER LIMIT = - 50% of Internal Standard Area
RT UPPER LIMIT = + 0.50 of Internal Standard RT
RT LOWER LIMIT = - 0.50 of Internal Standard RT

Column used to flag values outside of QC limits with an asterisk

8B

SEMI-VOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

SDG No.: J1057

Analysis Method: E1668A MOD

Lab Name: CH2M HILL/LAB/CVO

Lab Sample ID: CV1-0125

Date Analyzed: 01/25/10

Lab File ID: CV1-0125.D

Time Analyzed: 0927

Instrument Name: MSV

Heat Purge: (Y/N)

GC Column: ZB-XLB ID: 0.25 (mm)

		IS1		IS2		IS3	
		AREA #	RT #	AREA #	RT #	AREA #	RT #
	Reference Cal	929625	77.34	925147	93.8	816775	104.9
	Upper Limit	1859250	77.84	1850294	94.3	1633550	105.4
	Lower Limit	464813	76.84	462574	93.3	408388	104.4
Field Sample ID	Lab Sample ID						
B84IARE2	J105702	969485	77.36	1008931	93.83	827150	104.9
B84IARE3	J105703	1345135	77.38	1386787	93.82	1145702	104.9
B84IARE3D	J105704	1346393	77.35	1388713	93.82	1130033	104.9
B84IARETB	J105705	875808	77.36	899277	93.82	720088	104.9

IS1: PCB-77L

IS2: PCB-126L

IS3: PCB-169L

IS4:

IS5:

IS6:

AREA UPPER LIMIT = + 100% of Internal Standard Area
AREA LOWER LIMIT = - 50% of Internal Standard Area
RT UPPER LIMIT = + 0.50 of Internal Standard RT
RT LOWER LIMIT = - 0.50 of Internal Standard RT

Column used to flag values outside of QC limits with an asterisk

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01/27/10

MDL Study Report

Analytical Method: E1668A MOD

Instrument ID: MSV

Matrix: Air

Concentration Units: ng

Analyte	Analysis Date	Amt. Spiked	Replicates 1	2	3	4	5	6	7	8	Std. Dev.	MDL
PCB-3	01/15/10	0.125	0.145	0.120	0.110	0.150	0.150	0.130	0.145	0.115	0.0165	0.0494
PCB-2	01/15/10	0.125	0.125	0.125	0.135	0.145	0.140	0.145	0.140	0.130	0.00821	0.0246
PCB-1	01/15/10	0.125	0.145	0.155	0.150	0.165	0.160	0.160	0.160	0.150	0.00678	0.0203
PCB-4	01/15/10	0.125	0.125	0.125	0.110	0.145	0.150	0.125	0.150	0.175	0.0207	0.0620
PCB-9	01/15/10	0.125	0.130	0.160	0.120	0.160	0.140	0.130	0.145	0.145	0.0143	0.0430
PCB-7	01/15/10	0.125	0.120	0.130	0.125	0.155	0.145	0.105	0.145	0.130	0.0160	0.0480
PCB-6	01/15/10	0.125	0.120	0.135	0.120	0.155	0.140	0.125	0.110	0.140	0.0145	0.0435
PCB-8	01/15/10	0.125	0.140	0.125	0.140	0.145	0.125	0.105	0.130	0.125	0.0127	0.0380
PCB-15	01/15/10	0.125	0.115	0.140	0.135	0.160	0.135	0.145	0.130	0.130	0.0130	0.0390
PCB-19	01/15/10	0.125	0.150	0.165	0.165	0.180	0.165	0.150	0.180	0.150	0.0125	0.0375
PCB-18	01/15/10	0.125	0.155	0.155	0.150	0.160	0.160	0.165	0.160	0.155	0.00463	0.0139
PCB-17	01/15/10	0.125	0.140	0.155	0.140	0.150	0.170	0.130	0.180	0.140	0.0170	0.0510
PCB-16	01/15/10	0.125	0.130	0.120	0.130	0.155	0.150	0.130	0.155	0.140	0.0133	0.0399
PCB-32	01/15/10	0.125	0.135	0.115	0.140	0.140	0.165	0.130	0.155	0.145	0.0152	0.0456
PCB-27	01/15/10	0.125	0.155	0.140	0.130	0.150	0.145	0.140	0.160	0.140	0.00964	0.0289
PCB-24	01/15/10	0.125	0.140	0.150	0.135	0.150	0.165	0.145	0.170	0.135	0.0130	0.0390
PCB-26	01/15/10	0.125	0.140	0.140	0.120	0.150	0.150	0.145	0.150	0.135	0.0103	0.0308
PCB-31	01/15/10	0.125	0.130	0.145	0.130	0.155	0.155	0.130	0.160	0.125	0.0141	0.0422
PCB-28	01/15/10	0.125	0.155	0.155	0.135	0.170	0.185	0.160	0.170	0.150	0.0151	0.0453
PCB-33	01/15/10	0.125	0.150	0.145	0.135	0.150	0.175	0.135	0.145	0.135	0.0133	0.0399
PCB-25	01/15/10	0.125	0.140	0.155	0.125	0.165	0.160	0.145	0.150	0.120	0.0160	0.0481
PCB-22	01/15/10	0.125	0.150	0.155	0.140	0.160	0.165	0.150	0.155	0.140	0.00884	0.0265
PCB-37	01/15/10	0.125	0.125	0.140	0.140	0.165	0.160	0.150	0.145	0.125	0.0146	0.0437
PCB-54	01/15/10	0.125	0.0450	0.0700	0.0600	0.0650	0.0550	0.0550	0.0700	0.0650	0.00863	0.0259
PCB-50	01/15/10	0.125	0.135	0.120	0.125	0.120	0.130	0.120	0.140	0.130	0.00756	0.0227
PCB-53	01/15/10	0.125	0.135	0.140	0.125	0.135	0.130	0.135	0.150	0.145	0.00799	0.0240
PCB-45	01/15/10	0.125	0.125	0.130	0.125	0.115	0.145	0.120	0.140	0.115	0.0110	0.0330
PCB-52	01/15/10	0.125	0.150	0.130	0.145	0.140	0.145	0.140	0.155	0.140	0.00753	0.0226
PCB-48	01/15/10	0.125	0.130	0.155	0.140	0.150	0.175	0.125	0.175	0.135	0.0193	0.0577
PCB-49	01/15/10	0.125	0.145	0.145	0.150	0.145	0.155	0.140	0.160	0.130	0.00916	0.0275
PCB-46	01/15/10	0.125	0.130	0.135	0.125	0.140	0.145	0.115	0.140	0.140	0.00991	0.0297
PCB-47	01/15/10	0.125	0.120	0.140	0.125	0.125	0.125	0.130	0.140	0.125	0.00744	0.0223
PCB-44	01/15/10	0.125	0.135	0.135	0.150	0.105	0.145	0.145	0.145	0.140	0.0141	0.0424
PCB-42	01/15/10	0.125	0.115	0.140	0.135	0.130	0.155	0.140	0.160	0.150	0.0145	0.0435
PCB-71	01/15/10	0.125	0.145	0.155	0.160	0.135	0.145	0.140	0.140	0.140	0.00845	0.0253
PCB-40/64	01/15/10	0.250	0.255	0.260	0.275	0.275	0.290	0.280	0.280	0.260	0.0122	0.0367
PCB-74	01/15/10	0.125	0.125	0.135	0.140	0.140	0.140	0.135	0.135	0.120	0.00744	0.0223
PCB-70	01/15/10	0.125	0.135	0.150	0.145	0.160	0.155	0.155	0.145	0.135	0.00926	0.0278
PCB-66	01/15/10	0.125	0.135	0.125	0.140	0.140	0.150	0.135	0.145	0.115	0.0112	0.0335
PCB-56	01/15/10	0.125	0.120	0.135	0.140	0.140	0.140	0.135	0.145	0.140	0.00753	0.0226

