POLYCHLORINATED BIPHENYLS NOTIFICATION PLAN

Former Pechiney Cast Plate, Inc. Facility

Vernon, California

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POLYCHLORINATED BIPHENYLS NOTIFICATION PLAN
Former Pechiney Cast Plate, Inc Facility
Vernon, California

1.0 INTRODUCTION

AMEC Geomatrix, Inc. (AMEC; formerly Geomatrix Consultants, Inc. [Geomatrix]), is providing this Polychlorinated Biphenyls (PCBs) Notification Plan (PCBNP) for the below grade demolition and remediation work proposed for the Pechiney Cast Plate, Inc. (Pechiney) facility (Vernon facility or Site) located at 3200 Fruitland Avenue in Vernon, California (Figure 1).

This document has been prepared as notification to the United States Environmental Protection Agency (U.S. EPA) in compliance with the Code of Federal Regulations (CFR), Title 40, Subchapter R, Toxic Substances Control Act (TSCA), Part 761 (40 CFR 761) including applicable amendments (June 29, 1998, 40 CFR Parts 750 and 761, Disposal of Polychlorinated Biphenyls, Final Rule), that includes provisions for a risk-based disposal application for on-Site remediation of PCB releases and disposing of PCB-remediation waste (soil and concrete). The primary PCB-remediation waste associated with this project is concrete and soil containing PCBs.

This plan presents the following information:

- collection and analysis of concrete and soil characterization samples;
- delineation of areas with PCB-impacted concrete and soil;
- evaluation of potential human health risks related to potential future site user's exposure to the PCB-containing concrete and soil and development of PCB risk-based remediation goals;
- delineation of areas with PCB impacted concrete and soil exceeding the risk-based remediation goals;
- approach and techniques that will be used for removal and handling of PCB-impacted materials and/or PCB remediation waste during below grade demolition;
- collection and analysis of post-below grade demolition and remediation samples; and
- plan certification.

In addition to information contained in this PCBNP, a summary of the site history, previous investigations, site-wide human health risk assessment (HHRA) for all chemicals of potential concern (COPCs) at the Site (including PCBs), remedial action objectives, remedial alternative screening process and selection, and proposed preferred remedial alternatives selected are

described in the Feasibility Study (FS) and Remedial Action Plan (RAP) (FS/RAP; Geomatrix 2008) submitted to U.S. EPA and the Department of Toxic Substances Control (DTSC). Pursuant to TSCA, U.S. EPA provides the approval related to the risk-based remediation of PCB releases and disposing of PCB remediation waste (soil and concrete) at this Site. DTSC provides the approval for implementation of the site-wide RAP. The RAP not only addresses PCB-impacted concrete and soil, but it also addresses soil and soil vapor impacted with volatile organic compounds (VOCs), soil impacted with metals (predominantly arsenic), and Stoddard solvent. The FS/RAP was prepared using the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) Remedial Investigation/Feasibility Study (RI/FS) guidance (U.S. EPA, 1988). Implementation of the site-wide RAP will be subject to a DTSC approval of the RAP and issuance of an Order and U.S EPA approval for the risk-based remediation and disposal of PCBs.

The FS/RAP was prepared using 40 CFR 300, also known as the National Contingency Plan (NCP), and appropriate guidance documents developed by the United States Environmental Protection Agency. Based on NCP 40 CFR 300.430(d)(1), potential future exposure scenarios were used to develop site-specific risk-based remediation goals; including those described in this PCBNP for PCBs. The risk-based remediation goals were based on evaluating several exposure scenarios, including exposures related to future construction activities and future commercial/industrial Site use.

1.1 BACKGROUND

The Site was once part of a 56-acre aluminum manufacturing facility operated by Alcoa. The historical and current Site plans of the former Alcoa facility are shown on Figures 2 and 3, respectively. Alcoa's operations at the Site reportedly began in approximately 1937. Previous manufacturing at the Site included production of high-precision cast aluminum plates. In approximately 1997, Alcoa sold the eastern half of its facility, which subsequently was razed, subdivided, and redeveloped for industrial and commercial uses. In December 1998, Alcoa sold the western portion of the facility (3200 Fruitland Avenue) to Century Aluminum Company. In 1999, Pechiney purchased the Site. The present day Site lies within an area zoned as industrial and commercial and covers an area of approximately 26.9 acres. The concrete floor slabs on the Site occupy approximately 600,000 square feet. The remainder of the Site is paved with asphalt (Figure 3). The Site is proposed for use as a power generating facility with high occupancy areas (office buildings) and low occupancy areas (power generating units, parking lots, storage areas, etc. [Figure 3]) or for other commercial/industrial Site use.

The Site was used to manufacture high-precision cast aluminum plates. As part of the aboveground demolition work completed in November 2006 at the Site, the above-ground

features, including the former manufacturing facilities, were demolished, and the debris was transported off-site for disposal or recycling. The procedures for the remaining demolition work related to the removal of building slabs, pavements, and below-grade man-made structures (including footings, foundation, pits, and sumps) and other structures located adjacent to the former building areas are described in the Below Grade Demolition Plan (Geomatrix, 2006b). The feasibility and procedures for remediating PCB-impacted concrete slabs and soils is described in the FS/RAP; while the information specific information related to the handling, management and testing of concrete and soil during the below-grade demolition work is presented in the PCBNP.

Historically, various hydraulic fluids that may have contained PCBs were reportedly in equipment used for the aluminum manufacturing process and dielectric fluids in former electrical transformers. Documentation regarding the specific source of the hydraulic fluids is not available or known to the current owner of the Site (Pechiney), although the locations of various large, hydraulic and extrusion machinery and manufacturing activities performed in various portions of the Site are known based on historical facility drawings. Dielectric fluids historically used at the Site may have been manufactured by Monsanto. Furthermore, Pechiney as the current owner of the Site since 1999 did not use PCB-containing hydraulic oil as part of its manufacturing operations or PCB-containing dielectric fluids.

Based on the June 1998 amendments to 40 CFR 761, PCB-remediation waste can be managed based on its PCB concentration rather than the original PCB source concentration; and Pechiney is planning to manage the PCB-remediation waste in accordance with these amendments to 40 CFR 761.

1.2 PURPOSE AND OBJECTIVES

The purpose of this work is to remove the concrete floor slabs and below grade concrete structures and features, and to remediate soils impacted with chemicals of concern (COCs; including metals) as described in the FS/RAP. Although other COCs detected in soil at the Site require mitigation, this PCBNP only addresses PCBs detected in concrete and soil.

The objectives of the activities conducted under this PCBNP include the removal and disposal of PCB remediation waste generated during the below grade demolition and soil removal work. Work conducted under this PCBNP will first address the concrete floor slabs containing PCBs, followed by the removal and management of selected below-grade deeper structures and soils containing PCBs, and the reuse of concrete containing PCBs as fill at the Site. Portions of the concrete slabs located in the vicinity of former hydraulic or electrical equipment are known from previous characterization testing to be impacted with PCBs at concentrations greater than 50 milligrams per kilogram (mg/kg). The extent to which concrete or soil impacted with

PCBs will be removed from the Site will depend on U.S. EPA's approval of this proposed risk-based application. The proposed risk-based disposal of bulk PCB-remediation waste is summarized below. A screening-level HHRA to support the proposed risk-based remediation, removal, and reuse goals for concrete and/or soil is described in Section 4.0 of this PCBNP, with potential impacts to groundwater evaluated as part of the HHRA in Section 4.3. The risk assessment considered future site activities, including power plant construction workers and future commercial/industrial workers at the Site.

Based on the anticipated power plant construction requirements and the depth of associated foundations to support the power plant, future site worker exposure to soil containing PCBs and the reuse of concrete containing PCBs as fill soils was evaluated to a depth of 15 feet (referred to as shallow soils). The risk-based decision process also considers the issuance of a land use deed covenant to restrict residential development at the Site and use of groundwater underlying the Site. The proposed site-specific risk-based remediation goals for concrete and soil containing PCBs are summarized below.

Concrete

Based on the site-wide characterization data, some of the concrete floor slabs, footings, foundations and transformer pads contain PCBs at varying concentrations, some of which were above risk-based remediation goals. The proposed remediation goals for concrete containing PCBs include the following.

- concrete (in its crushed form) containing PCBs at a concentration less than or equal to 1 mg/kg may be reused any where on site with no restrictions, including high occupancy areas (40 CFR 761.61(4)(i)(A)). This criterion applies to the majority of the concrete remaining at the Site;

- concrete (in its crushed form) containing PCBs at a concentration greater than 1 mg/kg and less than 5.3 mg/kg may be reused any where on site; and

- concrete containing PCBs at a concentration greater than or equal to 5.3 mg/kg will be removed from the Site as a waste for off-site disposal as described in the FS/RAP. Concrete containing PCBs at concentrations greater than 50 mg/kg will be managed as a TSCA waste. Concrete in these areas will be removed and disposed offsite at an appropriate TSCA landfill.

Soil

Based on the site-wide characterization data, soil beneath concrete floor slabs and transformer pads contain PCBs at varying concentrations, some of which are above risk-based remediation goals. Subsurface soils containing PCBs have been identified in localized areas, not all of which can be correlated to surface concrete exhibiting high concentrations of PCBs or specific historical operation. The proposed remediation goals for soil containing PCBs include:

- surface soil containing Aroclor-1254 at concentrations greater than or equal to 2.0 mg/kg is proposed for removal (in the upper 5 feet);

- surface soil containing total PCBs at concentrations of less than 5.3 mg/kg may be left exposed at the surface (in the upper 5 feet);

- shallow soil containing total PCBs concentrations of less than or equal to 35 mg/kg may be left below pavement or other ground cover that only power plant construction workers may come into contact with during construction (between depths of 5 and 15 feet); and

- soils containing PCBs at depths greater than 15 feet will remain in place; regardless of the concentration.

The removal activities described herein will be performed in accordance with U.S. EPA's risk-based application for PCB-remediation waste pursuant to 40 CFR 761.61(A and C) (latest edition).

2.0 SITE CHARACTERIZATION

For the purposes of this PCBNP, this section includes a summary of the PCB site characterization data collected during previous investigations and remediation activities at the Site as specified in 40 CFR 761.61 (A)(2). The collection of PCB characterization data for concrete and soil was conducted under separate investigations under the oversight of the City of Vernon Health & Environmental Control (H&EC). The first phase of characterization sampling and analysis was conducted on behalf of Alcoa by Geraghty and Miller, Inc. (GM) in 1990, by McCulley, Frick & Gilman (MFG) in 1998, and Morrison Knudsen Corporation (MKC) in 1995. Based on these data, Alcoa also completed PCB-remediation activities at the Site. The second phase of characterization sampling was conducted on behalf of Pechiney by Geomatrix in 2005 thorough 2006 during the Phase II and Supplemental Phase II remedial investigations (Geomatrix 2006a; 2006b) and above grade demolition work (Geomatrix 2006e).

2.1 PREVIOUS SITE CHARACTERIZATION

Previous concrete and soil characterizations were conducted on-site by consultants to Alcoa and were related to the closure of Alcoa's facilities and operations on and east of the Site (including Alcoa's closure of its City of Vernon H&EC hazardous materials permit). Previous characterization activities included the collection and analysis of bulk concrete and soil samples for PCBs between 1990 and 1999. Concrete data are summarized in Table 1 and soil data are summarized in Table 2. These data are also graphically displayed on Figures 4 and 5a/5b, respectively.

2.1.1 Previous Concrete and Soil Sampling Methods

The methods used for concrete and soil sampling conducted by previous consultants to Alcoa are not entirely known. Most of the available information consists of drilling method (hollow-stem auger, direct push, and hand auger), sample location, discrete sample depths, material sampled, analytical methods, and the analytical results. Also, the specific depth of bulk concrete core samples collected during the GM and MFG investigations are not known; but the core samples collected during the MFG investigation were reported to be 2-inches in diameter (MFG, 1998).

Concrete bulk samples were previously collected at 32 locations within the footprint of the manufacturing building (sample identifications "C-number" and "B-number") as shown on Figure 4. Soil samples collected for PCB analyses on behalf of Alcoa were collected from several areas of the Site, as listed below, and as shown on Figures 5a and 5b:

- at former storm water outfall #6 at the discharge point located near the property boundary southwest of the cooling tower;
- at former storm water outfall #7 located west of Building 104;
- adjacent to substation concrete transformer pads (Substations 1, 2, 5, and 8);
- near the former north bottle bay, press pits, south bottle bay, and extrusion press and pumps in Building 106 and at a condenser pad located outside the northwest corner of Building 106;
- along the north side of the hot well near the former cooling tower;
- at the former inert-waste disposal pit located west of Building 112A and south of the cooling tower; and
- near the tube mill Stoddard dip tanks and vault, scalper/planar machine, and former tube reducer sump in Building 112A.

The earlier Alcoa concrete and soil samples were analyzed for PCBs using U.S. EPA Method 8080 and 8081; while the samples collected during the investigation conducted by MFG were analyzed for PCBs using U.S. EPA Method 8082. The analytical results for these samples are described in Section 2.1.2.

2.1.2 Previous Analytical Results

The previous site characterization work identified PCB impacts to concrete floor slabs and subsurface soils. The type and extent of PCB detections in each sampling matrix are discussed below. The analytical results for the concrete and soil samples are graphically shown on Figures 4 and 5a/5b, respectively.

Concrete Floor Slab Samples

Alcoa investigations included the collection of 34 bulk concrete core samples. In these samples, PCBs were detected above the detection limit of 0.033 mg/kg in 25 of the 32 samples at concentrations ranging from 0.033 to 71 mg/kg (sample identification C-3 collected in Building 106). Limited information is available regarding two additional concrete samples collected in 1990 by GM, at sample locations B3-4 (Building 110) and B3-7 (Building 112). PCBs were detected in these two concrete samples at 79 and 96 mg/kg, respectively, using EPA Method 8080.

Soil Samples

The Alcoa investigation also included the collection of soil samples from 362 discrete locations for analysis of PCBs by EPA Methods 8080 and 8082. In these soil samples, PCBs were detected above the detection limits in 107 of the 362 samples at concentrations ranging from 0.051 mg/kg to 150 mg/kg. The higher PCB concentrations were observed in soil near Press Pit #2 (Building 106), storm water outfalls #6 and #7, the former cooling tower, and the inert-waste disposal pit. Aroclors 1248 and 1254 were the primary PCB congeners detected in the samples collected on behalf of Alcoa.

Based on soil data collected from these areas, consultants to Alcoa performed PCB-soil remediation activities described in Section 2.2. With the exception of the work performed by Alcoa at Building 114 (as describe in Section 2.2 below), concrete containing PCBs remained in placed, and in some cases the concrete subfloor was capped with new concrete.

2.2 PREVIOUS PCB REMEDIATION ACTIVITIES

Based on the Alcoa characterization data, consultants to Alcoa previously conducted remediation activities in specific areas of the Site containing PCB-impacted soil under the direction of the City of Vernon H&EC. These remediation activities are briefly described below and the locations are shown on Figure 6.

- 1991 – PCB characterization and remediation activities at former Building 114 (present day parking lot located along Fruitland Avenue) were conducted by Alcoa under a U.S. EPA consent agreement. Remediation activities included hazardous building materials removals and/or mitigation (specifically PCB-impacted concrete removal work and/or capping) and soil removal in a number of Site areas.

According to Ursic (1999b), U.S. EPA approved the PCB remediation work at Building 114 in December 1991.

- December 1998 – Excavation of PCB- and petroleum hydrocarbon-impacted soil was performed in conjunction with the removal of an inert-waste disposal pit located west of Building 112A and south of the cooling tower. The maximum excavation depth was 45 feet. Soil removal was terminated due to the proximity of the railroad tracks along the south and west sides of the excavation. The area was backfilled with clean soil and road base and capped with concrete (A.J. Ursic Jr., 1999a).