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01/27/10

MDL Study Report

Analytical Method: E1668A MOD

Instrument ID: MSV

Matrix: Air

Concentration Units: ng

Analyte	Analysis Date	Amt. Spiked	Replicates 1	2	3	4	5	6	7	8	Std. Dev.	MDL
PCB-60	01/15/10	0.125	0.150	0.130	0.150	0.150	0.180	0.130	0.160	0.145	0.0161	0.0484
PCB-81	01/15/10	0.125	0.140	0.130	0.160	0.165	0.165	0.140	0.145	0.150	0.0129	0.0388
PCB-77	01/15/10	0.125	0.130	0.120	0.135	0.160	0.150	0.135	0.130	0.115	0.0147	0.0442
PCB-104	01/15/10	0.125	0.110	0.115	0.150	0.135	0.110	0.105	0.150	0.140	0.0189	0.0566
PCB-95	01/15/10	0.125	0.125	0.140	0.140	0.145	0.165	0.130	0.135	0.125	0.0131	0.0392
PCB-84/92	01/15/10	0.250	0.270	0.205	0.285	0.300	0.275	0.200	0.265	0.245	0.0364	0.109
PCB-101	01/15/10	0.125	0.135	0.130	0.130	0.115	0.130	0.100	0.130	0.130	0.0117	0.0349
PCB-99	01/15/10	0.125	0.140	0.130	0.130	0.135	0.130	0.110	0.130	0.125	0.00876	0.0263
PCB-119	01/15/10	0.125	0.105	0.0900	0.0900	0.100	0.0850	0.0850	0.0800	0.0600	0.0136	0.0408
PCB-97	01/15/10	0.125	0.155	0.135	0.155	0.120	0.135	0.135	0.135	0.145	0.0118	0.0353
PCB-87	01/15/10	0.125	0.165	0.145	0.120	0.145	0.135	0.135	0.135	0.140	0.0128	0.0384
PCB-85	01/15/10	0.125	0.155	0.130	0.125	0.130	0.140	0.140	0.145	0.130	0.00998	0.0299
PCB-110	01/15/10	0.125	0.170	0.140	0.145	0.155	0.150	0.140	0.150	0.140	0.0103	0.0308
PCB-82	01/15/10	0.125	0.165	0.135	0.145	0.175	0.130	0.125	0.150	0.155	0.0173	0.0519
PCB-123	01/15/10	0.125	0.130	0.140	0.145	0.100	0.110	0.110	0.160	0.130	0.0203	0.0610
PCB-118	01/15/10	0.125	0.115	0.0950	0.125	0.145	0.145	0.105	0.135	0.130	0.0182	0.0546
PCB-114	01/15/10	0.125	0.140	0.150	0.125	0.150	0.160	0.145	0.140	0.140	0.0103	0.0308
PCB-105	01/15/10	0.125	0.125	0.145	0.145	0.165	0.165	0.170	0.130	0.155	0.0167	0.0500
PCB-126	01/15/10	0.125	0.135	0.135	0.135	0.160	0.150	0.140	0.150	0.135	0.00964	0.0289
PCB-155	01/15/10	0.125	0.140	0.135	0.125	0.140	0.120	0.110	0.120	0.125	0.0107	0.0320
PCB-136	01/15/10	0.125	0.130	0.135	0.135	0.135	0.125	0.125	0.120	0.125	0.00583	0.0175
PCB-151	01/15/10	0.125	0.175	0.125	0.140	0.165	0.150	0.140	0.130	0.155	0.0171	0.0513
PCB-135	01/15/10	0.125	0.155	0.160	0.145	0.165	0.155	0.155	0.130	0.155	0.0107	0.0321
PCB-149	01/15/10	0.125	0.145	0.130	0.120	0.130	0.155	0.130	0.130	0.130	0.0109	0.0328
PCB-146	01/15/10	0.125	0.155	0.145	0.140	0.185	0.150	0.145	0.125	0.135	0.0177	0.0532
PCB-132/153/168	01/15/10	0.375	0.470	0.435	0.420	0.460	0.430	0.380	0.415	0.405	0.0290	0.0870
PCB-141	01/15/10	0.125	0.155	0.145	0.135	0.140	0.135	0.120	0.135	0.120	0.0118	0.0353
PCB-138	01/15/10	0.125	0.170	0.155	0.150	0.170	0.150	0.120	0.160	0.140	0.0165	0.0494
PCB-129/163	01/15/10	0.250	0.300	0.270	0.240	0.315	0.285	0.225	0.235	0.230	0.0347	0.104
PCB-158	01/15/10	0.125	0.150	0.120	0.115	0.140	0.100	0.125	0.125	0.100	0.0175	0.0525
PCB-128	01/15/10	0.125	0.135	0.135	0.140	0.155	0.145	0.135	0.140	0.140	0.00678	0.0203
PCB-167	01/15/10	0.125	0.140	0.145	0.125	0.195	0.160	0.140	0.155	0.155	0.0207	0.0620
PCB-156	01/15/10	0.125	0.165	0.150	0.130	0.170	0.165	0.150	0.145	0.145	0.0134	0.0401
PCB-157	01/15/10	0.125	0.150	0.175	0.135	0.165	0.125	0.115	0.155	0.150	0.0201	0.0604
PCB-169	01/15/10	0.125	0.135	0.140	0.150	0.100	0.155	0.150	0.165	0.145	0.0195	0.0583
PCB-188	01/15/10	0.125	0.150	0.145	0.110	0.125	0.135	0.125	0.0900	0.125	0.0192	0.0575
PCB-179	01/15/10	0.125	0.125	0.125	0.130	0.150	0.125	0.120	0.125	0.135	0.00943	0.0283
PCB-187	01/15/10	0.125	0.140	0.120	0.110	0.125	0.120	0.105	0.115	0.125	0.0107	0.0321
PCB-183	01/15/10	0.125	0.120	0.155	0.125	0.135	0.120	0.100	0.110	0.125	0.0164	0.0492
PCB-174	01/15/10	0.125	0.115	0.135	0.115	0.175	0.140	0.125	0.115	0.130	0.0201	0.0604

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01/27/10

MDL Study Report

Analytical Method: E1668A MOD

Instrument ID: MSV

Matrix: Air

Concentration Units: ng

Analyte	Analysis Date	Amt. Spiked	Replicates 1	2	3	4	5	6	7	8	Std. Dev.	MDL
PCB-177	01/15/10	0.125	0.355	0.395	0.380	0.385	0.400	0.370	0.375	0.405	0.0167	0.0500
PCB-171	01/15/10	0.125	0.135	0.130	0.110	0.150	0.135	0.130	0.135	0.165	0.0160	0.0479
PCB-180	01/15/10	0.125	0.130	0.135	0.135	0.170	0.140	0.135	0.135	0.140	0.0125	0.0376
PCB-170	01/15/10	0.125	0.125	0.150	0.150	0.195	0.160	0.145	0.150	0.140	0.0202	0.0605
PCB-189	01/15/10	0.125	0.150	0.140	0.160	0.205	0.170	0.145	0.170	0.155	0.0205	0.0615
PCB-202	01/15/10	0.125	0.115	0.0950	0.105	0.130	0.110	0.0950	0.0950	0.110	0.0122	0.0367
PCB-201	01/15/10	0.125	0.125	0.0950	0.145	0.120	0.130	0.110	0.130	0.140	0.0161	0.0484
PCB-196/203	01/15/10	0.250	0.260	0.290	0.250	0.340	0.255	0.275	0.235	0.245	0.0336	0.101
PCB-195	01/15/10	0.125	0.130	0.140	0.140	0.185	0.135	0.125	0.115	0.145	0.0208	0.0623
PCB-194	01/15/10	0.125	0.170	0.160	0.160	0.185	0.140	0.150	0.135	0.155	0.0160	0.0480
PCB-205	01/15/10	0.125	0.145	0.155	0.135	0.180	0.150	0.140	0.130	0.165	0.0165	0.0494
PCB-208	01/15/10	0.125	0.130	0.140	0.145	0.170	0.135	0.120	0.125	0.145	0.0155	0.0466
PCB-206	01/15/10	0.125	0.150	0.160	0.180	0.205	0.150	0.155	0.150	0.180	0.0201	0.0604
PCB-209	01/15/10	0.125	0.125	0.125	0.135	0.170	0.135	0.140	0.135	0.135	0.0141	0.0424
Total PCB	01/15/10	0.250										0.109

CHAIN OF CUSTODY/SHIPPING DOCUMENTS

CH2MHILL Applied Sciences Lab
CHAIN OF CUSTODY RECORD
AND AGREEMENT TO PERFORM SERVICES

CVO 2300 NW Walnut Boulevard
Corvallis, OR 97330-3638
(541) 752-4271 FAX (541) 752-0276

COC #_____

Project # 101204

Purchase Order #

Project Name: BUILDING 84 MEZZANINE FLOOR REMOVAL

Company Name: REMEDY ENGINEERING

Project Manager or Contact & Phone #: NOEL BUSH / 530-241-7658

Report Copy to:

Requested Completion Date:

Site ID

Sample Disposal: Dispose ☒ Return ☐

Requested Analytical Method #: PCB CONGENERS EPA MOD. E1668A

Preservative: ICE

THIS AREA FOR LAB USE ONLY

SDG: J1057
Remedy Engineering
01/14/2010

EPA Tier QC Level: 1 (Screening) 2 3 4

Sampling Date	Sampling Time	Type COMP	Type GRAB	Matrix WATER	Matrix SOIL	Matrix AIR	CLIENT SAMPLE ID (9 CHARACTERS)	LAB QC	TOTAL # OF CONTAINERS	ICE	Alternate Description	Lab ID
1/12/10	13:49					X	B84IARE1		1	X	PUFF CARTRIDGES	1
1/13/10	1:14					X	B84IARE2		1	X		2
1/12/10	13:55					X	B84IARE3		1	X		3
1/12/10	21:03					X	B84IARE3D		1	X		4
1/13/10	1:15					X	B84IARETB		1	X		5

Relinquished By	Date/Time	Received By	Date/Time
Sampled By and Title: NOEL BUSH (Please sign and print name) PROJECT MANAGER	1/13/10 1:20	Relinquished By: NOEL BUSH (Please sign and print name)	1/13/10 15:00
Received By: Daisy D. Kemper (Please sign and print name) Daisy D. Kemper	1/14/9 10:20	Relinquished By (Please sign and print name)	
Received By (Please sign and print name)		Shipped Via: UPS Fed-Ex Other _____	Shipping #

Special Instructions:
One returned unused puff

Instructions and Agreement Provisions on Reverse Side

DISTRIBUTION: Original - LAB, Yellow - LAB, Pink - Client

CHAIN OF CUSTODY INSTRUCTIONS

CH2M HILL Project #:	CH2M HILL project number to be charged for work.
Purchase Order #:	Purchase order to be charged for work (OTC clients).
Project Name:	Name of project which the samples support.
Company Name/CH2M HILL Office:	Name of the company or CH2M HILL office requesting the work. Correspondence will be sent to the company address or CH2M HILL office.
Client:	Name, address, and phone number of person who receives the laboratory report and can be contacted if questions arise.
Sampling:	The date and time at which the sample was collected.
Type:	Indicate the type of sample (composite or grab) collected.
Client Sample ID:	Identifier assigned by the project to uniquely identify the samples (must not exceed nine (9) characters).
Number of Containers:	The number of different containers for this line item or sample.
Analyses Requested:	Use one column for each parameter or group of parameters. Specific method numbers, parameter list, and TIC's should be indicated.
For Lab Use Only:	Do not mark in the shaded area.
Remarks:	Record any comments about each sample on the same line as the sample description, e.g., "Wastewater contains VOC's." Known high concentrations should be noted.
Sampled by and Title:	The person who took the sample signs this box and prints his/her name,title, date, and time when sampling was completed.
Relinquished By:	The sampler signs this box and prints his/her name, date, and time when the samples were accepted into his/her custody.
Sample Shipped Via:	How the samples are being shipped to the laboratory,e.g., "Fed Ex."
Shipping #:	The number on the shipping papers by which the package can be traced.
Work Authorized By:	Printed name and signature of person authorizing the initiation of laboratory work.
Remarks:	Record any comments regarding the samples as a whole. Additional parameters or special requirements should be indicated.

PROVISIONS OF THE AGREEMENT

1. **Authorization to Proceed**
   Completion of the Chain of Custody (COC) and submission of the samples to the laboratory by the Client or Client's representative constitutes Execution of the Agreement and authorizes CH2M HILL Inc. to proceed with the laboratory work.

2. **Compensation and Terms of Payment**
   For services described on this Chain of Custody, CH2M HILL Inc. will be compensated based on verbal or written quotation, or the standard rates per analysis contained in our published Price Guide. Invoices will be issued by laboratory as services are completed. Invoices are due and payable upon receipt. Interest at the rate of 1-1/2 percent per month, or that permitted by law if lesser, may be charged on past due amounts starting 30 days after date of invoice. Payments will first be credited to interest and then to principal. The prices stated in a written quotation are valid for 45 days unless stated otherwise. The price does not include sales or other taxes. Such taxes, when applicable, will be added to the invoice. Unless otherwise specified, the minimum invoice is $100.00 per batch of samples. CH2M HILL Inc. reserves the right to change published prices without notice.

3. **Standard of Care**
   The standard of care applied to our environmental laboratory services will be the degree of skill and diligence normally employed by laboratory industry personnel performing the same or similar service.

4. **Warranty and Limitation of Liability**
   CH2M HILL Inc. makes no warranty, express or implied, and under no circumstances will be liable for any claims or damages except those resulting solely from their own or their employees' negligence. To the maximum extent permitted by law, our liability for damages will not exceed the compensation received by CH2M HILL Inc. under the project Agreement.

5. **Severability and Survival**
   If any of the provisions contained in this Agreement are held illegal, invalid or unenforceable, the enforceability of the remaining provisions shall not be impaired thereby. Limitations of liability and indemnities shall survive termination of this Agreement for any cause.

6. **Asbestos or Hazardous Substances**
   To the maximum extent permitted by law, the CLIENT will indemnify and defend CH2M HILL Inc. and its officers, employees, parent firm subconsultants, and agents from all claims, damages, losses, and expenses, including, but not limited to, direct, indirect, or consequential damages and attorney's fees in excess of the Limitation of Liability in Article 4 arising out of or relating to the presence, discharge, release, or escape of hazardous substances, contaminants, or asbestos on or from the Project.

7. **Interpretation**
   The limitations of liability and indemnities will apply whether CH2M HILL Inc.'s liability arises under breach of contract or warranty; tort, including negligence (but not sole negligence); strict liability; statutory liability; or any other causes of action; and shall apply to CH2M HILL Inc.'s officers, employees, parent firm, and subcontractors. The professional service agreement will take precedence in the event there is a conflict with the agreement and chain-of-custody document.

8. **Sample Disposal and Storage**
   Disposal of hazardous waste samples is the responsibility of the client, unless disposal agreements are made. Unless disposal agreements are made, hazardous waste samples will be disposed of at a rate of $50 per sample 30 days after submission of final report. For large projects and upon special request, samples may be stored for longer than 30 days at a rate of $5/month per sample.

9. **Sample Preservation**
   Samples are expected to be field preserved in accordance to applicable methods being requested.

CH2MHILL
Applied Sciences Laboratory (ASL)

Sample Receipt Record

Batch Number: SDG: J1057
Remedy Engineering
Client/Project 01/14/2010

Date received: 1/14/10

VERIFICATION OF SAMPLE CONDITIONS (verify all items) * HD = Client Hand Delivered Samples

Observation	YES	NO
Radiological Screening for AFCEE		NA
Were custody seals intact and on the outside of the cooler?	✓	
If yes, Where? Front ✓ Rear ✓ Lt Side ___ Rt Side ___		
Type of packing material: Ice Blue Ice Bubble wrap		
Was the Chain of Custody inside the cooler?	✓	
Was the Chain of Custody properly filled out?	✓	
Were the sample containers in good condition?	✓	
Containers supplied by ASL?	✓	
Any sample with < 1/2 holding time remaining? If so contact LPM		✓
Was there ice in the cooler? Enter temp. 20° C	✓	
All VOCs free of air bubbles ?		NA

VERIFICATION OF SAMPLE PRESERVATION

Sample No	Nutrients pH <2	Metals pH <2	Volatiles pH <2	Cyanides pH >12	TOC pH <2	O&G pH <2	Other (specify)	N/A (soils/unpres)
1								PUFs for PCB
2								
3								
4								
5								
6								
7								
8								
9								
10								
11								
12								
13								
14								
15								
16								
17								
18								
19								
20								
21								
22								
23								
24								
25								
26								
27								

LOGIN AND pH VERIFICATIONS PERFORMED BY

Daniel A. Kemper 1/14/9 10:35
Date/Time

Date/Time

CH2M HILL
Applied Sciences Laboratory (ASL)
2300 NW Walnut Blvd., Corvallis OR 97330-3538
Tel 541.752.4271 Fax 541.752.0276

APPENDIX D

Waste Disposal Receipt

WASTE MATERIAL PROFILE SHEET

Clean Harbors Profile No. CH395820-B

A. GENERAL INFORMATION

GENERATOR EPA ID #/REGISTRATION # *CAR000123117* GENERATOR NAME: *Lennar Mare Island LLC*

GENERATOR CODE (Assigned by Clean Harbors) *LE1342* CITY *Vallejo* STATE/PROVINCE *CA* ZIP/POSTAL CODE *94592*

ADDRESS *690 Walnut Avenue Suite 100* PHONE: *(707) 557-8246*

CUSTOMER CODE (Assigned by Clean Harbors) *TR2999* CUSTOMER NAME: *Trihydro Corporation*

ADDRESS *1252 Commerce Drive* CITY *Laramie* STATE/PROVINCE *WY* ZIP/POSTAL CODE *82070*

B. WASTE DESCRIPTION

WASTE DESCRIPTION: *PPE/HOSE IMPACTED WITH CLAY/DEBRIS (SOIL & DIRT)*

PROCESS GENERATING WASTE (Please provide detailed description of process generating waste):

SITE CLEANUP

C. PHYSICAL PROPERTIES (at 25C or 77F)

PHYSICAL STATE
- ✔ SOLID WITHOUT FREE LIQUID
- POWDER
- MONOLITHIC SOLID
- LIQUID WITH NO SOLIDS
- LIQUID/SOLID MIXTURE
- % FREE LIQUID
- % SETTLED SOLID
- % TOTAL SUSPENDED SOLID
- SLUDGE
- GAS/AEROSOL

NUMBER OF PHASES/LAYERS

1 2 3

% BY VOLUME (Approx.)

TOP	0.00
MIDDLE	0.00
BOTTOM	0.00

VISCOSITY (If liquid present)
- 1 - 100 (e.g. Water)
- 101 - 500 (e.g. Motor Oil)
- 501 - 10,000 (e.g. Molasses)
- > 10,000

COLOR

various

ODOR
- ✔ NONE
- MILD
- STRONG

Describe:

BOILING POINT °F (°C)
- <= 95 (<=35)
- 95 - 100 (35-38)
- 101 - 129 (38-54)
- >= 130 (>54)

MELTING POINT °F (°C)
- < 140 (<60)
- 140-200 (60-93)
- ✔ > 200 (>93)

TOTAL ORGANIC CARBON
- ✔ <= 1%
- 1-9%
- >= 10%

FLASH POINT °F (°C)
- < 73 (<23)
- 73 - 100 (23-38)
- 101 -140 (38-60)
- 141 -200 (60-93)
- > 200 (>93)

pH
- <= 2
- 2.1 - 6.9
- ✔ 7 (Neutral)
- 7.1 - 12.4
- >= 12.5

SPECIFIC GRAVITY
- < 0.8 (e.g. Gasoline)
- 0.8-1.0 (e.g. Ethanol)
- 1.0 (e.g. Water)
- 1.0-1.2 (e.g. Antifreeze)
- ✔ > 1.2 (e.g. Methylene Chloride)

ASH
- ✔ < 0.1
- 0.1 - 1.0
- 1.1 - 5.0
- 5.1 - 20.0
- > 20
- Unknown

BTU/LB (MJ/kg)
- < 2,000 (<4.6)
- ✔ 2,000-5,000 (4.6-11.6)
- 5,000-10,000 (11.6-23.2)
- > 10,000 (>23.2)

Actual:

D. COMPOSITION (List the complete composition of the waste. Include any inert components and/or debris. Ranges for individual components are acceptable. If a trade name is used, please supply an MSDS. Please do not use abbreviations.)