- January 1999 – Excavation of PCB-impacted soil was performed near storm water outfall #7 located west of Building 104. The maximum excavation depth was 6 feet. The area excavated was limited by the presence of the adjacent sidewalk, building structures, and railroad tracks. The area was backfilled and capped with road base (A.J. Ursic Jr., 1999b).

- April 1999 – Excavation of PCB-impacted soil was performed at the discharge point of storm water outfall #6 located southwest of the cooling tower. The maximum excavation depth was 2 feet. The area was backfilled and capped with road base (A.J. Ursic Jr., 1999a).

- April 1999 – Excavation of PCB-impacted soil was performed adjacent to the hot well along the north side of the cooling tower. The maximum excavation depth was 3 feet. The area was backfilled and capped with road base (A.J. Ursic Jr., 1999a).

- May 1999 – Excavation of PCB-impacted soil was performed in conjunction with removal of a former condenser pad located outside the northwest corner of Building 106. The maximum excavation depth was 2 feet. The area was backfilled with native soil and capped with concrete (A.J. Ursic Jr., 1999b).

- June 1999 – Excavation of PCB-impacted soil was performed in conjunction with the removal of a French drain in Press Pit #2 located in Building 106. The maximum excavation depth was 7 feet. The area was backfilled and capped with concrete (A.J. Ursic Jr., 1999b).

- July 1999 – Cleaning (steaming) and capping of PCB-impacted concrete was performed in a 40-square foot area of subfloor in Building 106 (A.J. Ursic, Jr., 1999b). This work was performed to address the area where a single concrete core (sample location C-3; Table 1) was observed to contain PCBs at a concentration of 71 mg/kg (MFG, 1998).

The areas described above where previous remediation activities occurred, including approximate horizontal limits of the excavation, excavation depth, and remaining concentrations of PCBs in soil, are shown on Figure 6. PCB samples results that coincide with areas of soil removal are noted in Table 2 as “Excavated.”

2.3 RECENT SITE CHARACTERIZATION

Based on the findings of the previous characterization sampling, removal actions performed by Alcoa, and information related to the operational history of the former facility, additional concrete and soil characterization sampling was conducted by Geomatrix on behalf of Pechiney during implementation of the Site remedial investigations. The recent remedial investigations involved collection and analysis of additional concrete and soil characterization samples in 2005 and 2006 (Geomatrix 2006b; 2006d). Additional PCB-characterization sampling and analysis of the concrete building slabs and concrete transformer pads were performed during and after above-grade demolition work in 2006. The PCB-concrete and soil characterization data are summarized in Tables 1 and 2, respectively. These data are also presented graphically on Figures 4 and 5a/5b.

2.3.1 Recent Sampling Procedures

The methods of concrete and soil sampling are described below.

Geomatrix Concrete Slab Sampling

In addition to the concrete characterization data collected by Geomatrix during the site remedial investigations (sample identification number, e.g. #3), additional concrete sampling was conducted in 2006 using a systematic grid approach (sample identification beginning with "DC-number"). The grid sampling approach, modeled after the requirements for Self-Implementing PCB Cleanups (40 CFR 761.130), was used because the sampling requirements specified in 40 CFR 761.120(a) Subpart G do not apply to spills that occurred prior to May 4, 1987. The grid sampling approach was set up along the following parameters.

- A grid spacing of approximately 80 feet by 160 feet (approximately 13,000 square feet per grid) was used in Buildings 108, 112, and 112A where PCB concentrations were previously detected below 10 mg/kg and typically below 2 mg/kg.
- A denser sampling grid of approximately 80 feet by 120 feet (approximately 10,000 square feet) was used in the remaining areas of Buildings 104 and 106, where concentrations of PCBs were detected in concrete above 50 mg/kg.
- An approximate 20 foot by 20 foot (approximately 400 square feet) and 10 foot by 10 foot (approximately 100 square feet) grid spacing was used at several locations in Building 104 and Building 106 to further assess the extent of PCBs detected in initial concrete samples or from the initial grid sampling.

The sampling scheme developed by Midwest Research Institute (MRI), referenced in 40 CFR 761.130(e), was reviewed and found not to be directly applicable to the scope of this project. The maximum number of samples proposed by the MRI approach is 37 samples, but we do not believe that quantity of samples is adequate for this project given the size of the former facility. The sampling grids provided 204 new sample locations for analysis of PCBs in

addition to the 51 previous sample locations analyzed for PCBs. These data provided sufficient information for characterization and delineation of the PCB-impacted concrete.

The grid configuration was selected based on the building layout and column spacing to facilitate the sampling effort, with one sample collected from each grid. Additional characterization samples were not collected from grids where previous PCB analytical data were available. The sample location within the grid was selected based on staining observed on the concrete surface. When staining was not observed, the sample was collected from approximately the middle of the grid. At 20-foot grid locations, when the samples from any perimeter grid exceeded 1 mg/kg, the grid was extended another 20 feet in that direction until a total PCB concentration of less than or equal to 1 mg/kg was observed.

The concrete samples were collected within Buildings 104, 106, 108, 110, 112, and 112A and from former Substations 1, 2, 5, and 8. The majority of the Geomatrix bulk concrete samples were collected from cores measuring approximately 1.2-inches in diameter to a maximum depth of 3-inches into the concrete slab. The sampling method described is in general conformance with TSCA protocols. The concrete characterizations samples were chilled and shipped under chain of custody to the laboratory for crushing and analysis of PCBs using U.S. EPA Method 8082. At locations where the detection of PCBs was expected, the bulk sample was divided into a top ("A") and bottom sample ("B"), each representing 3 inches of both the top and bottom of the concrete slab, respectively. If the cores exhibited visible staining in the bottom portion of the core, it also was analyzed. At a few core locations, multiple layers of concrete were observed and these cores were subdivided horizontally for each layer, beginning with the top layer as "A" and the underlying layers as "B," "C," and "D."

Geomatrix Transformer Concrete Pad Sampling

Former Substations 2 and 5 were approximately 20 feet by 40 feet in size, former Substation 8 was approximately 30 feet by 60 feet in size, and Substation 1 was approximately 25 feet by 100 feet size. The concrete transformer pad sampling at the substations included 13 concrete samples; with three samples each collected concrete pads of former Substations 1, 5, and 8, and four samples collected from the concrete pad former Substation 2. The same sampling approach discussed for concrete floor slabs was used for the transformer pad characterization. These samples were chilled and shipped under chain of custody to the laboratory for crushing and analysis of PCBs using U.S. EPA Method 8082.

In addition to concrete, soil samples were collected near each substation and analyzed for PCBs. Analytical results for the concrete and soil samples collected as part of the transformer concrete pad characterization are discussed in Section 2.5.2.

Geomatrix Soil Sampling

The Geomatrix soil samples were collected from discrete depths during drilling using a hand auger, direct-push sampler, and/or a California-modified split-spoon sampler. Soil boring locations were selected for testing based on historical Alcoa operations and the finding of the previous concrete and soil characterization sampling results described in Section 2.1. Initial sample locations targeted areas suspected to contain PCBs (based on past operations, equipment, or data collected by Alcoa). Geomatrix collected soil samples for PCB analyses from several areas of the Site, as listed below, and as shown on Figures 5a and 5b:

- at former storm water outfalls #6 and #7;
- adjacent to the former substation transformer pads (1, 2, 5, and 8);
- near former extrusion machine and equipment pits within Buildings 106, 108, 110 and 112;
- in the vicinity of a vertical pit and former vertical pits within Building 104;
- near a former saw with Building 104; and
- along the north side of the hot well near the former cooling tower.

The Geomatrix soil characterization samples were chilled and shipped under chain of custody to the laboratory for analysis of PCBs using U.S. EPA Method 8082.

2.4 RECENT ANALYTICAL RESULTS

The site characterization work has identified the following materials as impacted by PCBs:

- concrete floor slab;
- transformer concrete pads; and
- subsurface soils.

The type and extent of PCB detections in each sampling matrix are discussed below. The analytical results for the concrete and soil samples are graphically shown on Figures 4 and 5a/5b. Analytical laboratory reports from these recent characterization investigations are available in previous reports and can be provided upon request.

2.4.1 Concrete Floor Slab

The Geomatrix investigation included the collection of 28 bulk samples from 19 locations as part of the Phase II (Geomatrix, 2006a) and Phase II Supplemental (Geomatrix, 2006d) remedial investigation work and 204 samples from 186 locations as part of the grid sampling

work. The Geomatrix bulk sample locations were selected based on the highest likelihood of impact from former equipment and/or operations and as indicated by previous Alcoa sampling results as high-impact areas and from the grid sampling approach describe in Section 2.4.

In samples collected by Geomatrix during the Phase II and Phase II Supplemental work, PCBs were detected at concentrations above the detection limits in 20 of the 28 samples. Although the detection limits varied from 0.1 to 20 mg/kg (in core sample #41, the detection limit was 400 mg/kg due to an elevated PCB detection), PCB concentrations ranged from 0.1 to 3,300 mg/kg. Four samples had detected PCB concentrations greater than 10 mg/kg, at 11, 32, 120, and 3,300 mg/kg. The primary PCB congener detected in these samples was Aroclor 1248.

In samples collected by Geomatrix as part of the grid sampling work described previously in Section 2.4, PCBs were detected at concentrations above the detection limits in 106 out of 204 samples. Although the detection limits varied from 0.20 to 0.66 mg/kg, PCB concentrations ranged from 0.24 to 1,400 mg/kg. Twenty-one samples contained PCB concentrations greater than 10 mg/kg with concentrations ranging from 11 to 1,400 mg/kg. The primary PCB congener detected in these samples was Aroclor 1248.

The highest concentrations of PCBs were detected in concrete floor samples collected from Building 104 (also known as the Cast House) in the vicinity of a former saw. A PCB concentration of 3,300 mg/kg was detected at sample location #41 in the top 1.5-inch portion of the 3-inch concrete core collected by Geomatrix. The concentration in the bottom portion of the Geomatrix sample was lower by an order of magnitude (one-tenth) with a concentration of 120 mg/kg. In addition, core sample C-28 collected by MFG in this area contained PCBs at a concentration of 30 mg/kg. In the nearest concrete samples (approximately 20 feet away), the PCB concentrations were several orders of magnitude lower, ranging from 0.17 mg/kg to 5.6 mg/kg.

In summary, the highest concentration of PCBs in concrete was detected in the Building 104. PCBs were also detected in three concrete samples at concentrations above 50 mg/kg in northern portion of Building 106. PCBs concentrations in the remaining bulk concrete samples collected in Buildings 112 and 112A were at or below 10 mg/kg.

2.4.2 Concrete Transformer Pads

The concrete transformer pads were not characterized during previous investigations due to the safety hazards associated with sampling in close proximity to energized electrical equipment. During the above grade demolition work, the concrete pads from Substations 1, 2, 5, and 8 were characterized. The soil adjacent to the pads was characterized during previous

investigations and Geomatrix investigations. The characterization results of these concrete pad and soil samples are summarized in the following paragraphs.

Concrete Samples

The concrete pad characterization included the collection and analysis of 13 concrete samples, including the collection of three samples each of the four former transformer pads at Substations 1, 5, and 8, and four samples from former transformer pad at Substation 2. PCBs were detected above the detection limits (which varied from 0.20 mg/kg to 0.68 mg/kg) in three of the 13 samples at concentrations ranging from 0.40 mg/kg to 0.84 mg/kg; with one sample (DC-37) containing PCBs at a concentration of 1.22 mg/kg. Aroclor 1260 was the primary PCB congener detected in the samples.

With the exception of sample DC-37 collected at former transformer pad at Substation 2, the concentrations of PCBs detected in the concrete pad samples were below 1 mg/kg. For confirmation, a second concrete pad sample was collected adjacent to DC-37, and the PCB concentrations were reported to be not detected at 0.12 mg/kg (sample DC-129; Figure 4).

Soil Samples

The soil characterization sampling near the concrete pads included the collection and analysis of 29 samples from 14 borings; which included seven samples from three borings located near former Substation 1, 10 samples from three borings located near former Substation 2; two samples from one boring located near former Substation 5; and 10 samples from six borings located near former Substation 8. PCBs were detected above the detection limits (which varied from 0.020 mg/kg to 2 mg/kg) in seven of the 29 samples at concentrations ranging from 0.14 mg/kg to 42 mg/kg. Aroclors 1248 and 1260 were the primary PCB congeners detected in the samples.

The highest concentration of PCBs (42 mg/kg) was detected in a surface soil/gravel sample S-1 located along the west side of the former transformer pad at Substation 8 (Figure 5a). The concentration of PCBs in soil at this location decrease to 6.2 mg/kg at a depth of 2.2 feet (sample #39), and PCBs were not detected at 6.3 feet (sample #124). The PCB concentrations in soil samples collected near the concrete pads associated with former Substations 1, 2, and 5 ranged from not detected to 1.3 mg/kg.

2.4.3 Soil

The Geomatrix investigation included the collection of 230 soil samples from 72 locations for analysis of PCBs using EPA Method 8082. The Geomatrix soil sample locations were selected based on the highest likelihood of impact from former equipment and/or operations and as indicated by previous Alcoa sampling results as high-impact areas.

In samples collected by Geomatrix, PCBs were detected above the detection limits (which varied from 0.020 mg/kg to 400 mg/kg) in 36 of the 230 samples at concentrations ranging from 0.062 mg/kg to 2,000 mg/kg. Two soil samples had detected concentrations of PCBs at 2,000 mg/kg. Aroclor 1248 was the primary PCB congener detected in the samples collected by Geomatrix.

The highest detection of PCBs was observed in two soil samples collected by Geomatrix from former Building 104 near the former vertical pits (Figure 5b). A PCB concentration of 2,000 mg/kg was detected at sample locations #40 and #95 at depths of 21.5 and 20.5 feet bgs, respectively. Deeper soil samples collected from these two borings exhibited PCB concentrations that were several orders of magnitude lower, ranging from <0.2 to 0.71 mg/kg. Soil samples collected from borings #94, #97 and #127B located in the vicinity of sample locations #40 and #95 also exhibited PCB concentrations that were significantly lower; ranging from not detected to 3.5 mg/kg. In addition, soil from boring #98, believed to be located within one of the decommissioned vertical pits near boring #40, contained PCBs at concentrations ranging from not detected to 44 mg/kg.

In addition, high concentrations of PCBs were also observed in soil collected in the vicinity of the former saw in Building 104, in an area also characterized in Section 2.3.1 with PCBs detected in the concrete slab at a concentration of 3,300 mg/kg (sample #41). Shallow soil in the vicinity of the former saw contained PCBs at concentrations up to 960 mg/kg (at 2.6 feet at sample location #73).

In summary, the highest concentrations of PCBs in soil were detected in former Building 104 in the vicinity of a former decommissioned vertical pit and former saw. PCB concentrations in the soil samples collected from other areas of the site were generally not detected with selected locations containing PCBs at or below 10 mg/kg.

3.0 DELINEATION OF IMPACTED AREAS

Based on the concrete and soil characterization data, the extent of PCB-impacts in concrete and those remaining in soil (including soil remaining in place after previous remediation work described in Section 2.2) have been identified in the Site areas listed below.

- Portions of the concrete slab in Buildings 106, 108, 110, 112, and 104 as shown on Figure 4.
- In the northwestern portion of Building 104 where PCBs were detected in the concrete slab. PCBs were detected in soil samples collected from borings #115, #116, #117, #118, and #119 located in this area of the building.

- In the vicinity of the former saw in Building 104, where PCBs were detected in soil to a depth of 3 feet bgs at borings #41, #73, and #110b. PCBs were also detected in the overlying concrete slabs near these boring locations and surrounding the location of the saw.

- In the vicinity of the existing and former vertical pits in Building 104. PCBs were detected in soil near these pits at depths of 31 feet bgs at boring #98 and at depths between 10 and 71.5 feet bgs at borings #40, #94, and #95.

- In the vicinity of former storm water outfalls #6 and #7, north of the former cooling tower and along the north side of the former industrial waste disposal pit. PCBs were detected in these areas in the soil confirmation samples collected during Alcoa's soil remediation work described in Section 2.2.

- At former Substation 8, where PCBs were detected in the soil/gravel area along the west side of the concrete slab (S-1 and #39) at a depth up to 2.2 feet.

In order to further evaluate the areas of PCB-impacted concrete or soil, the PCB data were evaluated for potential human health risks using a screening-level human health risk assessment (HHRA) as presented in Section 4.0. The potential impacts of PCBs to groundwater were also evaluated and discussed in Section 4.3. This information was used to develop site-specific remediation goals for PCBs.

4.0 SCREENING-LEVEL HUMAN HEALTH RISK ASSESSMENT

This section presents the screening-level HHRA conducted to evaluate potential human health risks associated with exposures to PCBs at the Site. The HHRA was conducted in a similar manner as the HHRA completed for all COPCs at the Site as part of the FS/RAP (Geomatrix 2008). As described in the FS/RAP, potential human health risks from exposure to PCBs were evaluated for individual "Phase areas" at the Site, that were developed to facilitate future below-grade demolition work and the anticipated plans for future site use(s); which may include the construction and operation of a power plant and/or commercial/industrial facilities. The "Phase" terminology is not meant to represent a sequential order of implementation of the below-grade demolition activities, but describes the primary locations where the activities will be conducted. The Phase I through VI areas related to the layout of the proposed power plant are briefly described below, and are shown on Figure 3.

- Phase I and II areas cover the majority of the proposed footprint of the power plant development and include Buildings 104, 106, 108, 110, 112, and the northern portion of 112A.

- The Phase III area includes the hot well/cooling tower and adjacent pavements that are located outside the buildings, including the former underground storage tank (UST) area southwest of Building 112A known to contain Stoddard solvent-impacted soil. This area was separated further to distinguish the hot well/cooling

tower area (the Phase IIIa area) from the Stoddard solvent-impacted former UST area (the Phase IIIb area) (Figure 3). The Phase IIIa and IIIb areas are located outside the proposed footprint of the power plant development.

- The Phase IV area, which is located outside the footprint of the proposed power plant development, has known Stoddard solvent soil impacts. This area is proposed for use as an equipment lay-down area during the power plant construction.

- The Phase V area includes Parcel 6 located south of Building 112A. This area is located outside the proposed footprint of the power plant development.

- The Phase VI area includes the eastern parking lot and paved areas. This area is located outside the proposed footprint of the power plant development.

4.1 SITE CONCEPTUAL MODEL

The screening-level HHRA was conducted within the context of a Site Conceptual Model (SCM). As described in U.S. EPA's "Guidance for Conducting Remedial Investigations and Feasibility Studies under CERCLA" (U.S. EPA, 1988), the purpose of a SCM is to describe what is known about chemical sources, migration pathways, exposure routes, and receptors at a site. The SCM depicts the exposure pathways and the mechanisms by which a receptor may come into contact with PCBs in the environment. Using the U.S. EPA Risk Assessment Guidance for Superfund (U.S. EPA, 1989), potential exposure pathways applicable to the Site have been identified and addressed. An exposure pathway is defined by four elements (U.S. EPA, 1989):

- a source and mechanism of COPC release to the environment;

- an environmental medium of concern (e.g., air, soil) or transport mechanism (e.g., volatilization) for the released COPC;

- a point of potential contact with the medium of concern; and

- an exposure route (e.g., ingestion) at the contact point.

An exposure pathway is considered "complete" if all four of these elements are present. Only complete exposure pathways need to be evaluated for the purposes of a risk assessment. The characterization of the potential exposure pathways to PCBs at the Site, based on existing information, is presented in the SCM (Figure 7).

There is no current use of the Vernon Facility; but the property is being purchased by the City of Vernon for commercial/industrial use with the potential for a portion of the Site to be used as a power plant. Based on U.S. EPA's directive requiring the consideration of reasonably anticipated future land use (U.S. EPA, 1995), potential future human receptors at the Site

include commercial/industrial workers (e.g., power plant facility workers, workers under alternative commercial/industrial uses, landscape workers) and construction workers involved in the future construction and grading activities at the Site. The construction worker receptor is also intended to address potential exposure by future short-term utility maintenance workers. No other land use (i.e., residential) is reasonably anticipated for the Site given that a deed covenant will be issued for the property restricting zoning and use of the Site to commercial/industrial purposes. Furthermore the City of Vernon zoning laws prohibits new residential development within the City of Vernon.

As discussed in Section 2.0, prior remedial investigations identified PCBs remaining in soil and concrete. The identification of potentially complete exposure pathways for PCBs at the Site is discussed below.

4.1.1 Potential Exposure to PCBs in Soil

According to the City of Vernon H&EC, the depth of future below-grade excavation at the Site will encompass the upper 15 feet of soil (City of Vernon H&EC letter dated February 6, 2007). Exposure of future power plant construction workers was therefore considered complete within the upper 15 feet of soil. It was also assumed that these soils could be redistributed at the land surface during excavation and grading, creating potential future exposure for outdoor commercial/industrial workers. The exposure pathways considered complete for PCBs in soil for both receptors and evaluated in the HHRA include:

- incidental ingestion of soil;
- dermal contact with soil; and
- inhalation of particulates in ambient air.

4.1.2 Potential Exposure to PCBs in Soil

Concrete present in former building slab areas of the Site may be demolished on site, crushed, and reused as fill in soil and foundation removal areas. A letter from the City of Vernon H&EC dated February 6, 2007, required Pechiney to implement alternative criteria to the proposed tiered approach for the reuse of PCB-impacted concrete as fill material, which was originally presented in the PCB Notification Plan (Geomatrix, 2006c) to the City of Vernon H&EC, but was not a risk-based approach. Alternative criteria will be developed on the basis of potential exposures to PCBs in crushed concrete. Construction workers may be potentially exposed to PCBs in crushed concrete during construction at the Site. Outdoor commercial/industrial workers may be exposed if crushed concrete is left uncovered at the surface. Exposure to PCBs in crushed concrete was considered potentially complete for both receptors via the pathways identified above for exposure to PCBs in soil.

4.1.3 Potential Exposure to PCBs in Groundwater

Historical boring logs indicate shallowest groundwater beneath the Site was encountered between depths of 145 and 150 feet bgs (Geraghty & Miller, 1991 and 1995), consistent with recent borings advanced in the northern portion of the Site (Geomatrix, 2006a; 2006d). According to information provided by the City of Vernon H&EC, groundwater is produced off-site from the Jefferson, Lynwood, Silverado, and Sunnyside aquifers from depths of approximately 450 to 1400 feet bgs (based on wells No. 15 and 19; Geoscience, 2005). A land use deed covenant will be issued for the Site to restrict future residential property use and use of on-site groundwater found in the first water bearing unit (interpreted to be the upper portion of the Exposition aquifer). But because the Californian Regional Water Quality Control Board Los Angeles Region (RWQCB) Basin Plan (1994) lists groundwater in the Site vicinity as designated for beneficial use, PCBs in soil and concrete will therefore be evaluated for potential impacts to groundwater.

4.2 DEVELOPMENT OF SCREENING LEVELS AND HUMAN HEALTH RISK ASSESSMENT

Potential human health risks for outdoor commercial/industrial workers and construction workers were evaluated using risk-based screening levels (RBSLs) as described herein. AMEC developed RBSLs protective of complete exposure pathways using the methodology presented by the Office of Environmental Health Hazard Assessment (OEHHA) for California Human Health Screening Levels (CHHSLs) (OEHHA, 2005). However, RBSLs were developed to be consistent with exposure parameters recommended by the DTSC (2005).

This screening-level HHRA followed guidelines specified in U.S. EPA and California Environmental Protection Agency (Cal-EPA) for the performance of risk assessments as specified in the following documents:

- Risk Assessment Guidance for Superfund, Volume I: Human Health Evaluation Manual (Part A), U.S. EPA, Office of Emergency and Remedial Response, December 1989 (U.S. EPA, 1989);
- Supplemental Guidance for Human Health Multimedia Risk Assessments of Hazardous Waste Sites and Permitted Facilities, Cal-EPA, DTSC, Office of the Science Advisor, July 1992, corrected and reprinted, 1996 (DTSC, 1996);
- Preliminary Endangerment Assessment Guidance Manual, Cal-EPA, DTSC, 1999 (DTSC, 1999); and
- Human-Exposure-Based Screening Numbers Developed to Aid Estimation of Cleanup Costs for Contaminated Soil, Cal-EPA, OEHHA, updated January 2005 (OEHHA, 2005).

Other regulatory reference documents were used as appropriate to supplement the information in these documents.

4.2.1 Data Evaluation

The analytical data used for the HHRA were those collected prior to and during the Geomatrix characterization sampling program, as presented in Tables 1 and 2. Data excluded from consideration are listed below.

- Data from soil samples collected below 15 feet bgs. Based on the SCM (Figure 7), direct exposure to PCBs in deep soil (greater than 15 feet bgs) is considered incomplete. However, data from all soil samples were used to evaluate potential future impacts to groundwater, with concentrations of PCBs subjected to detailed leaching and migration modeling analysis as described in Section 4.3.

- Data from soil samples no longer in place following excavations (including excavation of dip tanks, sumps, storm water outfall discharge areas, waste disposal pits, and USTs). These samples are marked as "excavated" or "E" in Table 2.

The PCBs identified in shallow soil (0 to 15 feet bgs) or concrete and carried through the quantitative HHRA include Aroclor-1232, Aroclor-1248, Aroclor-1254, and Aroclor-1260.

4.2.2 Risk-Based Screening Levels

RBSLs were developed for each receptor (i.e., outdoor commercial/industrial worker and construction worker) for Aroclor-1232, Aroclor-1248, Aroclor-1254, and Aroclor-1260 in soil/crushed concrete. The equations used to develop the RBSLs are presented below, based on the methodology for CHHSLs (OEHHA, 2005). RBSLs were developed to be protective of potential exposures via incidental ingestion, dermal exposure, and inhalation of particulates, and to screen for both cancer risks (Equation 1) and noncancer adverse health effects (Equation 2):

$$RBSL_{soil-risk} = \frac{TR \times BW \times AT_{ca}}{ED \times EF \times \left[\left(\frac{IR_s \times CSF_o}{CF_{kg-mg}} \right) + \left(\frac{SAs \times SAF \times ABS \times CSF_o}{CF_{kg-mg}} \right) + \left(\frac{IHR_a \times CSF_i}{PEF} \right) \right]} \quad (1)$$

Where:

$RBSL_{soil-risk}$	=	risk-based soil screening level for cancer risk (mg/kg)
TR	=	target cancer risk, 1 x 10^{-6} (unitless)
BW	=	body weight (kg)
AT_{ca}	=	averaging time - cancer (days)
ED	=	exposure duration (yr)
EF	=	exposure frequency (days/yr)
IR_s	=	ingestion rate of soil (mg/day)
CSF_o	=	oral cancer slope factor [$(mg/kg\text{-}day)^{-1}$]
CF_{kg-mg}	=	conversion factor from kilograms to milligrams

SAs	=	exposed skin surface area (cm^2)
SAF	=	soil-to-skin adherence factor (mg/cm^2)
ABS	=	dermal absorption factor (unitless)
IHR_a	=	inhalation rate (m^3/day)
CSF_i	=	inhalation cancer slope factor [$(mg/kg\text{-}day)^{-1}$]
PEF	=	particulate emission factor (m^3 of air/kg of soil)

$$RBSL_{soil-haz} = \frac{THQ \times BW \times AT_{nc}}{ED \times EF \times \left[\left(\frac{1}{RfD_o} \times \frac{IR_s}{CF_{kg-mg}}\right) + \left(\frac{1}{RfD_o} \times \frac{SAs \times SAF \times ABS}{CF_{kg-mg}}\right) + \left(\frac{1}{RfD_i} \times \frac{IHR_a}{PEF}\right)\right]} \quad (2)$$

Where:	$RBSL_{soil\text{-}haz}$	=	risk-based soil screening level for noncancer hazard (mg/kg)
	THQ	=	target hazard quotient, 1 (unitless)
	AT_{nc}	=	averaging time - noncancer (days)
	RfD_o	=	oral reference dose (mg/kg-day)
	RfD_i	=	inhalation reference dose (mg/kg-day)
	All other terms previously defined		

The exposure parameters used in deriving the RBSLs are provided in Appendix A, the PCB-specific toxicity criteria (cancer slope factors and reference doses) are provided in Appendix B, and the resulting RBSLs are presented in Table 3.

4.2.3 Risk Evaluation

The risk evaluation was conducted as a screening-level assessment to evaluate worst-case exposure scenarios and identify any PCBs contributing significantly to predicted cancer risks or noncancer hazard indexes (HI) (U.S. EPA, 1989). Risks from exposure to PCBs in soil or concrete for outdoor commercial/industrial workers and construction workers were evaluated independently for each Phase area using maximum concentrations identified from historical data (Tables 1 and 2) and the RBSLs presented in Table 3. As described in OEHHA guidance (2005), comparison of a chemical concentration to a CHHSL or RBSL can predict the lifetime excess cancer risk or noncancer hazard quotient (HQ) for exposure to that chemical in the exposure medium. A cancer risk ratio was calculated for outdoor commercial/industrial worker and construction worker exposure to each PCB by dividing the maximum chemical concentration by the appropriate cancer-based RBSL. Multiplying each risk ratio by the target risk level used in the development of the RBSL (i.e., one-in-one million or $1x10^{-6}$) then results in a predicted lifetime excess cancer risk for outdoor commercial/industrial worker or construction worker exposure to that PCB concentration. Finally, cumulative effects from outdoor commercial/industrial worker and construction worker exposure to PCBs within each Phase area were evaluated by summing the estimated chemical-specific cancer risks.

Of the PCBs detected at the Site, only Aroclor-1254 has been identified as a potential noncarcinogen (Appendix B). Noncarcinogenic health effects from outdoor

commercial/industrial worker or construction worker exposure to PCBs in soil were predicted based on the comparison of Aroclor-1254 concentrations to its noncancer RBSLs. HQs were calculated by dividing the maximum Aroclor-1254 concentrations by its noncancer RBSLs and multiplying by the target HQ used in the development of the RBSL (i.e., 1).

Risks from exposure to PCBs in concrete were evaluated separately. Maximum detected concentrations of PCBs in concrete in each Phase area were identified from historical sampling data (Table 1) and compared to the outdoor commercial/industrial worker and construction worker RBSLs calculated for PCBs in soil.

U.S. EPA guidance on exposure levels considered protective of human health was followed to aid in the interpretation of the HHRA results. In the NCP 40 CFR 300.430(e)(i), U.S. EPA defined general remedial action goals for CERCLA sites. The goals included a range for residual cancer risk, which is "an excess upper-bound lifetime cancer risk to an individual of between 10^{-4} [1E-04] and 10^{-6} [1E-06]," or 1 in 10,000 to 1 in 1,000,000. The goals set out in the NCP 40 CFR 300.430(e)(i)(A)(2) are applied once a decision has been made to remediate a site. A more recent U.S. EPA directive (U.S. EPA, 1991) provides additional guidance on the role of the HHRA in supporting risk management decisions, and in particular, determining whether remedial action is necessary at a site. Specifically, the guidance states, "Where cumulative carcinogenic site risk to an individual based on reasonable maximum exposure for both current and future land use is less than 10^{-4}, and the noncancer HQ is less than 1, action generally is not warranted unless there are adverse environmental impacts." U.S. EPA Region IX has stated, however, that action may be taken to address risks between 10^{-6} and 10^{-4}. For that reason, the range between $1x10^{-6}$ and $1x10^{-4}$ is referred to as the "risk management range" in this HHRA.