CHEMICAL	MIN	–	MAX	UOM
CLAY	0.0000000	–	25.0000000	%
HOSE	0.0000000	–	25.0000000	%
PCB		–		Trace
PPE & DEBRIS	99.9000000	–	100.0000000	%
SOIL & DIRT	0.0000000	–	0.1000000	%

DOES THIS WASTE CONTAIN ANY HEAVY GAUGE METAL DEBRIS OR OTHER LARGE OBJECTS (EX., METAL PLATE OR PIPING >1/4" THICK OR >12" LONG, METAL REINFORCED HOSE >12" LONG, METAL WIRE >12" LONG, METAL VALVES, PIPE FITTINGS, CONCRETE REINFORCING BAR OR PIECES OF CONCRETE >3")? YES ✔ NO

If yes, describe, including dimensions:

DOES THIS WASTE CONTAIN ANY METALS IN POWDERED OR OTHER FINELY DIVIDED FORM? YES ✔ NO

DOES THIS WASTE CONTAIN OR HAS IT CONTACTED ANY OF THE FOLLOWING; ANIMAL WASTES, HUMAN BLOOD, BLOOD PRODUCTS, BODY FLUIDS, MICROBIOLOGICAL WASTE, PATHOLOGICAL WASTE, HUMAN OR ANIMAL DERIVED SERUMS OR PROTEINS OR ANY OTHER POTENTIALLY INFECTIOUS MATERIAL? YES ✔ NO

I acknowledge that this waste material is neither infectious nor does it contain any organism known to be a threat to human health. This certification is based on my knowledge of the material. Select the answer below that applies:

The waste was never exposed to potentially infectious material. YES NO

Chemical disinfection or some other form of sterilization has been applied to the waste. YES NO

I ACKNOWLEDGE THAT THIS PROFILE MEETS THE CLEAN HARBORS BATTERY PACKAGING REQUIREMENTS. YES NO

I ACKNOWLEDGE THAT MY FRIABLE ASBESTOS WASTE IS DOUBLE BAGGED AND WETTED. YES NO

SPECIFY THE SOURCE CODE ASSOCIATED WITH THE WASTE. *G33* SPECIFY THE FORM CODE ASSOCIATED WITH THE WASTE. *W319*

E. CONSTITUENTS

Are these values based on testing or knowledge? ✔ Knowledge Testing

If based on knowledge, please describe the rationale applied to identify and characterize the waste material (ex., include reference to Material Safety Data Sheets, process considerations, operating procedures).

CLIENT INFORMATION

Please indicate which constituents below apply. Concentrations must be entered when applicable to assist in accurate review and expedited approval of your waste profile. Please note that the total regulated metals and other constituents sections require answers.

RCRA	REGULATED METALS	REGULATORY LEVEL (mg/l)	TCLP mg/l	TOTAL	UOM	NOT APPLICABLE
D004	ARSENIC	5.0				✔
D005	BARIUM	100.0				✔
D006	CADMIUM	1.0				✔
D007	CHROMIUM	5.0				✔
D008	LEAD	5.0				✔
D009	MERCURY	0.2				✔
D010	SELENIUM	1.0				✔
D011	SILVER	5.0				✔
	VOLATILE COMPOUNDS					
D018	BENZENE	0.5				
D019	CARBON TETRACHLORIDE	0.5				
D021	CHLOROBENZENE	100.0				
D022	CHLOROFORM	6.0				
D028	1,2-DICHLOROETHANE	0.5				
D029	1,1-DICHLOROETHYLENE	0.7				
D035	METHYL ETHYL KETONE	200.0				
D039	TETRACHLOROETHYLENE	0.7				
D040	TRICHLOROETHYLENE	0.5				
D043	VINYL CHLORIDE	0.2				
	SEMI-VOLATILE COMPOUNDS					
D023	o-CRESOL	200.0				
D024	m-CRESOL	200.0				
D025	p-CRESOL	200.0				
D026	CRESOL (TOTAL)	200.0				
D027	1,4-DICHLOROBENZENE	7.5				
D030	2,4-DINITROTOLUENE	0.13				
D032	HEXACHLOROBENZENE	0.13				
D033	HEXACHLOROBUTADIENE	0.5				
D034	HEXACHLOROETHANE	3.0				
D036	NITROBENZENE	2.0				
D037	PENTACHLOROPHENOL	100.0				
D038	PYRIDINE	5.0				
D041	2,4,5-TRICHLOROPHENOL	400.0				
D042	2,4,6-TRICHLOROPHENOL	2.0				
	PESTICIDES AND HERBICIDES					
D012	ENDRIN	0.02				
D013	LINDANE	0.4				
D014	METHOXYCHLOR	10.0				
D015	TOXAPHENE	0.5				
D016	2,4-D	10.0				
D017	2,4,5-TP (SILVEX)	1.0				
D020	CHLORDANE	0.03				
D031	HEPTACHLOR (AND ITS EPOXIDE)	0.008				

OTHER CONSTITUENTS	MAX	UOM	NOT APPLICABLE
BROMINE			✔
CHLORINE			✔
FLUORINE			✔
IODINE			✔
SULFUR			✔
POTASSIUM			✔
SODIUM			✔
AMMONIA			✔
CYANIDE AMENABLE			✔
CYANIDE REACTIVE			✔
CYANIDE TOTAL			✔
SULFIDE REACTIVE			✔

HOCs

✔ NONE
< 1000 PPM
>= 1000 PPM

PCBs

✔ NONE
< 50 PPM
>=50 PPM

IF PCBS ARE PRESENT, IS THE WASTE REGULATED BY TSCA 40 CFR 761?

YES ✔ NO

ADDITIONAL HAZARDS

DOES THIS WASTE HAVE ANY UNDISCLOSED HAZARDS OR PRIOR INCIDENTS ASSOCIATED WITH IT, WHICH COULD AFFECT THE WAY IT SHOULD BE HANDLED?

YES ✔ NO (If yes, explain)

CHOOSE ALL THAT APPLY

DEA REGULATED SUBSTANCE	EXPLOSIVE	FUMING	OSHA REGULATED CARCINOGENS
POLYMERIZABLE	RADIOACTIVE	REACTIVE MATERIAL	✔ NONE OF THE ABOVE

CleanHarbors Clean Harbors Profile No. CH395820-B

F. REGULATORY STATUS

YES ✔ NO USEPA HAZARDOUS WASTE?

✔ YES NO DO ANY STATE WASTE CODES APPLY?

352

Texas Waste Code

YES ✔ NO DO ANY CANADIAN PROVINCIAL WASTE CODES APPLY?

YES ✔ NO IS THIS WASTE PROHIBITED FROM LAND DISPOSAL WITHOUT FURTHER TREATMENT PER 40 CFR PART 268?

LDR CATEGORY: *Not subject to LDR*
VARIANCE INFO:

YES ✔ NO IS THIS A UNIVERSAL WASTE?

YES ✔ NO IS THE GENERATOR OF THE WASTE CLASSIFIED AS CONDITIONALLY EXEMPT SMALL QUANTITY GENERATOR (CESQG)?

YES NO IS THIS MATERIAL GOING TO BE MANAGED AS A RCRA EXEMPT COMMERCIAL PRODUCT, WHICH IS FUEL (40 CFR 261.2 (C)(2)(II))?

YES ✔ NO DOES TREATMENT OF THIS WASTE GENERATE A F006 OR F019 SLUDGE?

YES NO IS THIS WASTE STREAM SUBJECT TO THE INORGANIC METAL BEARING WASTE PROHIBITION FOUND AT 40 CFR 268.3(C)?

YES ✔ NO DOES THIS WASTE CONTAIN VOC'S IN CONCENTRATIONS >=500 PPM?

YES NO DOES THE WASTE CONTAIN GREATER THAN 20% OF ORGANIC CONSTITUENTS WITH A VAPOR PRESSURE >= .3KPA (.044 PSIA)?

YES ✔ NO DOES THIS WASTE CONTAIN AN ORGANIC CONSTITUENT WHICH IN ITS PURE FORM HAS A VAPOR PRESSURE > 77 KPA (11.2 PSIA)?

YES ✔ NO IS THIS CERCLA REGULATED (SUPERFUND) WASTE ?

YES ✔ NO IS THE WASTE SUBJECT TO ONE OF THE FOLLOWING NESHAP RULES?

Hazardous Organic NESHAP (HON) rule (subpart G) Pharmaceuticals production (subpart GGG)

YES NO IF THIS IS A US EPA HAZARDOUS WASTE, DOES THIS WASTE STREAM CONTAIN BENZENE?

YES NO Does the waste stream come from a facility with one of the SIC codes listed under benzene NESHAP or is this waste regulated under the benzene NESHAP rules because the original source of the waste is from a chemical manufacturing, coke by-product recovery, or petroleum refinery process?