The results of the HHRA for PCBs in soil and concrete are presented in Tables 4 through 7 and discussed below. As is standard practice in risk assessment (U.S. EPA, 1989), this section also provides an analysis of the uncertainty in the risk evaluation process.

4.2.3.1 Risk Characterization of PCBs in Soil

Using maximum PCB concentrations in soil in each Phase area, the screening-level HHRA resulted in the predicted lifetime excess cancer risks and noncancer HQs for outdoor commercial/industrial workers and construction workers presented in Table 4, and summarized in Table 5. As presented in Table 5, the predicted lifetime excess cancer risks for the outdoor commercial/industrial worker and construction worker in the Phase II area are above the risk management range. However, within the context of cumulative exposures to all COPCs at the Site, predicted lifetime excess cancer risks for the outdoor commercial/industrial worker are likely to be above the risk management range in additional Phase areas as well

(e.g., the Phase IIIa, Phase IV, and Phase VI areas, pending the completion of the Revised FS/RAP in 2009). The other cancer risks estimated for outdoor commercial/industrial workers and construction workers are likely to be within or below the risk management range.

The predicted noncancer HI for the construction worker in the Phase IIIa area is above the acceptable level for noncarcinogenic effects (1). However, within the context of cumulative exposures to all COPCs at the Site, predicted HIs for the construction worker are likely to be above 1 in additional Phase areas as well (e.g., the Phase IV and Phase VI areas, pending the completion of the Revised FS/RAP in 2009). The other HIs estimated for outdoor commercial/industrial workers and construction workers are likely to be at or below 1, with the majority well below 1.

Certain PCBs individually contributed cancer risk levels of at least $1x10^{-6}$ or HQs of at least 1. These were considered key chemicals in each Phase area. Specifically, the following PCBs were identified as key chemicals in soil, as presented in Table 4.

- Phase I area: Aroclor-1248 and Aroclor-1260 for both outdoor commercial/industrial workers and construction workers.
- Phase II area: Aroclor-1248 for both outdoor commercial/industrial workers and construction workers.
- Phase IIIa area: Aroclor-1248 and Aroclor-1254 for both outdoor commercial/ industrial workers and construction workers.
- Phase IV area: Aroclor-1260 for outdoor commercial/industrial workers.
- Phase VI area: Aroclor-1260 for outdoor commercial/industrial workers

Within the context of cumulative exposures at the Site, arsenic, benzene, and ethylbenzene were also identified as key chemicals in soil for outdoor commercial/industrial workers and construction workers (Section 4.2.3.1 of Geomatrix 2008).

4.2.3.2 Risk Characterization of PCBs in Concrete

Using maximum PCB concentrations in concrete in each Phase area, the screening-level HHRA resulted in the predicted lifetime excess cancer risks and noncancer HQs for outdoor commercial/industrial workers and construction workers presented in Table 6, and summarized in Table 7. As presented in Table 7, the predicted lifetime excess cancer risks for the outdoor commercial/industrial worker in the Phase I and Phase II areas, and for the construction worker in the Phase II area, are above the risk management range. The other cancer risks estimated for outdoor commercial/industrial workers and construction workers

were either within or below the risk management range. The predicted noncancer HQs are within the acceptable range for noncarcinogenic effects (less than or equal to 1).

Certain PCBs individually contributed cancer risk levels of at least $1x10^{-6}$ and were therefore considered key chemicals. Specifically, the following PCBs were identified as key chemicals in concrete, as presented in Table 6.

- Phase I area: Aroclor-1248 and Aroclor-1254 for outdoor commercial/industrial workers; Aroclor-1248 for construction workers.
- Phase II area: Aroclor-1248 and Aroclor-1260 for both outdoor commercial/industrial workers and construction workers.

4.2.3.3 Uncertainty

Uncertainty is inherent in many aspects of the risk assessment process, and generally arises from a lack of knowledge of 1) site conditions, 2) toxicity and dose-response of the COPCs, and 3) the extent to which an individual will be exposed to those chemicals (U.S. EPA, 1989). This lack of knowledge means that assumptions must be made based on information presented in the scientific literature or professional judgment. While some assumptions have significant scientific basis, others have much less. The assumptions that introduce the greatest amount of uncertainty relative to the evaluation of PCB data, the development of RBSLs, and the RBLS comparisons are included herein.

- The identification of site-related PCBs was based upon the results of the sampling and analytical programs established for the Site. The factors that contribute to the uncertainties associated with the identification of PCBs are inherent in the data collection and data evaluation processes, including appropriate sample locations, adequate sample quantities, laboratory analyses, data validation, and treatment of validated samples.
- The predominant sources of uncertainty and potential bias associated with site characterization are based on the procedures used for site investigation (including sampling plan design and the methods used for sample collection, handling, and analysis) and from the procedures used for data evaluation. A relatively comprehensive sampling program was implemented to account for the chemicals most likely to be present at the Site as a result of site history and past activities.
- The exposure parameters used to derive the RBSLs are based on reasonable maximum exposure (RME), which is defined by U.S. EPA as the highest exposure that could reasonably be expected to occur for a given exposure pathway at a site (U.S. EPA, 1989). The exposure parameters associated with a RME scenario are therefore highly conservative. For example, it was assumed that an outdoor commercial/industrial worker is present on-site for 250 days/year for 25 years. The use of such upper-bound estimates in the development of RBSL most likely results in overly protective values.

- The available toxicity criteria used to derive the RBSLs are based on toxicity data from animal studies, extrapolated to what might occur in humans using mathematical models or multiple uncertainty factors. The purposeful bias in the development of reference doses and cancer slope factors overestimates the actual potential for noncarcinogenic and carcinogenic health risks for the chemicals evaluated.

- The use of maximum detected concentrations in the screening-level HHRA represent worst-case conditions and are representative of conditions in the most impacted areas of the Site.

- One source of uncertainty that is unique to risk characterization is the assumption that the total risk associated with exposure to multiple chemicals is equal to the sum of the individual risks for each chemical (i.e., the risks are additive). Other possible interactions include synergism, where the total risk is higher than the sum of the individual risks, and antagonism, where the total risk is lower than the sum of the individual risks. Relatively little data are available regarding potential chemical interactions following environmental exposure to chemical mixtures. Animal studies suggest however, that synergistic effects will not occur at levels of exposure below their individual effect levels (Seed, et al., 1995). As exposure levels approach the individual effect levels, a variety of interactions may occur, including additive, synergistic, and antagonistic (Seed, et al., 1995). Current U.S. EPA guidance for risk assessment of chemical mixtures (U.S. EPA, 1989) recommends conducting the risk assessment assuming an additive effect following exposure to multiple chemicals (excluding lead, given the different means by which potential health concerns are evaluated). Subsequent recommendations by other parties, such as the National Academy of Sciences (National Research Council, 1988) and the Presidential/Congressional Commission on Risk Assessment and Risk Management (Risk Commission, 1997) have also advocated a default assumption of additivity. As currently practiced, risk assessments of chemical mixtures generally sum cancer risks regardless of tumor type and sum non-cancer hazard indices regardless of toxic endpoint or mode of action.

In summary, these and other assumptions contribute to the overall uncertainty in the development of RBSLs and the screening of PCB concentrations. However, given that the largest sources of uncertainty generally result in overestimates of exposure or risk, it is believed that results presented in this document are based on conservative estimates.

4.3 SOIL CONDITIONS FOR PROTECTION OF GROUNDWATER

In addition to the human health exposure evaluation presented in Section 4.2, PCBs in soil and concrete were also evaluated for potential impacts to groundwater. This evaluation was completed using a numerical modeling method based on the maximum contaminant level (MCL) of these chemicals. The modeling approach and results are summarized below. A more detailed description of the model construction, input parameters, and resulting calculations is provided in Appendix C.

Because PCBs have a significantly high soil-sorption factor, numerical modeling was performed to simulate the fate and transport of PCBs in a one-dimensional soil column. Numerical simulations were performed using the commercial software MODFLOW-SURFACT developed by HydroGeologic, Inc. (2006). This code is based on the most commonly used groundwater modeling software, MODFLOW (Harbaugh et al., 2000), with an additional capability to simulate the vadose zone using the Van Genuchten model. MODFLOW-SURFACT is similar to the one-dimensional vadose zone transport model, VLEACH (Ravi and Johnson, 1994).

The lithologic profile used in the MODFLOW-SURFACT model was based on the logs of on-site Borings 125 and 126. Thirty 5-foot-thick soil layers were used to represent the 150-foot-thick vadose zone and a 50-foot-thick layer at the bottom was used to represent the saturated zone in the model. For each boring log, the percentages of gravel, sand, silt, and clay in 5-foot intervals were estimated. The percentages of gravel, sand, silt, and clay in each model layer were computed by averaging the percentages at the two boring locations. The hydrogeologic parameters and Van Genuchten's model parameters were estimated using the computer code ROSETTA developed by the Salinity Laboratory of the United States Department of Agriculture (2000).

MODFLOW-SURFACT was then used to estimate site-specific attenuation factors for PCBs at various source depths in soil. Specifically, attenuation factors for PCBs at hypothetical source depths of 15 feet, 30 feet, and 45 feet bgs were estimated by simulating the movement of PCBs in pore water from these depths to pore water immediately above the water table (at approximately 150 feet) after 500 years. The attenuation factors calculated with this method ranged from 2.2×10^{44} to 1×10^{46} for the three source depths. These attenuation factors were then used in a reverse calculation from the MCL, 0.5 micrograms per liter (µg/L), to estimate the source pore water concentrations at 15 feet, 30 feet, and 45 feet bgs that would be necessary to pose a potential threat to groundwater quality. The estimated source pore water concentrations ranged from 1.1×10^{41} to 5×10^{42} mg/L. Based on these calculations, the concentration of PCBs in source pore water at the Site would need to exceed 1.1×10^{41} mg/L at 45 feet bgs or 5×10^{42} mg/L at 15 to 30 feet bgs to result in groundwater concentrations exceeding the MCL. Because these concentrations greatly exceed the solubility limit of PCBs in water (0.7 mg/L; U.S. EPA, 1996) and exceeds the concentration of pure phase PCBs (1×10^{6} mg/L), it is physically impossible to achieve PCB concentrations in the source pore water that would result in a concentration of PCBs exceeding the MCL in groundwater. Therefore, PCBs in soil at the Site do not pose a potential threat to groundwater at the Site.

Because crushed concrete containing PCBs may be re-used as on-site fill materials within the upper 15 feet of the vadose zone, the reverse calculation method described above was also

used to verify that PCBs in concrete do not pose a potential threat to groundwater quality. The MODFLOW-SURFACT simulation was performed in the same manner as described above for soil, but modified to account for the physical properties associated with crushed concrete. For crushed concrete, sand (approximating the properties for crushed concrete) was used for the hydrogeologic parameters and Van Genuchten's model parameters rather than the lithologic parameters estimated for the upper 15 feet of the soil column. Assuming a source depth of 15 feet bgs (corresponding to the bottom depth of proposed concrete re-use), an attenuation factor of $1x10^{46}$ was estimated, which is equal to the attenuation factor estimated for PCBs in native soil at 15 or 30 feet bgs. Correspondingly, the source pore water concentration of PCBs dissolved from crushed concrete at 15 feet bgs would need to exceed $5x10^{42}$ mg/L to result in groundwater concentrations exceeding the MCL. Because these concentrations greatly exceed the solubility limit of PCBs in water (0.7 mg/L; U.S. EPA, 1996) and exceeds the concentration of pure phase PCBs ($1x10^{6}$ mg/L), it is physically impossible to achieve PCB concentrations in the source pore water resulting from the crushed concrete that would result in a concentration of PCBs exceeding the MCL in groundwater. Therefore, PCBs in concrete that may be re-used as on-site fill materials also do not pose a potential threat to groundwater at the Site.

5.0 REMEDIAL ACTION OBJECTIVES, PCB REMEDIATION TECHNOLOGIES, PCB REMEDIAL ALTERNATIVES

Based on the results of the screening-level HHRA, mitigation may be required to reduce potential exposure to PCBs in soil and concrete at the Site. This section describes the remedial action objectives (RAOs) for the Site, the site-specific remediation goals for PCBs, the specific areas where PCB concentrations exceed remediation goals, and the proposed remedial alternatives.

5.1 REMEDIAL ACTION OBJECTIVES

The RAOs are general risk management goals for protecting human health and the environment. The RAOs specific to PCBs for the Site include mitigating PCB-impacted shallow soil (0 to 15 feet bgs) and concrete for the protection of human health. To meet the RAOs for the Site, site-specific remediation goals were established, and PCB-impacted areas were identified as discussed in the following sections.

5.2 SITE-SPECIFIC PCB REMEDIATION GOALS

Based on the evaluation of potential direct contact exposures to PCBs in surface and shallow soil (0 to 15 feet bgs) and concrete building slabs (which may be demolished on site, crushed, and reused as fill in soil and foundation removal areas), PCBs in both media were identified as contributing significantly to potential cancer risks or noncancer hazards in certain Phase areas of the Site. Site-specific remediation goals were therefore established to mitigate potential

direct contact exposures to future workers. Specifically, remediation goals were developed to mitigate potential exposures to construction workers involved with the future construction work at the Site as well as to workers under future use of the Site as a power plant or some commercial/industrial alternative. All remediation goals were developed within the context of cumulative exposures at the Site, and not based solely on PCB exposures.

As presented in Tables 4 through 7, the estimated cancer risks for outdoor commercial/ industrial worker exposure to the carcinogenic PCBs in soil or concrete are greater than the estimated risks for construction worker exposure to these compounds. Therefore, soil and concrete remediation to mitigate potential outdoor commercial/industrial worker exposure to carcinogenic PCBs would also mitigate potential construction worker exposure. However, the potential exposure to future outdoor commercial/industrial workers would only occur if PCB-impacted soil or concrete is left exposed at the land surface at the Site. To address potential exposures to PCB-impacted soil, two remediation goals were developed, one for soil that may be left exposed at the surface (protective of both potential outdoor commercial/industrial worker exposure and construction worker exposure) and one for soil to be left below pavement or other ground cover that only construction workers may come into contact with during construction (i.e., during excavation, grading, etc.). These two remediation goals are described below.

- For soil that may be left exposed at the surface (upper 5 feet), a total PCB concentration of 5.3 mg/kg was set as the remediation goal for PCBs at a 10^{-5} risk level (Table 8). This goal is based on the carcinogenic RBSL of 0.53 mg/kg, which was developed for outdoor commercial/industrial worker exposure to PCBs in soil at a 10^{-6} risk level (Table 3).

- For soil to be left below pavement (or 5 feet below crushed concrete containing less than 5.3 mg/kg of PCBs), a total PCB concentration of 35 mg/kg was set as the soil remediation goal at a 10^{-5} risk level (Table 8). This goal is based on the carcinogenic RBSL of 3.5 mg/kg, which was developed for construction worker exposure to PCBs in soil at a 10^{-6} risk level (Table 3).

The noncancer-RBSL developed for construction worker exposure to Aroclor-1254, 2.0 mg/kg (Table 3), was set as an additional soil remediation goal specifically for this PCB that is protective of a chemical-specific, noncancer HQ of 1. Given the relative magnitude of the construction worker noncancer RBSL to the outdoor commercial/industrial worker noncancer RBSL (2.0 mg/kg versus 7.5 mg/kg, respectively) (Table 3), mitigation of noncancer hazards to construction workers from exposure to Aroclor-1254 would also mitigate noncancer hazards to outdoor commercial/industrial workers. Finally, for concrete that may be demolished on site, crushed, and reused as fill in soil and foundation removal areas, the total PCB remediation goal of 5.3 mg/kg for surface soil was set as the remediation goal for potential exposure to total PCBs in concrete. Applying this remediation goal also ensures that the waste criteria for

concrete containing PCBs is also met [i.e. less than 50 mg/kg, as defined in 40 CFR Section 761.61(a)(4)(i)(A)].

In summary, the remediation goals established for PCBs in soil and concrete, relevant for all future commercial/industrial use scenarios including the proposed power plant development, are as follows:

1. PCBs in Shallow Soil (0 to 15 feet bgs)
    a. Aroclor-1254 – **2.0 mg/kg**
    b. Total PCBs – **5.3 mg/kg** for soil that may be left exposed at the surface; **35 mg/kg** for soil to be left below pavement or other ground cover that only construction workers may come into contact with during construction
2. PCBs in Concrete
    a. Total PCBs – **5.3 mg/kg**

These site-specific remediation goals are also summarized in Table 8, with explanations provided for how each value was established. Boring or sample locations with matrix sample concentrations above the site-specific remediation goals are shown on Figure 8. The areas in which these soil borings or concrete samples are located are described in Sections 5.3 and 5.4 below.

5.3 AREAS WITH PCB-IMPACTED SOIL ABOVE THE REMEDIATION GOALS

Based on previous investigation data and screening-level HHRA findings, the following areas within each Phase area were identified with PCB-impacted soils having concentrations greater than the applicable site-specific shallow soil remediation goals described in Section 5.2. These areas will need to be addressed as part of Site closure. The approximate dimensions and in-place soil volumes for each of the areas summarized below are shown on Figure 9.

<u>Phase I Area:</u>

- Area 13: West of Building 106 where soil/gravel at former Substation 8 are impacted with PCBs at concentrations above the site-specific remediation goals for the protection of future construction works (35 mg/kg) and commercial/industrial workers (5.3 mg/kg).

<u>Phase II Area:</u>

- Area 4 and 4a: West-central portion of former Building 104 (around the former vertical pit) where soil is impacted with PCBs at concentrations above the site-specific remediation goals for the protection of future construction workers (35 mg/kg) and commercial/industrial workers (5.3 mg/kg).

- Area 5 and 5a: Southern portion of former Building 104 (near the saw location) where soil is impacted with PCBs at concentrations above the site-specific remediation goals for the protection of future construction workers (35 mg/kg) and commercial/industrial workers (5.3 mg/kg).

Phase IIIa Area:

- Area 6: North side of the former cooling tower area where soil remains in place at 3 feet and is impacted with PCBs at a concentration above the site-specific remediation goals for the protection of future commercial/industrial workers (5.3 mg/kg).

- Area 7: North end of the former inert waste disposal pit where soil remains in place and is impacted with PCBs (Aroclor-1254). The concentration of Aroclor-1254 at a depth of 10 feet is above the site-specific remediation goal for Aroclor-1254 (2.0 mg/kg).

- Area 14: West side of the former storm water outfall #6 where soil remains in place at 2 feet and is impacted with PCBs at a concentration above the site-specific remediation goals for the protection of future commercial/industrial workers (5.3 mg/kg).

The remediation scenarios include addressing surface/shallow PCB-impacted soils and deeper PCB-impacted soils and were evaluated further in the FS/RAP. A detailed evaluation of soil management of shallow COC-impacted areas that will be encountered during below-grade demolition along with excavation and off-site soil disposal is provided in Section 6.0.

5.4 AREAS WITH PCB-IMPACTED CONCRETE ABOVE THE REMEDIATION GOALS

PCB-impacted concrete areas exceeding the site-specific remediation goal of 5.3 mg/kg for total PCBs were identified and are shown on Figure 4. Areas of PCB-impacted concrete were found in Buildings 104, 106, 108, and 110, with smaller areas of impacts in Building 112.

5.5 PCB REMEDIAL ACTION SELECTION PROCESS

Consistent with the NCP 40 CFR 300.430, a detailed evaluation with respect to the selection of the proposed remedial actions for PCB impacted concrete and soils, along with other site-specific COCs are described in detail in the FS/RAP (Geomatrix 2008). The remedy selection process included the following elements.

- Identifying General Response Actions (GRA) with respect to the RAOs - GRAs are general categories of action that, when implemented, will meet the RAOs for the Site (U.S. EPA, 1988). Combinations of GRAs could be used to meet the RAOs if needed. GRAs include No Action [NCP 40 CFR 300.430(e)(6)], institutional controls; containment; ex situ treatment: and in situ treatment.

- Evaluating the applicable or relevant and appropriate requirements (ARARs) affecting the remedial action objectives (RAOs). In addition to ARARs, other

agency advisories, criteria, or guidance "to-be-considered" (TBCs) are identified for a particular remedy for the Site.

- Screening of potential remedial technologies for effectiveness (ability to meet RAOs and attain ARARs), implementability (technical feasibility), and cost, as specified in the NCP 40 CFR 300.430(e)(7)(i),(ii),(iii). The screening process identified several appropriate technologies for the treatment of PCBs in soil and concrete.

- Using the screened technologies to develop site-specific alternatives for comparison by additionally more detailed criteria referred to as balancing criteria, as specified in NCP 40 CFR 300.430(a)(1)(iii).

- Selecting a proposed remedial alternative to address PCBs in soil and concrete.

5.6 PROPOSED PREFERRED REMEDIAL ALTERNATIVE

The proposed site-wide remedial alternatives for PCBs are described in detail in the FS/RAP (Geomatrix 2008). DTSC's review and approval of the proposed remedy selection is currently underway, as discussed in Section 1.0. For the purpose of this PCBNP, which requires U.S. EPA approval for implementation, the proposed remedial alternative is demolition, removal, and off-site disposal for PCB-impacted concrete that exceeds the risk-based concentrations in building slab areas. The proposed remedial alternative for PCB-impacted soil exceeding the site-specific risk-based remediation goals is excavation and off-site landfill disposal of surface and shallow impacted soils. These are both considered the most cost-effective alternatives that meet both the short-term and long-term effectiveness criteria (NCP 40 CFR 300.430(e)(9)(iii)(C) and (E)). These alternatives provide for a greater reduction of toxicity, mobility, and volume when compared to the other proposed alternatives, and they are protective of human health and the environment and comply with most requirements of the City of Vernon H&EC and DTSC. A description of the proposed alternatives concerning PCB-impacted soil and concrete are presented below.

5.6.1 Demolition and Disposal of PCB-Impacted Concrete

PCB-impacted concrete slab areas where concentrations exceed the proposed site-specific remediation goal of 5.3 mg/kg and 50 mg/kg will be demarcated in the field by marking the slab surface. PCB-impacted concrete slab areas will then be saw cut, removed, and transported off-site for disposal at an appropriate landfill facility permitted to accept PCB-remediation waste. Soil beneath the PCB-impacted concrete slabs will be tested as described in Section 6.1.1.3.

5.6.2 Excavation and Disposal of Surface/Shallow COC-Impacted Soil

The proposed, preferred remedial technology for the surface/shallow PCB-impacted soil is excavation and off-site disposal of soil exceeding site-specific remediation goals. Prior to backfill, PCB confirmation samples will be collected and analyzed as described in

Section 6.1.2.6 and Appendix B of the Quality Assurance Project Plan (QAPP) (Geomatrix 2007; Appendix D of this document). Excavation will be followed by backfilling and compaction with crushed, recycled aggregates obtained from the on-site demolition and crushing of slabs and foundations as discussed in Section 6.0. In the event that additional fill is required, clean soil will be imported from off-site.

6.0 PCB REMEDIAL ACTION PLAN

In the event that U.S. EPA approves the PCBNP and DTSC and other necessary public agencies approve the proposed alternative described in the FS, the RAP partially described below will be implemented. This RAP discusses the implementation of the proposed preferred remedial alternative for PCB-impacted concrete and surface/shallow soil. The RAP also covers the materials management practices that will be implemented during excavation and removal of the impacted concrete and soils during below-grade demolition. Remedial action of impacted concrete and soil will be conducted in conjunction with below-grade demolition activities that will include removal of man-made structures, building slabs, pavements, footings, foundations, pits, and sumps within the footprint of the existing buildings and other structures located adjacent to the building areas as described in the Below Grade Demolition Plan (Geomatrix, 2006b).

6.1 PROPOSED PREFERRED REMEDIAL ALTERNATIVE

Implementation of the remediation components associated with the proposed, preferred remedial alternative for PCBs is described below and discussed in detail in the FS/RAP.

6.1.1 PCB-Impacted Concrete Remedial Action Implementation

The proposed preferred remedial approach for PCB-impacted concrete is demolition and disposal at a suitable landfill facility. This portion of the remedy will be implemented in conjunction with below-grade demolition of surface slabs and pavements.

Based on the results of the screening HHRA and attenuation modeling for protection of groundwater, a site-specific shallow soil PCB remediation goal of 5.3 mg/kg has been proposed to be applied as the crushed concrete reuse criteria. Concrete and asphalt slab areas that exceed the remediation goal cannot be reused on-site and will be removed and disposed off-site during below-grade demolition. Concrete and asphalt slab areas with PCB concentrations less than 5.3 mg/kg will be crushed on-site and reused as excavation and site-wide backfill. Figure 4 shows concrete sampling concentrations and locations and defines areas where PCB concentrations in concrete exceed 1 mg/kg, 5.3 mg/kg, and 50 mg/kg.

6.1.1.1 Site Preparation

PCB-impacted concrete will be demarcated at the Site by painting a “cut line” on the slab to identify those areas previously delineated by concrete coring and laboratory analytical testing. The cut line will encircle areas previously identified to contain PCB concentrations greater than 5.3 mg/kg but less than 50 mg/kg (handled as non-hazardous waste). Slab areas where PCB concentrations exceed 50 mg/kg will also be delineated for separate handling as a TSCA waste.

6.1.1.2 Slab Removal and Stockpiling

Concrete slab areas will be saw-cut along demarcation lines described in Section 6.1.1.1 to facilitate removal using construction equipment. PCB-impacted slab areas will be removed, sized appropriately for handling, and temporarily stockpiled on-site prior to disposal. In areas with PCB-impacted concrete, the concrete slabs will be observed during removal for multiple layers of concrete and visible staining. Concrete slabs or below grade structures exhibiting visual signs of staining will be segregated and tested for PCBs. During periods of inactivity, PCB-impacted concrete stockpiles will be covered to prevent exposure to rainwater. Contractor stockpiling activities will be performed pursuant to Section 02114 of the Below Grade Demolition and Soil Excavation Technical Specifications (Technical Specifications; Appendix E of the FS/RAP).

6.1.1.3 Soil Sampling Beneath PCB-impacted concrete

In areas where soil characterization data do not already exist beneath concrete slabs impacted with PCB at concentrations above 5.3 mg/kg, additional soil characterization samples will be collected. The frequency by which these soil characterization samples will be collected will be determined in the field using the sampling frequency provided below.

PCB-impacted Concrete Slab Areas (in feet)	Grid Spacing	Additional Characterization Samples	Estimated Number of Soil Samples
Horizontal dimensions up to approximately 10 and 10 feet	none	– 1 soil sample; at the center of the exposed soil area, or directly beneath the location where the concrete core sample exhibited the highest PCB concentration	1
Horizontal dimensions up to approximately 20 by 20 feet	Grid divided into 2 equal parts	– 2 soil samples; one from the center of each part of the grid – 1 soil sample; directly beneath the location where the concrete core sample exhibited the highest PCB concentration	3

PCB-impacted Concrete Slab Areas (in feet)	Grid Spacing	Additional Characterization Samples	Estimated Number of Soil Samples
Horizontal dimensions up to approximately 50 and 50 feet	Grid divided into 4 equal parts	− 4 soil samples; one from the center of each part of the grid − 1 soil sample; directly beneath the location where the concrete core sample exhibited the highest PCB concentration	5

The actual number of confirmation samples collected from beneath the PCB-impacted concrete slabs will be determined in the field based on the size of the area and the location of adjacent footings and below grade structures. These confirmation samples will be collected using the procedures described in Appendix B of the QAPP (Geomatrix 2007; Appendix D of this document).

6.1.1.4 Concrete Profiling, Transportation, and Disposal

Concrete characterization data or additional concrete sampling data collected during below grade demolition will be used to create an appropriate waste disposal profile at a facility permitted to receive PCB-impacted wastes. Impacted concrete will then be loaded into trucks for transportation off-site for landfill disposal pursuant to Section 02120 of the Technical Specifications (Appendix E of the FS/RAP). Each truck load will be covered with either a tarpaulin or plastic sheeting prior to departing the jobsite and all truck exteriors will be inspected and cleaned of any loose soil or debris that may be present on the truck exterior associated with loading activities. The contractor will take proper measures to prevent Site soil or debris from being tracked onto adjacent City right-of-ways during off-site shipment activities. All loads will be properly manifested and placarded.

6.1.2 Surface/Shallow PCB-Impacted Soil Remedial Action Implementation

The proposed preferred remedial technology for surface/shallow COC-impacted soil is excavation and off-site disposal. These excavation areas are shown on Figure 9. This remedy will be implemented after below-grade demolition of surface slabs and pavements, utilities and pipelines, pits, sumps, and other deeper structures is complete.

6.1.2.1 Site Preparation

Site preparation activities will include obtaining any necessary permits, implementation of storm water and dust controls, and installation of excavation shoring prior to soil removal. These activities are further described below.

The remaining three groundwater monitoring wells discussed earlier (AOW-6, AOW-8, and AOW-9) are located in the Phase IIIb and Phase IV areas. These wells will remain in place and protected during demolition. When required, these wells will be destroyed in accordance with applicable guidelines listed in the California Department of Water Resources Bulletin 74-81 and 74-90.

6.1.2.2 Storm Water Controls

Storm water Best Management Practices (BMPs) will be implemented and maintained around the excavation perimeter and soil stockpiling areas pursuant to Section 01502 of the Technical Specifications (Appendix E of the FS/RAP) and the contractor's Storm Water Pollution Prevention Plan (SWPPP).

6.1.2.3 Dust Controls and Perimeter Air Monitoring

Dust control measures will be implemented during soil excavation and handling activities pursuant to Section 01501 of the Technical Specifications (Appendix E of the FS/RAP). Site perimeter air monitoring will be conducted as described in Appendix C of the QAPP (Geomatrix 2007; Appendix D of this document).

6.1.2.4 Shoring

Site preparation may require installation of shoring around the perimeter of each proposed excavation area pursuant to Section 02260 of the Technical Specifications (Appendix E of the FS/RAP). A Shoring Plan will be prepared by the contractor and submitted to the City for review and approval prior to actual shoring installation.

6.1.2.5 Excavation and Stockpiling

Soil will be excavated using a track-mounted excavator capable of removal to depths of greater than 15 feet bgs. Soil will be excavated to the lateral and vertical extent of known COC-impacts based on previous site characterization sampling data. Excavated soil will be staged adjacent to the active excavation then transferred to a lined and bermed temporary stockpile located on-site. Contractor soil stockpiling activities will be performed pursuant to Section 02114 of the Technical Specifications (Appendix E of the FS/RAP).

6.1.2.6 Confirmation Sampling and Waste Profiling

Confirmation soil sampling within open excavation areas will be conducted by AMEC using the procedures described in Appendix B of the QAPP (Geomatrix 2007; Appendix D of this document). Soil samples will also be collected from the temporary stockpile for waste profiling purposes to meet the acceptance criteria of the receiving facility, prior to off-site landfill

disposal. Soil analytical testing will be performed to meet the waste profile requirements of the receiving facility.

6.1.2.7 Off-Site Disposal

COC-impacted soil will be loaded into waste transport trucks and shipped off-site for landfill disposal pursuant to Section 02120 of the Technical Specifications (Appendix E of the FS/RAP). Each truck load will be covered with either a tarpaulin or plastic sheeting prior to departing the jobsite, and all truck exteriors will be inspected and cleaned of any loose soil that may be present on the truck exterior associated with loading activities. The contractor will take proper measures to prevent site soil from being tracked onto adjacent City right-of-ways during off-site shipment activities. All loads will be properly manifested and placarded.