YES NO *Is the generating source of this waste stream a facility with Total Annual Benzene (TAB) >10 Mg/year?*

What is the TAB quantity for your facility? Megagram/year (1 Mg = 2,200 lbs)

The basis for this determination is: Knowledge of the Waste Or Test Data Knowledge Testing

Describe the knowledge :

G. DOT/TDG INFORMATION

DOT/TDG PROPER SHIPPING NAME:

NONE, NON RCRA HAZARDOUS WASTE SOLIDS, (PPE/SOIL/CLAY/HOSE/DEBRIS), N/A

H. TRANSPORTATION REQUIREMENTS

ESTIMATED SHIPMENT FREQUENCY ✔ ONE TIME WEEKLY MONTHLY QUARTERLY YEARLY OTHER

✔ CONTAINERIZED

1-5 CONTAINERS/SHIPMENT

STORAGE CAPACITY:

CONTAINER TYPE:

CUBIC YARD BOX PALLET

TOTE TANK ✔ DRUM

OTHER: DRUM SIZE: *55*

BULK LIQUID

GALLONS/SHIPMENT: *0 Min -0 Max* GAL.

BULK SOLID

SHIPMENT UOM: TON YARD

TONS/YARDS/SHIPMENT: *0 Min - 0 Max*

I. SPECIAL REQUEST

COMMENTS OR REQUESTS:

GENERATOR'S CERTIFICATION

I hereby certify that all information submitted in this and attached documents is correct to the best of my knowledge. I also certify that any samples submitted are representative of the actual waste. If Clean Harbors discovers a discrepancy during the approval process, Generator grants Clean Harbors the authority to amend the profile, as Clean Harbors deems necessary, to reflect the discrepancy.

AUTHORIZED SIGNATURE	NAME (PRINT)	TITLE	DATE
[signature] Agent for CMI	Neal Siler	DIV ENV. MGR	10/06/09

WASTE MATERIAL PROFILE SHEET

Clean Harbors Profile No. CH395810

A. GENERAL INFORMATION

GENERATOR EPA ID #/REGISTRATION # *CAR000123117* GENERATOR NAME: *Lennar Mare Island LLC*

GENERATOR CODE (Assigned by Clean Harbors) *LE1342* CITY *Vallejo* STATE/PROVINCE *CA* ZIP/POSTAL CODE *94592*

ADDRESS *690 Walnut Avenue Suite 100* PHONE: *(707) 557-8246*

CUSTOMER CODE (Assigned by Clean Harbors) *TR2999* CUSTOMER NAME: *Trihydro Corporation*

ADDRESS *1252 Commerce Drive* CITY *Laramie* STATE/PROVINCE *WY* ZIP/POSTAL CODE *82070*

B. WASTE DESCRIPTION

WASTE DESCRIPTION: *LEAD PAINT CHIPS & SOIL/DEBRIS*

PROCESS GENERATING WASTE (Please provide detailed description of process generating waste):

FLAKING PAINT FROM CEILING

C. PHYSICAL PROPERTIES (at 25C or 77F)

PHYSICAL STATE
- ✔ SOLID WITHOUT FREE LIQUID
- POWDER
- MONOLITHIC SOLID
- LIQUID WITH NO SOLIDS
- LIQUID/SOLID MIXTURE
  - % FREE LIQUID
  - % SETTLED SOLID
  - % TOTAL SUSPENDED SOLID
- SLUDGE
- GAS/AEROSOL

NUMBER OF PHASES/LAYERS

1 2 3

% BY VOLUME (Approx.)

TOP	0.00
MIDDLE	0.00
BOTTOM	0.00

VISCOSITY (if liquid present)
- 1 - 100 (e.g. Water)
- 101 - 500 (e.g. Motor Oil)
- 501 - 10,000 (e.g. Molasses)
- > 10,000

COLOR

various

ODOR
- ✔ NONE
- MILD
- STRONG

Describe:

BOILING POINT °F (°C)
- <= 95 (<=35)
- 95 - 100 (35-38)
- 101 - 129 (38-54)
- >= 130 (>54)

MELTING POINT °F (°C)
- < 140 (<60)
- 140-200 (60-93)
- ✔ > 200 (>93)

TOTAL ORGANIC CARBON
- ✔ <= 1%
- 1-9%
- >= 10%

FLASH POINT °F (°C)
- < 73 (<23)
- 73 - 100 (23-38)
- 101 -140 (38-60)
- 141 -200 (60-93)
- > 200 (>93)

pH
- <= 2
- 2.1 - 6.9
- ✔ 7 (Neutral)
- 7.1 - 12.4
- >= 12.5

SPECIFIC GRAVITY
- < 0.8 (e.g. Gasoline)
- 0.8-1.0 (e.g. Ethanol)
- 1.0 (e.g. Water)
- 1.0-1.2 (e.g. Antifreeze)
- ✔ > 1.2 (e.g. Methylene Chloride)

ASH
- ✔ < 0.1
- 0.1 - 1.0
- 1.1 - 5.0
- 5.1 - 20.0
- > 20
- Unknown

BTU/LB (MJ/kg)
- ✔ < 2,000 (<4.6)
- 2,000-5,000 (4.6-11.6)
- 5,000-10,000 (11.6-23.2)
- > 10,000 (>23.2)

Actual:

D. COMPOSITION (List the complete composition of the waste. Include any inert components and/or debris. Ranges for individual components are acceptable. If a trade name is used, please supply an MSDS. Please do not use abbreviations.)

CHEMICAL	MIN	–	MAX	UOM
PAINT CHIPS (LEAD)	99.9000000	–	100.0000000	%
SOIL/DEBRI	0.0000000	–	0.1000000	%

DOES THIS WASTE CONTAIN ANY HEAVY GAUGE METAL DEBRIS OR OTHER LARGE OBJECTS (EX., METAL PLATE OR PIPING >1/4" THICK OR >12" LONG, METAL REINFORCED HOSE >12" LONG, METAL WIRE >12" LONG, METAL VALVES, PIPE FITTINGS, CONCRETE REINFORCING BAR OR PIECES OF CONCRETE >3")? YES ✔ NO

If yes, describe, including dimensions:

DOES THIS WASTE CONTAIN ANY METALS IN POWDERED OR OTHER FINELY DIVIDED FORM? YES ✔ NO

DOES THIS WASTE CONTAIN OR HAS IT CONTACTED ANY OF THE FOLLOWING; ANIMAL WASTES, HUMAN BLOOD, BLOOD PRODUCTS, BODY FLUIDS, MICROBIOLOGICAL WASTE, PATHOLOGICAL WASTE, HUMAN OR ANIMAL DERIVED SERUMS OR PROTEINS OR ANY OTHER POTENTIALLY INFECTIOUS MATERIAL? YES ✔ NO

I acknowledge that this waste material is neither infectious nor does it contain any organism known to be a threat to human health. This certification is based on my knowledge of the material. Select the answer below that applies:

The waste was never exposed to potentially infectious material. YES NO

Chemical disinfection or some other form of sterilization has been applied to the waste. YES NO

I ACKNOWLEDGE THAT THIS PROFILE MEETS THE CLEAN HARBORS BATTERY PACKAGING REQUIREMENTS. YES NO

I ACKNOWLEDGE THAT MY FRIABLE ASBESTOS WASTE IS DOUBLE BAGGED AND WETTED. YES NO

SPECIFY THE SOURCE CODE ASSOCIATED WITH THE WASTE. *G39* SPECIFY THE FORM CODE ASSOCIATED WITH THE WASTE. *W409*

E. CONSTITUENTS

Are these values based on testing or knowledge? ✔ Knowledge Testing

If based on knowledge, please describe the rationale applied to identify and characterize the waste material (ex., include reference to Material Safety Data Sheets, process considerations, operating procedures).

LEAD PAINT CHIPS PER CLIENT

Please indicate which constituents below apply. Concentrations must be entered when applicable to assist in accurate review and expedited approval of your waste profile. Please note that the total regulated metals and other constituents sections require answers.

RCRA	REGULATED METALS	REGULATORY LEVEL (mg/l)	TCLP mg/l	TOTAL	UOM	NOT APPLICABLE
D004	ARSENIC	5.0				✔
D005	BARIUM	100.0				✔
D006	CADMIUM	1.0				✔
D007	CHROMIUM	5.0				✔
D008	LEAD	5.0	3.0000	5.0000000	PPM	
D009	MERCURY	0.2				✔
D010	SELENIUM	1.0				✔
D011	SILVER	5.0				✔

	VOLATILE COMPOUNDS	
D018	BENZENE	0.5
D019	CARBON TETRACHLORIDE	0.5
D021	CHLOROBENZENE	100.0
D022	CHLOROFORM	6.0
D028	1,2-DICHLOROETHANE	0.5
D029	1,1-DICHLOROETHYLENE	0.7
D035	METHYL ETHYL KETONE	200.0
D039	TETRACHLOROETHYLENE	0.7
D040	TRICHLOROETHYLENE	0.5
D043	VINYL CHLORIDE	0.2
	SEMI-VOLATILE COMPOUNDS	
D023	o-CRESOL	200.0
D024	m-CRESOL	200.0
D025	p-CRESOL	200.0
D026	CRESOL (TOTAL)	200.0
D027	1,4-DICHLOROBENZENE	7.5
D030	2,4-DINITROTOLUENE	0.13
D032	HEXACHLOROBENZENE	0.13
D033	HEXACHLOROBUTADIENE	0.5
D034	HEXACHLOROETHANE	3.0
D036	NITROBENZENE	2.0
D037	PENTACHLOROPHENOL	100.0
D038	PYRIDINE	5.0
D041	2,4,5-TRICHLOROPHENOL	400.0
D042	2,4,6-TRICHLOROPHENOL	2.0
	PESTICIDES AND HERBICIDES	
D012	ENDRIN	0.02
D013	LINDANE	0.4
D014	METHOXYCHLOR	10.0
D015	TOXAPHENE	0.5
D016	2,4-D	10.0
D017	2,4,5-TP (SILVEX)	1.0
D020	CHLORDANE	0.03
D031	HEPTACHLOR (AND ITS EPOXIDE)	0.008

OTHER CONSTITUENTS	MAX	UOM	NOT APPLICABLE
BROMINE			✔
CHLORINE			✔
FLUORINE			✔
IODINE			✔
SULFUR			✔
POTASSIUM			✔
SODIUM			✔
AMMONIA			✔
CYANIDE AMENABLE			✔
CYANIDE REACTIVE			✔
CYANIDE TOTAL			✔
SULFIDE REACTIVE			✔

HOCs

✔ NONE
< 1000 PPM
>= 1000 PPM

PCBs

✔ NONE
< 50 PPM
>=50 PPM

IF PCBS ARE PRESENT, IS THE WASTE REGULATED BY TSCA 40 CFR 761?