6.1.2.8 Backfilling and Grading

Excavation areas will be backfilled with recycled crushed aggregates obtained from on-site crushing of concrete demolition debris. Aggregates will be crushed to the gradations provided in Section 02050 of the Technical Specifications (Appendix E of the FS/RAP), and they will be backfilled and compacted pursuant to Section 02351 of the Technical Specifications (Appendix E of the FS/RAP).

6.1.2.9 Schedule for Implementation

Excavation and off-site disposal of the COC-impacted soil will be performed by the contractor during the implementation of below grade demolition and soil excavation work. Below grade demolition work is anticipated to start shortly after agency review and approval of the FS/RAP and the PCBNP and will be completed approximately three to four months later. Initial activities will consist of preparation and review of contractor submittals and associated permitting efforts followed by demolition of below grade features at the Site.

6.2 SOIL MANAGEMENT DURING BELOW-GRADE DEMOLITION

The demolition contractor will be responsible for proper handling and disposal of impacted soil removed during demolition and permits associated with these activities and the demolition. There is a potential for impacted soil to be encountered during removal of pavements, floor slabs, footings, foundations, utilities, and other below-grade structures (e.g. sumps, drains, clarifier, etc.). As these features are removed during demolition, the demolition contractor, in coordination with AMEC, will follow the procedures described in this section. The procedures associated with the below grade-demolition described in this section are included in the project technical specifications provided in Appendix E of the FS/RAP.

During removal of the slab and other below-grade structures, the demolition contractor will monitor for hazardous vapors and observe the condition of the underlying surface of the

concrete slab and the condition of the soil underlying the slab. If additional areas of impacted concrete or soil are observed (based on visual staining and/or noticeable odors), the demolition contractor will take the following general steps.

1. Notification - notify the AMEC site manager and begin air monitoring with a PID.

2. Monitoring - after notifying AMEC, conduct initial air monitoring for health and safety and AQMD permitting compliance with the PID. If PID readings are above Rule 1166 permit criteria, continue using Rule 1166 requirements and the requirements of Section 02114 of the Technical Specifications (Appendix E of the FS/RAP). If the PID readings are above health and safety air monitoring thresholds, workers will upgrade to the appropriate PPE specified in the demolition contractor's Health and Safety Plan (HASP).

3. Segregation - segregate impacted soil from the slab or structure(s) already being removed. As visually impacted structures are removed, the suspect soil directly adjacent to and beneath the structures will also be excavated, segregated, and/or stockpiled on plastic (with a minimum thickness of 6 mil) and covered with plastic or placed in covered roll-off bins or in end dumps, as needed based on volume.

4. Soil removal - conduct exploratory soil removals to assess the extent of impacted soil based on visual indicators and continue air monitoring:

    - if the area of impacted soil appears to be a "small area" (up to 100 cubic yards of soil), continue to remove soil and stockpile as needed, then continue with demolition work.

    - if the area of impacted soil appears to be greater than 100 cubic yards ("large area"), work in this area will be coordinated and phased with other Site activities related to excavation of known COC-impacted soils. The area will then be visually demarcated by the contractor.

    - COC-impacted areas will then be excavated to the extent necessary to meet site-specific remediation goals discussed in Section 5.2 of this document (site specific remediation goals for PCBs) and the FS/RAP for other site-specific COCs.

5. Confirmation sampling - confirmation soil sampling will be conducted by AMEC using the procedures described in the QAPP (Geomatrix, 2007; Appendix D of this document. The analytical suite for soil samples tested will include PCBs, if warranted based on location, in addition to other COCs listed in the FS/RAP for each area. If additional samples are collected, the soil analytical results will be compared to the site-specific remediation goals discussed in Section 5.2 to assess the need for additional removal or backfilling of the excavation. If soil testing is deemed not necessary based on existing data, the excavation will be backfilled.

6. Excavation backfill - after confirmation sampling is complete, excavations will be backfilled and compacted by the demolition contractor as described in the Below Grade Demolition Plan (Geomatrix, 2006b). Concrete and asphalt debris with concentrations of COCs less than the PCB remediation goal will be crushed to the

gradations provided in Section 02050 of the Technical Specifications, and backfilled and compacted pursuant to Section 02351 of the Technical Specifications (Appendix E of the FS/RAP).

During these activities, health and safety procedures will be implemented by the demolition contractor as described in their HASP and by AMEC as described in their site-specific HASP. In addition, dust suppression and vapor and/or odor control will be implemented by the demolition contractor as needed using the requirements of Section 01501 of the Technical Specifications (Appendix E of the FS/RAP).

Stockpiled soil will be sampled for analysis by AMEC. Soil and waste disposal profiling will be completed by the contractor and soil will be transported using appropriate shipping manifests or bills-of-lading. The demolition contractor will notify AMEC prior to shipping any impacted soil and waste off-site. Storm water management associated with the stockpiled materials will be the responsibility of the demolition contractor pursuant to Section 01502 of the Technical Specifications (Appendix E of the FS/RAP) and the contractor's SWPPP.

7.0 CERTIFICATION

In accordance with 40 CFR 761.3, I certify that all sampling plans, sample collection procedures, and laboratory reports presenting sample preparation procedures, extraction procedures, and instrument/chemical analysis procedures used to assess or characterize the PCB contamination in soil and concrete at the Pechiney Facility in Vernon, California are on file at the offices of AMEC in Newport Beach, California for the work performed by Geomatrix Consultants on behalf of Pechiney Cast Plate, Inc. (the former property owner). All files are available for EPA's inspection.

8.0 REFERENCES

40 Code of Federal Regulations (CFR) 761 Polychlorinated Biphenyls (PCBs) Manufacturing, Processing, Distribution, in Commerce, and Use Prohibitions.

40 Code of Federal Regulations (CFR), 1998, Parts 750 and 761 Disposal of Polychlorinated Biphenyls (PCBs) Final Rule, June 29.

A.J. Ursic, Jr., 1999a, Aluminum Company of America Divestiture of The Alcoa Cast Plate Facility, Parcels 6, 7, and 8, Vernon, California, May 28.

A.J. Ursic, Jr., 1999b, Aluminum Company of America Divestiture of The Alcoa Cast Plate Facility, Parcels 6, 7, and 8, Vernon, California, July 26.

A.J. Ursic, Jr., 1999c, Aluminum Company of America Divestiture of The Alcoa Cast Plate Facility, Parcels 6, 7, and 8, Vernon, California, August 16.

AMEC Geomatrix, Inc., 2009, Site Health and Safety Plan, Pechiney Cast Plate Facility, Vernon, California, July 9.

Californian Regional Water Quality Control Board, Los Angeles Region (RWQCB), June 1994, Water Quality Control Plan, Los Angeles Region, Basin Plan for the Coastal Watersheds of Los Angeles and Ventura Counties, June 13.

City of Vernon Health & Environmental Control, 2007, letter to Ms. Linda Conlan re: Polychlorinated Biphenyls (PCBs) Notification Plan; Alcan/Pechiney Cast Plate, 3200 Fruitland Avenue, Vernon, CA 90058, February 6.

Department of Toxic Substances Control (DTSC), 1996, Supplemental Guidance for Human Health Multimedia Risk Assessments of Hazardous Waste Sites and Permitted Facilities, Office of the Scientific Advisor, California Environmental Protection Agency, Department of Toxic Substances Control, Sacramento, California.

DTSC, 1999, Preliminary Endangerment Assessment Guidance Manual, California Environmental Protection Agency, Department of Toxic Substances Control, Sacramento, California.

DTSC, 2005, Recommended DTSC Default Exposure Factors for Use In Risk Assessment at California Military Facilities, Human and Ecological Risk Division (HERD), HERD HHRA Note Number 1, October 27.

Geomatrix Consultants, Inc. (Geomatrix), 2006a, Phase II Environmental Site Assessment Report, Pechiney Cast Plate Facility, Vernon, California, March 9.

Geomatrix, 2006b, Below Grade Demolition Plan, Pechiney Cast Plate, Inc. Facility, Vernon, California, May 23.

Geomatrix, 2006c, PCB Notification Plan, Pechiney Cast Plate, Inc. Facility, Vernon, California, September 27.

Geomatrix, 2006d, Supplemental Phase II Environmental Site Assessment Report, Pechiney Cast Plate Facility, Vernon, California, December 19.

Geomatrix, 2006e, Above Grade Demolition Completion Report, Pechiney Cast Plate, Inc. Facility, Vernon, California, December 26.

Geomatrix, 2007, Quality Assurance Project Plan, Pechiney Cast Plate Facility, Vernon, California, April.

Geomatrix, 2008, Feasibility Study/Remedial Action Plan, Former Pechiney Cast Plate, Inc., Facility, 3200 Fruitland Avenue, Vernon, California. July 27.

Geoscience, 2005, Hydrogeological Evaluation of City of Vernon Ground Water Supplies, October 21.

Geraghty and Miller, Inc. (GM), 1990, Final Report, Phase II Environmental Assessment for Alcoa – Vernon Plant, Vernon, California, September.

Geraghty & Miller, Inc., 1995, Submittal of Well Destruction Plan, Alcoa-Vernon Works, 5151 Alcoa Avenue, Vernon, California, June 19.

Harbaugh, A.W., E.R. Banta, M.C. Hill, and M.G. McDonald, 2000, MODFLOW-2000, The U.S. Geological Survey Modular Ground-water Model – User Guide to Modularization Concepts and the Ground-Water Flow Process: U.S. Geological Survey Open-File Report 00-92, p. 121.

HydroGeologic, Inc., 2006, MODFLOW-SURFACT (version 3.0), Reston, Virginia, May.

Morrison Knudsen Corporation, 1995, Final Report Stoddard Solvent System Field Investigation, Aluminum Company of America, October 27.

McCulley, Frick & Gilman (MFG), 1998, Limited Phase II Environmental Investigation, Alcoa Cast Plate, 5151/5401 Alcoa Avenue, Vernon, California, September 15.

National Research Council, 1988, Chemical Mixtures, National Academy Press, Washington, D.C..

OEHHA, 2005, Human-Exposure-Based Screening Numbers Developed to Aid Estimation of Cleanup Costs for Contaminated Soil, California Environmental Protection Agency, January.

Parametric Technology Corporation, 2007, Mathcad (version 14.0), Needham, Massachusetts, February.

Presidential/Congressional Commission of Risk Assessment and Risk Management (Risk Commission), 1997, Final Report, Volume 2, Risk Management in Regulatory Decision-Making.

Ravi, V. and J.A. Johnson, 1994, VLEACH (version 2.1), Center for Subsurface Modeling Support, Robert Kerr Environmental Research Laboratory, Ada, Oklahoma.

Seed, J., R.P. Brown, S.S. Olin, and J.A. Foran, 1995, Chemical Mixtures: Current Risk Assessment Methodologies and Future Directions, Regulatory Toxicology and Pharmacology, 22:76-94.

U.S. EPA, 1988, Guidance for Conducting Remedial Investigations and Feasibility Studies under CERCLA, Office of Emergency and Remedial Response, Directive 9355.3-01, October.

U.S. EPA, 1989, Risk Assessment Guidance for Superfund Volume I: Human Health Evaluation Manual, (Part A), Office of Emergency and Remedial Response, Directive 9285.701A, December.

U.S. EPA, 1991, Role of the Baseline Risk Assessment in Superfund Remedy Selection Decisions, Office of Solid Waste and Emergency Response, OSWER Directive 9355.0-30, April 22

U.S. EPA, 1995, Land Use in the CERCLA Remedy Selection Process, Directive 9355.7-04, Office of Solid Waste and Emergency Response, May.

U.S. EPA, 1996, Soil Screening Guidance: Users Guide and Technical Background Document, Office of Solid Waste and Emergency Response, Washington, D.C., EPA/540/R-95/128, May.

U.S.EPA, 2005, PCB Site Revitalization Guidance Under the Toxics Substances Control Act (TSCA), November 2005.

U.S. EPA, 2009, Integrated Risk Information System (IRIS) database, <http://www.epa.gov/IRIS/subst/index.html>.

United States Salinity Laboratory, 2000, ROSETTA (version 2.1), Agricultural Research Service, United States Department of Agriculture, November.

TABLES

TABLE 1
POLYCHLORINATED BIPHENYLS CONCRETE CHARACTERIZATION DATA
Former Pechiney Cast Plate, Inc., Facility
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Results shown in micrograms per kilogram (µg/kg)

Sample Location	Sample ID	Phase Area	Sample Depth[1] (Feet)	Sample Date	EPA Method	Aroclor 1016	Aroclor 1221	Aroclor 1232	Aroclor 1242	Aroclor 1248	Aroclor 1254	Aroclor 1260	Total PCBs	Data Source
#2	02-CS-0.3	I	0.3	11/30/05	8082	<2000[2]	<2000	<2000	<2000	7200	<2000	<2000	7200	Geomatrix, 2006a[3]
#2	02-CS-0.3B	I	0.3 [4]	12/05/05	8082	<100	<100	<100	<100	150	<100	<100	150	Geomatrix, 2006a
#5	05-CS-0.3	I	0.3	12/05/05	8082	<2000	<2000	<2000	<2000	<2000	<2000	<2000	<2000	Geomatrix, 2006a
#10	10-CS-0.3	I	0.3	11/30/05	8082	<10,000	<10,000	<10,000	<10,000	32,000	<10,000	<10,000	32,000	Geomatrix, 2006a
#10	10-CS-0.3B	I	0.3 [4]	12/05/05	8082	<100	<100	<100	<100	180	<100	<100	180	Geomatrix, 2006a
#15	15A-CS-0.3	I	0.3	12/05/05	8082	<200	<200	<200	<200	1100	<200	<200	1100	Geomatrix, 2006a
#16	16-CS-0.3	I	0.3	12/05/05	8082	<10,000	<10,000	<10,000	<10,000	11,000	<10,000	<10,000	11,000	Geomatrix, 2006a
#17	17-CS-0.3	I	0.3	11/28/05	8082	<400	<400	<400	<400	2200	<400	<400	2200	Geomatrix, 2006a
#17	17-CS-0.3B	I	0.3 [4]	12/05/05	8082	<100	<100	<100	<100	100	<100	<100	100	Geomatrix, 2006a
#18	18-CS-0.3	I	0.3	11/28/05	8082	<200	<200	<200	<200	<200	<200	<200	<200	Geomatrix, 2006a
#18	18-CS-0.3B	I	0.3 [4]	12/05/05	8082	<400	<400	<400	<400	610	<400	<400	610	Geomatrix, 2006a
#19	19-CS-0.3	I	0.3	11/28/05	8082	<1000	<1000	<1000	<1000	1800	<1000	<1000	1800	Geomatrix, 2006a
#19	19-CS-0.3B	I	0.3 [4]	12/05/05	8082	<400	<400	<400	<400	830	<400	<400	830	Geomatrix, 2006a
#21	21-CS-0.3	I	0.3	12/05/05	8082	<200	<200	<200	<200	7200	<200	<200	7200	Geomatrix, 2006a
B3-4	NA[5]	I	NA	09/06/90	8080	NA	NA	NA	NA	NA	NA	NA	96	GM, 1990[6]
B3-7	NA	I	NA	09/06/90	8080	NA	NA	NA	NA	NA	NA	NA	79	GM, 1990
C-2	Core-2	I	0.3	07/01/98	8082	<33	<33	<33	<33	73	<33	<33	73	MFG, 1998[7]
C-3	Core-3	I	0.3	07/01/98	8082	<6600	<6600	<6600	<6600	71,000	<6600	<6600	71,000	MFG, 1998
C-4	Core-4	I	0.3	07/01/98	8082	<33	<33	<33	<33	280	<33	65	345	MFG, 1998
C-5	Core-5	I	0.3	07/01/98	8082	<33	<33	<33	<33	88	<33	<33	88	MFG, 1998
C-6	Core-6	I	0.3	07/01/98	8082	<33	<33	<33	<33	730	<33	190	920	MFG, 1998
C-7	Core-7	I	0.3	07/01/98	8082	<33	<33	<33	<33	200	<33	<33	200	MFG, 1998
C-8	Core-8	I	0.3	07/01/98	8082	<130	<130	<130	<130	1000	<130	<130	1000	MFG, 1998
C-9	Core-9	I	0.3	07/01/98	8082	<33	<33	<33	<33	110	<33	<33	110	MFG, 1998
C-10	Core-10	I	0.3	07/01/98	8082	<33	<33	<33	<33	33	<33	<33	33	MFG, 1998
C-11	Core-11	I	0.3	07/01/98	8082	<33	<33	<33	<33	<33	<33	<33	<33	MFG, 1998
C-12	Core-12	I	0.3	07/01/98	8082	<160	<160	<160	<160	<160	1800	<160	1800	MFG, 1998
DC-1	Core-1-A	I	0.02	07/24/06	8082	<1500	<1500	<1500	<1500	2500	<1500	<1500	2500	MFG, 1998
DC-2	Core-2-A	I	0.02	07/24/06	8082	<510	<510	<510	<510	<510	<510	<510	<510	MFG, 1998
DC-2	Core-2-D	I	0.17	07/24/06	8082	<510	<510	<510	<510	<510	<510	<510	<510	MFG, 1998
DC-3	Core-3-A	I	0.02	07/24/06	8082	<500	<500	<500	<500	<500	<500	<500	<500	MFG, 1998
DC-3	Core-3-D	I	0.17	07/24/06	8082	<510	<510	<510	<510	940	<510	<510	940	MFG, 1998
DC-4	Core-4-A	I	0.02	07/24/06	8082	<460	<460	<460	<460	<460	<460	<460	<460	MFG, 1998