YES ✔ NO

ADDITIONAL HAZARDS

DOES THIS WASTE HAVE ANY UNDISCLOSED HAZARDS OR PRIOR INCIDENTS ASSOCIATED WITH IT, WHICH COULD AFFECT THE WAY IT SHOULD BE HANDLED?

YES ✔ NO (If yes, explain)

CHOOSE ALL THAT APPLY

DEA REGULATED SUBSTANCE	EXPLOSIVE	FUMING	OSHA REGULATED CARCINOGENS
POLYMERIZABLE	RADIOACTIVE	REACTIVE MATERIAL	✔ NONE OF THE ABOVE

F. REGULATORY STATUS

✔ YES NO USEPA HAZARDOUS WASTE?
D008

✔ YES NO DO ANY STATE WASTE CODES APPLY?
352
Texas Waste Code

YES ✔ NO DO ANY CANADIAN PROVINCIAL WASTE CODES APPLY?

✔ YES NO IS THIS WASTE PROHIBITED FROM LAND DISPOSAL WITHOUT FURTHER TREATMENT PER 40 CFR PART 268?
LDR CATEGORY: *This is subject to LDR.*
VARIANCE INFO:

YES ✔ NO IS THIS A UNIVERSAL WASTE?

YES NO IS THE GENERATOR OF THE WASTE CLASSIFIED AS CONDITIONALLY EXEMPT SMALL QUANTITY GENERATOR (CESQG)?

YES NO IS THIS MATERIAL GOING TO BE MANAGED AS A RCRA EXEMPT COMMERCIAL PRODUCT, WHICH IS FUEL (40 CFR 261.2 (C)(2)(II))?

YES ✔ NO DOES TREATMENT OF THIS WASTE GENERATE A F006 OR F019 SLUDGE?

YES ✔ NO IS THIS WASTE STREAM SUBJECT TO THE INORGANIC METAL BEARING WASTE PROHIBITION FOUND AT 40 CFR 268.3(C)?

YES ✔ NO DOES THIS WASTE CONTAIN VOC'S IN CONCENTRATIONS >=500 PPM?

YES NO DOES THE WASTE CONTAIN GREATER THAN 20% OF ORGANIC CONSTITUENTS WITH A VAPOR PRESSURE >= .3KPA (.044 PSIA)?

YES ✔ NO DOES THIS WASTE CONTAIN AN ORGANIC CONSTITUENT WHICH IN ITS PURE FORM HAS A VAPOR PRESSURE > 77 KPA (11.2 PSIA)?

YES ✔ NO IS THIS CERCLA REGULATED (SUPERFUND) WASTE ?

YES ✔ NO IS THE WASTE SUBJECT TO ONE OF THE FOLLOWING NESHAP RULES?
Hazardous Organic NESHAP (HON) rule (subpart G) Pharmaceuticals production (subpart GGG)

YES ✔ NO IF THIS IS A US EPA HAZARDOUS WASTE, DOES THIS WASTE STREAM CONTAIN BENZENE?

YES NO Does the waste stream come from a facility with one of the SIC codes listed under benzene NESHAP or is this waste regulated under the benzene NESHAP rules because the original source of the waste is from a chemical manufacturing, coke by-product recovery, or petroleum refinery process?

YES NO Is the generating source of this waste stream a facility with Total Annual Benzene (TAB) >10 Mg/year?

What is the TAB quantity for your facility? Megagram/year (1 Mg = 2,200 lbs)

The basis for this determination is: Knowledge of the Waste Or Test Data Knowledge Testing

Describe the knowledge :

G. DOT/TDG INFORMATION

DOT/TDG PROPER SHIPPING NAME:

WASTE NA3077, HAZARDOUS WASTE, SOLID, N.O.S., (LEAD PAINT CHIPS/SOIL & DEBRIS), 9, PG III

H. TRANSPORTATION REQUIREMENTS

ESTIMATED SHIPMENT FREQUENCY ✔ ONE TIME WEEKLY MONTHLY QUARTERLY YEARLY OTHER

✔ **CONTAINERIZED**
1-2 CONTAINERS/SHIPMENT
STORAGE CAPACITY:
CONTAINER TYPE:
CUBIC YARD BOX PALLET
TOTE TANK ✔ DRUM
OTHER:
DRUM SIZE: *55*

BULK LIQUID
GALLONS/SHIPMENT: *0 Min -0 Max* GAL.

BULK SOLID
SHIPMENT UOM: TON YARD
TONS/YARDS/SHIPMENT: *0 Min - 0 Max*

I. SPECIAL REQUEST

COMMENTS OR REQUESTS:

GENERATOR'S CERTIFICATION

I hereby certify that all information submitted in this and attached documents is correct to the best of my knowledge. I also certify that any samples submitted are representative of the actual waste. If Clean Harbors discovers a discrepancy during the approval process, Generator grants Clean Harbors the authority to amend the profile, as Clean Harbors deems necessary, to reflect the discrepancy.

AUTHORIZED SIGNATURE	NAME (PRINT)	TITLE	DATE
[signature] AGENT FOR LMI	Neal Siler	DIV. ENV. MGR	10/06/09

WASTE MATERIAL PROFILE SHEET

Clean Harbors Profile No. CH396181

A. GENERAL INFORMATION

GENERATOR EPA ID #/REGISTRATION # *CAR000123117* GENERATOR NAME: *Lennar Mare Island LLC*

GENERATOR CODE (Assigned by Clean Harbors) *LE1342* CITY *Vallejo* STATE/PROVINCE *CA* ZIP/POSTAL CODE *94592*

ADDRESS *690 Walnut Avenue Suite 100* PHONE: *(707) 557-8246*

CUSTOMER CODE (Assigned by Clean Harbors) *TR2999* CUSTOMER NAME: *Trihydro Corporation*

ADDRESS *1252 Commerce Drive* CITY *Laramie* STATE/PROVINCE *WY* ZIP/POSTAL CODE *82070*

B. WASTE DESCRIPTION

WASTE DESCRIPTION: *Concrete and Clay with <50 ppm PCB*

PROCESS GENERATING WASTE (Please provide detailed description of process generating waste):

Floor Scarifying

C. PHYSICAL PROPERTIES (at 25C or 77F)

PHYSICAL STATE
- ✔ SOLID WITHOUT FREE LIQUID
- POWDER
- MONOLITHIC SOLID
- LIQUID WITH NO SOLIDS
- LIQUID/SOLID MIXTURE
  - % FREE LIQUID
  - % SETTLED SOLID
  - % TOTAL SUSPENDED SOLID
- SLUDGE
- GAS/AEROSOL

NUMBER OF PHASES/LAYERS

1 2 3

% BY VOLUME (Approx.)

TOP	0.00
MIDDLE	0.00
BOTTOM	0.00

VISCOSITY (If liquid present)
- 1 - 100 (e.g. Water)
- 101 - 500 (e.g. Motor Oil)
- 501 - 10,000 (e.g. Molasses)
- > 10,000

COLOR

various

ODOR
- ✔ NONE
- MILD
- STRONG

Describe:

BOILING POINT °F (°C)
- <= 95 (<=35)
- 95 - 100 (35-38)
- 101 - 129 (38-54)
- >= 130 (>54)

MELTING POINT °F (°C)
- < 140 (<60)
- 140-200 (60-93)
- ✔ > 200 (>93)

TOTAL ORGANIC CARBON
- ✔ <= 1%
- 1-9%
- >= 10%

FLASH POINT °F (°C)
- < 73 (<23)
- 73 - 100 (23-38)
- 101 -140 (38-60)
- 141 -200 (60-93)
- > 200 (>93)

pH
- <= 2
- 2.1 - 6.9
- ✔ 7 (Neutral)
- 7.1 - 12.4
- >= 12.5

SPECIFIC GRAVITY
- < 0.8 (e.g. Gasoline)
- 0.8-1.0 (e.g. Ethanol)
- 1.0 (e.g. Water)
- 1.0-1.2 (e.g. Antifreeze)
- ✔ > 1.2 (e.g. Methylene Chloride)

ASH
- ✔ < 0.1
- 0.1 - 1.0
- 1.1 - 5.0
- 5.1 - 20.0
- > 20
- Unknown

BTU/LB (MJ/kg)
- ✔ < 2,000 (<4.6)
- 2,000-5,000 (4.6-11.6)
- 5,000-10,000 (11.6-23.2)
- > 10,000 (>23.2)

Actual:

D. COMPOSITION (List the complete composition of the waste, include any inert components and/or debris. Ranges for individual components are acceptable. If a trade name is used, please supply an MSDS. Please do not use abbreviations.)