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DC-5	Core-5-A	I	0.02	07/24/06	8082	<660	<660	<660	<660	<660	<660	<660	<660	MFG, 1998
DC-5	Core-5-D	I	0.17	07/24/06	8082	<1600	<1600	<1600	<1600	9300	<1600	<1600	9300	MFG, 1998
DC-6	Core-6-A	I	0.02	07/24/06	8082	<1600	<1600	<1600	<1600	2700	<1600	<1600	2700	MFG, 1998
DC-7	Core-7-A	I	0.02	07/24/06	8082	<440	<440	<440	<440	<440	<440	<440	<440	MFG, 1998
DC-8	Core-8-A	I	0.02	07/24/06	8082	<450	<450	<450	<450	<450	<450	<450	<450	MFG, 1998
DC-9	Core-9-A	I	0.02	07/24/06	8082	<900	<900	<900	<900	1700	<900	<900	1700	MFG, 1998
DC-9	Core-9-D	I	0.17	07/24/06	8082	<600	<600	<600	<600	1300	<600	<600	1300	MFG, 1998
DC-10	Core-10-A	I	0.02	07/24/06	8082	<1300	<1300	<1300	<1300	2500	<1300	<1300	2500	MFG, 1998
DC-11	Core-11-A	I	0.02	07/24/06	8082	<1000	<1000	<1000	<1000	2500	<1000	<1000	2500	MFG, 1998
DC-12	Core-12-A	I	0.02	07/24/06	8082	<680	<680	<680	<680	<680	<680	<680	<680	MFG, 1998
DC-13	Core-13-A	I	0.02	07/24/06	8082	<570	<570	<570	<570	<570	<570	<570	<570	MFG, 1998
DC-14	Core-14-A	I	0.02	07/24/06	8082	<500	<500	<500	<500	<500	<500	<500	<500	MFG, 1998
DC-15	Core-15-A	I	0.02	07/24/06	8082	<370	<370	<370	<370	<370	<370	<370	<370	MFG, 1998
DC-16	Core-16-A	I	0.02	07/24/06	8082	<430	<430	<430	<430	<430	<430	<430	<430	MFG, 1998
DC-17	Core-17-A	I	0.02	08/04/06	8082	<290	<290	<290	<290	550	<290	<290	550	MFG, 1998
DC-18	Core-18-A	I	0.02	08/04/06	8082	<280	<280	<280	<280	<280	<280	<280	<280	MFG, 1998
DC-21	Core-21-A	I	0.02	08/04/06	8082	<360	<360	<360	<360	600	<360	<360	600	MFG, 1998
DC-80	Core-80-A	I	0.25	11/13/06	8082	<200	<200	<200	<200	<200	<200	<200	<200	MFG, 1998
DC-81	Core-81-A	I	0.25	11/13/06	8082	<200	<200	<200	<200	<200	<200	<200	<200	MFG, 1998
DC-82	Core-82-A	I	0.25	11/13/06	8082	<200	<200	<200	<200	<200	<200	<200	<200	MFG, 1998
DC-83	Core-83-A	I	0.25	11/13/06	8082	<200	<200	<200	<200	<200	<200	<200	<200	MFG, 1998
DC-84	Core-84-A	I	0.25	11/13/06	8082	<200	<200	<200	<200	<200	<200	<200	<200	MFG, 1998
DC-85	Core-85-A	I	0.25	11/13/06	8082	<200	<200	<200	<200	<200	<200	<200	<200	MFG, 1998
DC-86	Core-86-A	I	0.25	11/13/06	8082	<200	<200	<200	<200	<200	<200	<200	<200	MFG, 1998
DC-87	Core-87-A	I	0.25	11/13/06	8082	<200	<200	<200	<200	<200	<200	<200	<200	MFG, 1998
DC-88	Core-88-A	I	0.25	11/13/06	8082	<200	<200	<200	<200	<200	<200	<200	<200	MFG, 1998
DC-89	Core-89-A	I	0.25	11/13/06	8082	<200	<200	<200	<200	<200	<200	<200	<200	MFG, 1998
DC-90	Core-90-A	I	0.25	11/13/06	8082	<400	<400	<400	<400	<400	<400	<400	<400	MFG, 1998
DC-91	Core-91-A	I	0.25	11/13/06	8082	<200	<200	<200	<200	<200	<200	<200	<200	MFG, 1998
DC-92	Core-92-A	I	0.25	11/13/06	8082	<2000	<2000	<2000	<2000	4500	<2000	<2000	4500	MFG, 1998
DC-93	Core-93-A	I	0.25	11/30/06	8082	<4000	<4000	<4000	<4000	8800	<4000	<4000	8800	MFG, 1998
DC-94	Core-94-A	I	0.25	11/30/06	8082	<200	<200	<200	<200	<200	<200	<200	<200	MFG, 1998
DC-95	Core-95-A	I	0.25	11/30/06	8082	<200	<200	<200	<200	<200	<200	<200	<200	MFG, 1998

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DC-96	Core-96-A	I	0.25	11/14/06	8082	<200	<200	<200	<200	<200	<200	<200	<200	MFG, 1998
DC-97	Core-97-A	I	0.25	11/14/06	8082	<200	<200	<200	<200	<200	<200	<200	<200	MFG, 1998
DC-98	Core-98-A	I	0.25	11/14/06	8082	<200	<200	<200	<200	2800	<200	<200	2800	MFG, 1998
DC-99	Core-99-A	I	0.25	11/14/06	8082	<200	<200	<200	<200	<200	<200	<200	<200	MFG, 1998
DC-100	Core-100-A	I	0.25	11/14/06	8082	<200	<200	<200	<200	270	<200	<200	270	MFG, 1998
DC-101	Core-101-A	I	0.25	11/14/06	8082	<200	<200	<200	<200	4800	<200	<200	4800	MFG, 1998
DC-102	Core-102-A	I	0.25	11/14/06	8082	<200	<200	<200	<200	2300	<200	<200	2300	MFG, 1998
DC-103	Core-103-A	I	0.25	11/13/06	8082	<20,000	<20,000	<20,000	<20,000	77,000	<20,000	<20,000	77,000	MFG, 1998
DC-104	Core-104-A	I	0.25	11/13/06	8082	<200	<200	<200	<200	310	<200	<200	310	MFG, 1998
DC-105	Core-105-A	I	0.25	11/13/06	8082	<200	<200	<200	<200	320	<200	<200	320	MFG, 1998
DC-106	Core-106-A	I	0.25	11/13/06	8082	<200	<200	<200	<200	1500	<200	<200	1500	MFG, 1998
DC-107	Core-107-A	I	0.25	11/13/06	8082	<200	<200	<200	<200	1800	<200	<200	1800	MFG, 1998
DC-108	Core-108-A	I	0.25	11/13/06	8082	<200	<200	<200	<200	600	<200	<200	600	MFG, 1998
DC-109	Core-109-A	I	0.25	11/14/06	8082	<200	<200	<200	<200	260	<200	<200	260	MFG, 1998
DC-110	Core-110-A	I	0.25	11/14/06	8082	<200	<200	<200	<200	<200	<200	<200	<200	MFG, 1998
DC-111	Core-111-A	I	0.25	11/14/06	8082	<200	<200	<200	<200	370	<200	<200	370	MFG, 1998
DC-112	Core-112-A	I	0.25	11/14/06	8082	<200	<200	<200	<200	<200	<200	<200	<200	MFG, 1998
DC-113	Core-113-A	I	0.25	11/14/06	8082	<200	<200	<200	<200	<200	<200	<200	<200	MFG, 1998
DC-114	Core-114-A	I	0.25	11/14/06	8082	<200	<200	<200	<200	450	<200	<200	450	MFG, 1998
DC-115	Core-115-A	I	0.25	11/14/06	8082	<2000	<2000	<2000	<2000	4100	<2000	<2000	4100	MFG, 1998
DC-116	Core-116-A	I	0.25	11/14/06	8082	<10,000	<10,000	<10,000	<10,000	20,000	<10,000	<10,000	20,000	MFG, 1998
DC-117	Core-117-A	I	0.25	11/14/06	8082	<200	<200	<200	<200	1200	<200	<200	1200	MFG, 1998
DC-118	Core-118-A	I	0.25	11/14/06	8082	<2000	<2000	<2000	<2000	5900	<2000	<2000	5900	MFG, 1998
DC-119	Core-119-A	I	0.25	11/14/06	8082	<200	<200	<200	<200	820	<200	<200	820	MFG, 1998
DC-120	Core-120-A	I	0.25	11/14/06	8082	<1000	<1000	<1000	<1000	2500	<1000	<1000	2500	MFG, 1998
DC-121	Core-121-A	I	0.25	11/14/06	8082	<2000	<2000	<2000	<2000	8500	<2000	<2000	8500	MFG, 1998
DC-125	Core-125-A	I	0.25	11/13/06	8082	<200	<200	<200	<200	530	<200	<200	530	MFG, 1998
DC-126	Core-126-A	I	0.25	11/13/06	8082	<200	<200	<200	<200	430	<200	<200	430	MFG, 1998
DC-127	Core-127-A	I	0.25	11/13/06	8082	<200	<200	<200	<200	<200	<200	<200	<200	MFG, 1998
DC-128	Core-128-A	I	0.25	11/13/06	8082	<200	<200	<200	<200	420	<200	<200	420	MFG, 1998
DC-130	Core-130-A	I	0.25	11/30/06	8082	<2000	<2000	<2000	<2000	6400	<2000	<2000	6400	MFG, 1998
DC-131	Core-131-A	I	0.25	11/30/06	8082	<4000	<4000	<4000	<4000	9400	<4000	<4000	9400	MFG, 1998
DC-132	Core-132A	I	0.25	01/15/07	8082	<200	<200	<200	<200	<200	<200	<200	<200	MFG, 1998

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DC-151	Core-151-A	I	0.25	11/30/06	8082	<20,000	<20,000	<20,000	<20,000	42,000	<20,000	<20,000	42,000	MFG, 1998
DC-152	Core-152-A	I	0.25	11/30/06	8082	<200	<200	<200	<200	750	<200	<200	750	MFG, 1998
DC-153	Core-153-A	I	0.25	11/30/06	8082	<2000	<2000	<2000	<2000	3000	<2000	<2000	3000	MFG, 1998
DC-154	Core-154-A	I	0.25	11/30/06	8082	<2000	<2000	<2000	<2000	3700	<2000	<2000	3700	MFG, 1998
DC-155	Core-155-A	I	0.25	11/30/06	8082	<2000	<2000	<2000	<2000	5000	<2000	<2000	5000	MFG, 1998
DC-156	Core-156-A	I	0.25	11/30/06	8082	<2000	<2000	<2000	<2000	11,000	<2000	<2000	11,000	MFG, 1998
DC-157	Core-157-A	I	0.25	11/30/06	8082	<20,000	<20,000	<20,000	<20,000	21,000	<20,000	<20,000	21,000	MFG, 1998
DC-158	Core-158-A	I	0.25	11/30/06	8082	<2000	<2000	<2000	<2000	12,000	<2000	<2000	12,000	MFG, 1998
DC-159	Core-159-A	I	0.25	11/30/06	8082	<200	<200	<200	<200	470	<200	<200	470	MFG, 1998
DC-160	Core-160-A	I	0.25	11/30/06	8082	<200	<200	<200	<200	1100	<200	<200	1100	MFG, 1998
DC-161	Core-161-A	I	0.25	11/30/06	8082	<200	<200	<200	<200	1000	<200	<200	1000	MFG, 1998
DC-162	Core-162-A	I	0.25	11/30/06	8082	<2000	<2000	<2000	<2000	5800	<2000	<2000	5800	MFG, 1998
DC-163	Core-163-A	I	0.25	11/30/06	8082	<200	<200	<200	<200	430	<200	<200	430	MFG, 1998
DC-163	Core-163-B	I	0.02	11/30/06	8082	<200	<200	<200	<200	490	<200	<200	490	MFG, 1998
DC-164	Core-164-A	I	0.25	11/30/06	8082	<2000	<2000	<2000	<2000	3600	<2000	<2000	3600	MFG, 1998
DC-165	Core-165-A	I	0.25	11/30/06	8082	<200	<200	<200	<200	290	<200	<200	290	MFG, 1998
DC-166	Core-166-A	I	0.25	11/30/06	8082	<200	<200	<200	<200	250	<200	<200	250	MFG, 1998
DC-167	Core-167-A	I	0.25	11/30/06	8082	<2000	<2000	<2000	<2000	5800	<2000	<2000	5800	MFG, 1998
DC-168	Core-168-A	I	0.25	11/30/06	8082	<20,000	<20,000	<20,000	<20,000	150,000	<20,000	<20,000	150,000	MFG, 1998
DC-169	Core-169-A	I	0.25	11/30/06	8082	<200	<200	<200	<200	<200	<200	<200	<200	MFG, 1998
DC-170	Core-170-A	I	0.25	11/30/06	8082	<200	<200	<200	<200	<200	<200	<200	<200	MFG, 1998
DC-171	Core-171-A	I	0.25	11/30/06	8082	<200	<200	<200	<200	<200	<200	<200	<200	MFG, 1998
DC-172	Core-172-A	I	0.25	01/15/07	8082	<200	<200	<200	<200	<200	<200	<200	<200	MFG, 1998
DC-173	Core-173-A	I	0.25	01/15/07	8082	<2000	<2000	<2000	<2000	7500	<2000	<2000	7500	MFG, 1998
DC-174	Core-174-A	I	0.25	01/15/07	8082	<2000	<2000	<2000	<2000	3700	<2000	<2000	3700	MFG, 1998
DC-175	Core-175-A	I	0.25	01/15/07	8082	<200	<200	<200	<200	<200	<200	<200	<200	MFG, 1998
DC-176	Core-176-A	I	0.25	01/15/07	8082	<200	<200	<200	<200	<200	<200	<200	<200	MFG, 1998
DC-177	Core-177-A	I	0.25	01/15/07	8082	<200	<200	<200	<200	760	<200	<200	760	MFG, 1998
DC-178	Core-178-A	I	0.25	01/15/07	8082	<200	<200	<200	<200	2200	<200	<200	2200	MFG, 1998
DC-179	Core-179-A	I	0.25	01/15/07	8082	<2000	<2000	<2000	<2000	31,000	<2000	<2000	31,000	MFG, 1998
DC-185	Core-185A	I	0.25	02/13/07	8082	<200	<200	<200	<200	<200	<200	<200	<200	MFG, 1998
DC-186	Core-186A	I	0.25	02/13/07	8082	<200	<200	<200	<200	1500	<200	<200	1500	MFG, 1998
DC-191	Core-191A	I	0.25	02/13/07	8082	<200	<200	<200	<200	3100	<200	<200	3100	MFG, 1998