CHEMICAL	MIN	–	MAX	UOM
CLAY	80.0000000	–	90.0000000	%
CONCRETE	0.0000000	–	10.0000000	%
LEAD PAINT	0.0000000	–	10.0000000	%
PCB (NON-TSCA)	0.0000000	–	50.0000000	PPM

DOES THIS WASTE CONTAIN ANY HEAVY GAUGE METAL DEBRIS OR OTHER LARGE OBJECTS (EX., METAL PLATE OR PIPING >1/4" THICK OR >12" LONG, METAL REINFORCED HOSE >12" LONG, METAL WIRE >12" LONG, METAL VALVES, PIPE FITTINGS, CONCRETE REINFORCING BAR OR PIECES OF CONCRETE >3")? YES ✔ NO

If yes, describe, including dimensions:

DOES THIS WASTE CONTAIN ANY METALS IN POWDERED OR OTHER FINELY DIVIDED FORM? YES ✔ NO

DOES THIS WASTE CONTAIN OR HAS IT CONTACTED ANY OF THE FOLLOWING; ANIMAL WASTES, HUMAN BLOOD, BLOOD PRODUCTS, BODY FLUIDS, MICROBIOLOGICAL WASTE, PATHOLOGICAL WASTE, HUMAN OR ANIMAL DERIVED SERUMS OR PROTEINS OR ANY OTHER POTENTIALLY INFECTIOUS MATERIAL? YES ✔ NO

I acknowledge that this waste material is neither infectious nor does it contain any organism known to be a threat to human health. This certification is based on my knowledge of the material. Select the answer below that applies:

The waste was never exposed to potentially infectious material. YES NO

Chemical disinfection or some other form of sterilization has been applied to the waste. YES NO

I ACKNOWLEDGE THAT THIS PROFILE MEETS THE CLEAN HARBORS BATTERY PACKAGING REQUIREMENTS. YES NO

I ACKNOWLEDGE THAT MY FRIABLE ASBESTOS WASTE IS DOUBLE BAGGED AND WETTED. YES NO

SPECIFY THE SOURCE CODE ASSOCIATED WITH THE WASTE. *G39* SPECIFY THE FORM CODE ASSOCIATED WITH THE WASTE. *W409*

E. CONSTITUENTS

Are these values based on testing or knowledge? ✔ Knowledge Testing

If based on knowledge, please describe the rationale applied to identify and characterize the waste material (ex., include reference to Material Safety Data Sheets, process considerations, operating procedures).

PCB Non TSCA <50 ppm

Please indicate which constituents below apply. Concentrations must be entered when applicable to assist in accurate review and expedited approval of your waste profile. Please note that the total regulated metals and other constituents sections require answers.

RCRA	REGULATED METALS	REGULATORY LEVEL (mg/l)	TCLP mg/l	TOTAL	UOM	NOT APPLICABLE
D004	ARSENIC	5.0				✔
D005	BARIUM	100.0				✔
D006	CADMIUM	1.0				✔
D007	CHROMIUM	5.0				✔
D008	LEAD	5.0				✔
D009	MERCURY	0.2				✔
D010	SELENIUM	1.0				✔
D011	SILVER	5.0				✔
	VOLATILE COMPOUNDS					
D018	BENZENE	0.5				
D019	CARBON TETRACHLORIDE	0.5				
D021	CHLOROBENZENE	100.0				
D022	CHLOROFORM	6.0				
D028	1,2-DICHLOROETHANE	0.5				
D029	1,1-DICHLOROETHYLENE	0.7				
D035	METHYL ETHYL KETONE	200.0				
D039	TETRACHLOROETHYLENE	0.7				
D040	TRICHLOROETHYLENE	0.5				
D043	VINYL CHLORIDE	0.2				
	SEMI-VOLATILE COMPOUNDS					
D023	o-CRESOL	200.0				
D024	m-CRESOL	200.0				
D025	p-CRESOL	200.0				
D026	CRESOL (TOTAL)	200.0				
D027	1,4-DICHLOROBENZENE	7.5				
D030	2,4-DINITROTOLUENE	0.13				
D032	HEXACHLOROBENZENE	0.13				
D033	HEXACHLOROBUTADIENE	0.5				
D034	HEXACHLOROETHANE	3.0				
D036	NITROBENZENE	2.0				
D037	PENTACHLOROPHENOL	100.0				
D038	PYRIDINE	5.0				
D041	2,4,5-TRICHLOROPHENOL	400.0				
D042	2,4,6-TRICHLOROPHENOL	2.0				
	PESTICIDES AND HERBICIDES					
D012	ENDRIN	0.02				
D013	LINDANE	0.4				
D014	METHOXYCHLOR	10.0				
D015	TOXAPHENE	0.5				
D016	2,4-D	10.0				
D017	2,4,5-TP (SILVEX)	1.0				
D020	CHLORDANE	0.03				
D031	HEPTACHLOR (AND ITS EPOXIDE)	0.008				

OTHER CONSTITUENTS	MAX	UOM	NOT APPLICABLE
BROMINE			✔
CHLORINE			✔
FLUORINE			✔
IODINE			✔
SULFUR			✔
POTASSIUM			✔
SODIUM			✔
AMMONIA			✔
CYANIDE AMENABLE			✔
CYANIDE REACTIVE			✔
CYANIDE TOTAL			✔
SULFIDE REACTIVE			✔

HOCs

✔ NONE
< 1000 PPM
>= 1000 PPM

PCBs

NONE
✔ < 50 PPM
>=50 PPM

IF PCBS ARE PRESENT, IS THE WASTE REGULATED BY TSCA 40 CFR 761?

YES ✔ NO

ADDITIONAL HAZARDS

DOES THIS WASTE HAVE ANY UNDISCLOSED HAZARDS OR PRIOR INCIDENTS ASSOCIATED WITH IT, WHICH COULD AFFECT THE WAY IT SHOULD BE HANDLED?

YES ✔ NO (If yes, explain)

CHOOSE ALL THAT APPLY

DEA REGULATED SUBSTANCE	EXPLOSIVE	FUMING	OSHA REGULATED CARCINOGENS
POLYMERIZABLE	RADIOACTIVE	REACTIVE MATERIAL	✔ NONE OF THE ABOVE

F. REGULATORY STATUS

YES ✔ NO USEPA HAZARDOUS WASTE?

✔ YES NO DO ANY STATE WASTE CODES APPLY?

352

Texas Waste Code

YES ✔ NO DO ANY CANADIAN PROVINCIAL WASTE CODES APPLY?

YES ✔ NO IS THIS WASTE PROHIBITED FROM LAND DISPOSAL WITHOUT FURTHER TREATMENT PER 40 CFR PART 268?

LDR CATEGORY: ***Not subject to LDR***
VARIANCE INFO:

YES ✔ NO IS THIS A UNIVERSAL WASTE?

YES ✔ NO IS THE GENERATOR OF THE WASTE CLASSIFIED AS CONDITIONALLY EXEMPT SMALL QUANTITY GENERATOR (CESQG)?

YES NO IS THIS MATERIAL GOING TO BE MANAGED AS A RCRA EXEMPT COMMERCIAL PRODUCT, WHICH IS FUEL (40 CFR 261.2 (C)(2)(II))?

YES ✔ NO DOES TREATMENT OF THIS WASTE GENERATE A F006 OR F019 SLUDGE?

YES NO IS THIS WASTE STREAM SUBJECT TO THE INORGANIC METAL BEARING WASTE PROHIBITION FOUND AT 40 CFR 268.3(C)?

YES ✔ NO DOES THIS WASTE CONTAIN VOC'S IN CONCENTRATIONS >=500 PPM?

YES NO DOES THE WASTE CONTAIN GREATER THAN 20% OF ORGANIC CONSTITUENTS WITH A VAPOR PRESSURE >= .3KPA (.044 PSIA)?

YES ✔ NO DOES THIS WASTE CONTAIN AN ORGANIC CONSTITUENT WHICH IN ITS PURE FORM HAS A VAPOR PRESSURE > 77 KPA (11.2 PSIA)?

YES ✔ NO IS THIS CERCLA REGULATED (SUPERFUND) WASTE ?

YES ✔ NO IS THE WASTE SUBJECT TO ONE OF THE FOLLOWING NESHAP RULES?

Hazardous Organic NESHAP (HON) rule (subpart G) Pharmaceuticals production (subpart GGG)

YES NO IF THIS IS A US EPA HAZARDOUS WASTE, DOES THIS WASTE STREAM CONTAIN BENZENE?

YES NO Does the waste stream come from a facility with one of the SIC codes listed under benzene NESHAP or is this waste regulated under the benzene NESHAP rules because the original source of the waste is from a chemical manufacturing, coke by-product recovery, or petroleum refinery process?

YES NO Is the generating source of this waste stream a facility with Total Annual Benzene (TAB) >10 Mg/year?

What is the TAB quantity for your facility? Megagram/year (1 Mg = 2,200 lbs)

The basis for this determination is: Knowledge of the Waste Or Test Data Knowledge Testing

Describe the knowledge :

G. DOT/TDG INFORMATION

DOT/TDG PROPER SHIPPING NAME:

NONE, NON RCRA HAZARDOUS WASTE SOLIDS, (CONCRETE AND CLAY), N/A

H. TRANSPORTATION REQUIREMENTS

ESTIMATED SHIPMENT FREQUENCY ✔ ONE TIME WEEKLY MONTHLY QUARTERLY YEARLY OTHER

✔ **CONTAINERIZED**

1-2 CONTAINERS/SHIPMENT

STORAGE CAPACITY:
CONTAINER TYPE:

CUBIC YARD BOX PALLET
TOTE TANK ✔ DRUM
OTHER:

DRUM SIZE: *55*

BULK LIQUID

GALLONS/SHIPMENT: ***0 Min -0 Max*** GAL.

BULK SOLID

SHIPMENT UOM: TON YARD

TONS/YARDS/SHIPMENT: ***0 Min - 0 Max***

I. SPECIAL REQUEST

COMMENTS OR REQUESTS:

GENERATOR'S CERTIFICATION

I hereby certify that all information submitted in this and attached documents is correct to the best of my knowledge. I also certify that any samples submitted are representative of the actual waste. If Clean Harbors discovers a discrepancy during the approval process, Generator grants Clean Harbors the authority to amend the profile, as Clean Harbors deems necessary, to reflect the discrepancy.

AUTHORIZED SIGNATURE	NAME (PRINT)	TITLE	DATE
Agent for LMS	Neal Siler	Div. Env Mgr	10/06/09

APPENDIX E

Response to Agency Comments on the Draft Site Characterization and Cleanup Action Summary Report

Response to Agency Comments on the
Draft Site Characterization and Cleanup Action Summary Report for Building 84 PCB Mezzanine Site, Investigation Area D1.3
Eastern Early Transfer Parcel, Mare Island, Vallejo, California

Comments from the California Environmental Protection Agency, Department of Toxic Substances Control (DTSC) dated September 3, 2010

Comment Number	Agency Number	Comment	Response
1.	DTSC-1	The report was prepared under the supervision of a California Professional Engineer. Please have the professional engineer in responsible charge stamp his certification statement.	The professional engineer in responsible charge has stamped the report.
2.	DTSC-2	Page 2-6, Section 2.1.2, Paragraph 4. Please clarify whether the regulatory agencies have concurred that the cleanup of PCB Site AL#01 has been completed since the cleanup was to residential cleanup goals.	The cleanup activities for PCB Site Building 84 AL#01 are summarized in the report titled *PCB Site Building 84 AL#01 Cleanup Activities and Indoor Air Polychlorinated Biphenyl Screening, Lennar Mare Island, Vallejo, California.* This report was prepared by CH2M HILL and submitted to DTSC on August 28, 2007. DTSC provided a response on November 20, 2007. For clarification, the following sentence has been added to the end of the concluding paragraph in section 2.1.2: "These results are summarized in the report titled *PCB Site Building 84 AL#01 Cleanup Activities and Indoor Air Polychlorinated Biphenyl Screening, Lennar Mare Island, Vallejo, California* (CH2M HILL, 2007), however a closure request for PCB Site Building 84 AL#01 has not been submitted to the agencies."
3.	DTSC-3	Page 3-1, Section 3.3, Paragraph 1. It appears that there is an interior lead-based paint issue that needs to be addressed. Please clarify whether this paint contained PCBs. Some lead-based paints contained PCB (>10,000 mg/kg) to improve the covering ability of the paint and/or to improve the elasticity characteristics of the paint to prevent cracking.	Consistent with the approach used at other buildings throughout the EETP, LMI will address the lead-based paint inside Building 84 prior to the reuse of the building, as part of LMI's standard asset management activities. Paint chips were not analyzed. They were disposed as a hazardous waste in the permitted landfill located in Buttonwillow, California, based on LMI's knowledge that paint chips generally contain lead. Thus, the waste characterization was based on prior knowledge rather than chemical analyses.

Response to Agency Comments on the Draft Site Characterization and Cleanup Action Summary Report for Building 84 PCB Mezzanine Site, Investigation Area D1.3 Eastern Early Transfer Parcel, Mare Island, Vallejo, California			
4.	DTSC-4	Page 3-2, Paragraph 1. Please clarify how much grout (in either cubic yards or tons) was removed. Please also clarify whether any concrete underlying the grout was removed.	The total weight of the disposed waste was 8.25 tons. The approximate volume of material removed was 5.8 cubic yards. The concrete beneath the grout overlay was not removed, and the verification samples were collected from the concrete beneath the removed material. Section 3.3 of the report has been updated to include these numbers, as requested. The paragraph now reads: "During the scarification, it was determined that a grout overlay covered the concrete floor. The thickness of the overlay varied across the floor, ranging from about 0.25 inches up to 1.5 inches. Although initially the process of scarification was to only remove 0.25 inches of the floor surface (approximately 36- by 60-feet), the grout overlay easily sheared away from the underlying concrete floor, and it was not possible to control the depth of removal within the overlay. It was therefore determined that removal of the entire overlay would be necessary. The underlying concrete was not scarified or removed during the activities. The vacuum truck was used to remove the concrete and water waste from the mezzanine floor after the scarification process was complete. All waste was stored in 55-gallon DOT 17E/H drums. Approximately 5.8 cubic yards, or 8.25 tons of material was removed from the mezzanine floor. Field notes are included in Appendix B."
5.	DTSC-5	Quality Assurance/Quality Control Issues. The text should discuss any quality assurance/quality control issues noted. A few issues and questions were raised during the spot checking of the laboratory analytical data reports. Please clarify whether additional problems were noted as part of the QA/QC evaluation.	A data validation report is contained in Appendix D, and discusses all quality assurance/quality control issues that were noted during the data validation. The last sentence of Section 3.4 has been modified to state that all quality assurance/quality control issues are noted and addressed in Appendix D. Specific responses are provided below for DTSC comments 5a, 5b, and 5c.
a.	DTSC-5a	The chain-of-custody form for samples delivered to the laboratory on February 5, 2009 at 3 p.m. (Laboratory number 209794) did not contain a sample date for the 19 samples collected.	See Appendix D, pg 4 of the Tier II Data Validation Report Summary for Laboratory Report 209794 in the Validation Criteria Checklist Table, Item 3, which was prepared by Trihydro Corporation, under subcontract to Remedy Engineering. Following receipt of the samples, the laboratory found that the dates were not on the chain of custody documents. The laboratory contacted the sampler who supplied a signed affidavit as to the date of the sample collection. The affidavit is included in Appendix B with the field notes from that day and in Appendix D with the data validation report. In the electronic version of the document, please see the validation criteria checklist table on page 118

			and the signed affidavit on page 121. The following paragraph has been added to Section 2.1.3: "Trihydro Corporation (Trihydro) conducted data validation of the analytical results. Validation of the data indicated that the chain-of-custody was complete from the field to the laboratory and that custody was maintained with proper signatures. However, the sample collection date was not listed on the chain-of-custody. The laboratory found this error during the cooler check-in process and contacted the field sampler. The field sampler sent an affidavit confirming the sample date; the affidavit is included with the chain-of-custody. All data were validated and deemed acceptable; the data validation report is also included in Appendix C."
b.	DTSC-5b	The cooler receipt checklist for samples collected on October 6, 2009 (Laboratory number 215476) noted that samples were received on ice directly from the field with a measured temperature of 17°C. According to the chain-of-custody form, the last sample was collected at 12:15 p.m., the samples were delivered to the laboratory at 5 p.m. This should have been sufficient time for the samples to cool below 62.6°F. Please clarify what impact, if any, this could have on the data quality.	See Appendix D, pg 3 of the Tier II Data Validation Report Summary for Laboratory Report 215476 in the Validation Criteria Checklist Table, Item 6. During validation of the data, the temperature of the cooler was noted and it was determined acceptable because the sample matrix was concrete and the samples were delivered to the laboratory immediately after collection. In the electronic version of the document, please see the validation criteria checklist on page 145. The following paragraph has been added to Section 3.4: "Trihydro Corporation (Trihydro) conducted data validation of the analytical results. The data validation report indicates that the samples were received at the lab above the recommended 4°C +/- 2°C. The cooler temperature upon arrival at the lab was at 17°C. Before the samples were removed from inside the building where they were collected, the sample jars were placed back inside the cardboard box they were originally shipped in and the box was placed in the cooler on top of the packing and ice. This packing arrangement may have inhibited a more rapid cooling of the samples. The data validation report concluded that the temperature was acceptable because the sample matrix was concrete and because the samples were hand delivered to the laboratory by the field sampler following sample collection. In addition, the laboratory noted on the "cooler receipt checklist" form that the "samples were received on ice directly from the field" and that the "cooling process had begun". The data validation report found no other issues with the analytical results. All data were validated and deemed acceptable; the data validation report is also included in Appendix C."
c.	DTSC-5c	Please clarify how the puff cartridge samples were handled and stored between January 12, 2010 and	Although it was not detailed in the field notes, the field sampler verified that the puff cartridge samples were placed in a cooler in ice following collection on January 12, 2010. The samples

		January 13, 2010.	remained in the possession of the field sampler at all times, and ice was replenished throughout the period when the first puff cartridge sample was collected and when the final puff cartridge sample was collected. An affidavit of confirmation from the field sampler has been included with the field notes in Appendix B.