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Vernon, California

Results shown in micrograms per kilogram (µg/kg)

Sample Location	Sample ID	Phase Area	Sample Depth[1] (Feet)	Sample Date	EPA Method	Aroclor 1016	Aroclor 1221	Aroclor 1232	Aroclor 1242	Aroclor 1248	Aroclor 1254	Aroclor 1260	Total PCBs	Data Source
DC-192	Core-192A	I	0.25	02/13/07	8082	<200	<200	<200	<200	<200	<200	<200	<200	MFG, 1998
DC-193	Core-193A	I	0.25	02/13/07	8082	<200	<200	<200	<200	<200	<200	<200	<200	MFG, 1998
DC-199	Core-199A	I	0.25	02/14/07	8082	<200	<200	<200	<200	290	<200	<200	290	MFG, 1998
DC-200	Core-200A	I	0.25	02/14/07	8082	<200	<200	<200	<200	260	<200	<200	260	MFG, 1998
DC-201	Core-201A	I	0.25	02/14/07	8082	<200	<200	<200	<200	980	<200	<200	980	MFG, 1998
DC-201	Core-201B	I	0.25	02/14/07	8082	<200	<200	<200	<200	240	<200	<200	240	MFG, 1998
DC-202	Core-202A	I	0.25	02/14/07	8082	<200	<200	<200	<200	570	<200	<200	570	MFG, 1998
DC-202	Core-202B	I	0.25	02/14/07	8082	<200	<200	<200	<200	340	<200	<200	340	MFG, 1998
#26	26-CS-0.3	II	0.3	12/05/05	8082	<1000	<1000	<1000	<1000	1300	<1000	<1000	1300	Geomatrix, 2006a
#27	27-CS-0.3	II	0.3	12/05/05	8082	<200	<200	<200	<200	<200	<200	<200	<200	Geomatrix, 2006a
#41	41-CS-0.3	II	0.3	11/28/05	8082	<400,000	<400,000	<400,000	<400,000	3,300,000	<400,000	<400,000	3,300,000	Geomatrix, 2006a
#41	41-CS-0.3B	II	0.3 [4]	12/05/05	8082	<20,000	<20,000	<20,000	<20,000	120,000	<20,000	<20,000	120,000	Geomatrix, 2006a
#73	73-CS-0.3	II	0.3	12/05/05	8082	<100	<100	<100	<100	230	<100	<100	230	Geomatrix, 2006a
#73	73-CS-0.3B	II	0.3 [4]	12/05/05	8082	<200	<200	<200	<200	240	<200	<200	240	Geomatrix, 2006a
#74	74-CS-0.3	II	0.3	11/28/05	8082	<2000	<2000	<2000	<2000	5600	<2000	<2000	5600	Geomatrix, 2006a
#74	74-CS-0.3B	II	0.3 [4]	12/05/05	8082	<100	<100	<100	<100	170	<100	<100	170	Geomatrix, 2006a
#100	100-CS-0.3	II	0.3	04/11/06	8082	<200	<200	<200	<200	<200	<200	<200	<200	Geomatrix, 2006b[8]
#101	101-CS-0.3	II	0.3	04/11/06	8082	<200	<200	<200	<200	<200	<200	<200	<200	Geomatrix, 2006b
C-1	Core-1	II	0.3	07/01/98	8082	<660	<660	<660	<660	4900	<660	1800	6700	MFG, 1998
C-13	Core-13	II	0.3	07/01/98	8082	<33	<33	<33	<33	47	<33	<33	47	MFG, 1998
C-14	Core-14	II	0.3	07/01/98	8082	<160	<160	<160	<160	<160	<160	2000	2000	MFG, 1998
C-15	Core-15	II	0.3	07/01/98	8082	<33	<33	<33	<33	<33	<33	<33	<33	MFG, 1998
C-16	Core-16	II	0.3	07/01/98	8082	<33	<33	<33	<33	<33	<33	<33	<33	MFG, 1998
C-17	Core-17	II	0.3	07/01/98	8082	<33	<33	<33	<33	50	<33	<33	50	MFG, 1998
C-18	Core-18	II	0.3	07/01/98	8082	<33	<33	<33	<33	68	<33	<33	68	MFG, 1998
C-19	Core-19	II	0.3	07/01/98	8082	<33	<33	<33	<33	100	<33	35	135	MFG, 1998
C-20	Core-20	II	0.3	07/01/98	8082	<33	<33	<33	<33	48	<33	<33	48	MFG, 1998
C-21	Core-21	II	0.3	07/01/98	8082	<33	<33	<33	<33	<33	<33	<33	<33	MFG, 1998
C-22	Core-22	II	0.3	07/01/98	8082	<33	<33	<33	<33	67	<33	<33	67	MFG, 1998
C-23	Core-23	II	0.3	07/01/98	8082	<33	<33	<33	<33	<33	<33	<33	<33	MFG, 1998
C-24	Core-24	II	0.3	07/01/98	8082	<33	<33	<33	<33	<33	<33	<33	<33	MFG, 1998
C-25	Core-25	II	0.3	07/01/98	8082	<33	<33	<33	<33	<33	<33	<33	<33	MFG, 1998
C-26	Core-26	II	0.3	07/01/98	8082	<330	<330	<330	<330	2200	<330	460	2660	MFG, 1998

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Sample Location	Sample ID	Phase Area	Sample Depth[1] (Feet)	Sample Date	EPA Method	Aroclor 1016	Aroclor 1221	Aroclor 1232	Aroclor 1242	Aroclor 1248	Aroclor 1254	Aroclor 1260	Total PCBs	Data Source
C-27	Core-27	II	0.3	07/01/98	8082	<33	<33	<33	<33	82	<33	<33	82	MFG, 1998
C-28	Core-28	II	0.3	07/01/98	8082	<6600	<6600	<6600	<6600	30,000	<6600	<6600	30,000	MFG, 1998
C-29	Core-29	II	0.3	07/01/98	8082	<33	<33	<33	<33	560	<33	89	649	MFG, 1998
C-30	Core-30	II	0.3	07/01/98	8082	<33	<33	<33	<33	44	<33	<33	44	MFG, 1998
DC-19	Core-19-A	II	0.02	08/04/06	8082	<290	<290	<290	<290	<290	<290	<290	<290	Geomatrix[9]
DC-19	Core-19-D	II	0.17	08/04/06	8082	<340	<340	<340	<340	<340	<340	<340	<340	Geomatrix
DC-20	Core-20-A	II	0.02	08/04/06	8082	<290	<290	<290	<290	<290	<290	<290	<290	Geomatrix
DC-20	Core-20-D	II	0.17	08/04/06	8082	<380	<380	<380	<380	<380	<380	<380	<380	Geomatrix
DC-22	Core-22-A	II	0.02	08/04/06	8082	<350	<350	<350	<350	<350	<350	470	470	Geomatrix
DC-23	Core-23-A	II	0.02	08/04/06	8082	<270	<270	<270	<270	<270	<270	840	840	Geomatrix
DC-35	Core-35-A	II	0.17	09/06/06	8082	<350	<350	<350	<350	<350	<350	<350	<350	Geomatrix
DC-35	Core-35-D	II	0.17	09/06/06	8082	<350	<350	<350	<350	<350	<350	<350	<350	Geomatrix
DC-36	Core-36-A	II	0.02	09/21/06	8082	<450	<450	<450	<450	<450	<450	<450	<450	Geomatrix
DC-37	Core-37-A	II	0.02	09/21/06	8082	<350	<350	<350	<350	400	<350	820	1220	Geomatrix
DC-38	Core-38-A	II	0.02	09/21/06	8082	<36,000	<36,000	<36,000	<36,000	71,000	<36,000	<36,000	71,000	Geomatrix
DC-38	Core-38-B	II	0.10	09/21/06	8082	<2000	<2000	<2000	<2000	15,000	<2000	<2000	15,000	Geomatrix
DC-38	Core-38-C	II	0.13	09/21/06	8082	<2000	<2000	<2000	<2000	2000	<2000	<2000	2000	Geomatrix
DC-39	Core-39-A	II	0.02	09/21/06	8082	<44,000	<44,000	<44,000	<44,000	650,000	<44,000	<44,000	650,000	Geomatrix
DC-39	Core-39-B	II	0.10	09/21/06	8082	<100,000	<100,000	<100,000	<100,000	1,400,000	<100,000	<100,000	1,400,000	Geomatrix
DC-39	Core-39-C	II	0.13	09/21/06	8082	<20,000	<20,000	<20,000	<20,000	140,000	<20,000	<20,000	140,000	Geomatrix
DC-40	Core-40-A	II	0.02	09/21/06	8082	<36,000	<36,000	<36,000	<36,000	120,000	<36,000	<36,000	120,000	Geomatrix
DC-40	Core-40-B	II	0.10	09/21/06	8082	<100,000	<100,000	<100,000	<100,000	370,000	<100,000	<100,000	370,000	Geomatrix
DC-40	Core-40-C	II	0.13	09/21/06	8082	<20,000	<20,000	<20,000	<20,000	82,000	<20,000	<20,000	82,000	Geomatrix
DC-41	Core-41-A	II	0.02	09/21/06	8082	<310	<310	<310	<310	<310	<310	<310	<310	Geomatrix
DC-42	Core-42-A	II	0.02	09/21/06	8082	<270	<270	<270	<270	<270	<270	<270	<270	Geomatrix
DC-43	Core-43-A	II	0.02	09/21/06	8082	<200	<200	<200	<200	<200	<200	<200	<200	Geomatrix
DC-44	Core-44-A	II	0.02	09/21/06	8082	<420	<420	<420	<420	<420	<420	<420	<420	Geomatrix
DC-45	Core-45-A	II	0.02	10/10/06	8082	<300	<300	<300	<300	470	<300	<300	470	Geomatrix
DC-46	Core-46-A	II	0.02	10/10/06	8082	<360	<360	<360	<360	520	<360	<360	520	Geomatrix
DC-47	Core-47-A	II	0.02	10/10/06	8082	<270	<270	<270	<270	1200	<270	<270	1200	Geomatrix
DC-48	Core-48-A	II	0.02	10/10/06	8082	<340	<340	<340	<340	<340	<340	<340	<340	Geomatrix
DC-49	Core-49-A	II	0.02	10/10/06	8082	<360	<360	<360	<360	<360	<360	<360	<360	Geomatrix
DC-50	Core-50-A	II	0.02	10/10/06	8082	<310	<310	<310	<310	510	<310	<310	510	Geomatrix

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Sample Location	Sample ID	Phase Area	Sample Depth[1] (Feet)	Sample Date	EPA Method	Aroclor 1016	Aroclor 1221	Aroclor 1232	Aroclor 1242	Aroclor 1248	Aroclor 1254	Aroclor 1260	Total PCBs	Data Source
DC-51	Core-51-A	II	0.02	10/10/06	8082	<66,000	<66,000	<66,000	<66,000	730,000	<66,000	<66,000	730,000	Geomatrix
DC-51	Core-51-B	II	0.10	10/10/06	8082	<200,000	<200,000	<200,000	<200,000	660,000	<200,000	<200,000	660,000	Geomatrix
DC-51	Core-51-C	II	0.13	10/10/06	8082	<2000	<2000	<2000	<2000	28,000	<2000	<2000	28,000	Geomatrix
DC-52	Core-52-A	II	0.02	10/10/06	8082	<270	<270	<270	<270	1600	<270	<270	1600	Geomatrix
DC-53	Core-53-A	II	0.25	11/06/06	8082	<200	<200	<200	<200	<200	<200	<200	<200	Geomatrix
DC-54	Core-54-A	II	0.25	11/06/06	8082	<200	<200	<200	<200	<200	<200	<200	<200	Geomatrix
DC-55	Core-55-A	II	0.25	11/06/06	8082	<200	<200	<200	<200	<200	<200	<200	<200	Geomatrix
DC-64	Core-64-A	II	0.25	11/06/06	8082	<200	<200	<200	<200	<200	<200	<200	<200	Geomatrix
DC-65	Core-65-A	II	0.25	11/06/06	8082	<200	<200	<200	<200	<200	<200	<200	<200	Geomatrix
DC-66	Core-66-A	II	0.25	11/06/06	8082	<200	<200	<200	<200	<200	<200	<200	<200	Geomatrix
DC-67	Core-67-A	II	0.25	11/06/06	8082	<200	<200	<200	<200	<200	<200	<200	<200	Geomatrix
DC-68	Core-68-A	II	0.25	11/06/06	8082	<200	<200	<200	<200	<200	<200	<200	<200	Geomatrix
DC-69	Core-69-A	II	0.25	11/06/06	8082	<200	<200	<200	<200	580	<200	<200	580	Geomatrix
DC-70	Core-70-A	II	0.25	11/06/06	8082	<200	<200	<200	<200	<200	<200	<200	<200	Geomatrix
DC-71	Core-71-A	II	0.25	11/06/06	8082	<200	<200	<200	<200	<200	<200	<200	<200	Geomatrix
DC-72	Core-72-A	II	0.25	11/13/06	8082	<200	<200	<200	<200	<200	<200	<200	<200	Geomatrix
DC-73	Core-73-A	II	0.25	11/13/06	8082	<200	<200	<200	<200	<200	<200	<200	<200	Geomatrix
DC-74	Core-74-A	II	0.25	11/13/06	8082	<200	<200	<200	<200	<200	<200	<200	<200	Geomatrix
DC-75	Core-75-A	II	0.25	11/13/06	8082	<200	<200	<200	<200	<200	<200	<200	<200	Geomatrix
DC-76	Core-76-A	II	0.25	11/13/06	8082	<200	<200	<200	<200	<200	<200	<200	<200	Geomatrix
DC-77	Core-77-A	II	0.25	11/13/06	8082	<200	<200	<200	<200	350	<200	<200	350	Geomatrix
DC-78	Core-78-A	II	0.25	11/13/06	8082	<200	<200	<200	<200	<200	<200	<200	<200	Geomatrix
DC-79	Core-79-A	II	0.25	11/13/06	8082	<200	<200	<200	<200	<200	<200	<200	<200	Geomatrix
DC-122	Core-122-A	II	0.25	11/14/06	8082	<2000	<2000	<2000	<2000	13,000	<2000	<2000	13,000	Geomatrix
DC-123	Core-123-A	II	0.25	11/14/06	8082	<200	<200	<200	<200	2700	<200	<200	2700	Geomatrix
DC-124	Core-124-A	II	0.25	11/14/06	8082	<1000	<1000	<1000	<1000	4000	<1000	<1000	4000	Geomatrix
DC-129	Core-129-A	II	0.25	11/30/06	8082	<125	<125	<125	<125	<125	<125	<125	<125	Geomatrix
DC-133	Core-133-A	II	0.25	11/14/06	8082	<200	<200	<200	<200	<200	<200	<200	<200	Geomatrix
DC-134	Core-134-A	II	0.25	11/14/06	8082	<200	<200	<200	<200	<200	<200	<200	<200	Geomatrix
DC-135	Core-135-A	II	0.25	11/14/06	8082	<200	<200	<200	<200	<200	<200	<200	<200	Geomatrix
DC-136	Core-136-A	II	0.25	11/14/06	8082	<200	<200	<200	<200	<200	<200	<200	<200	Geomatrix
DC-137	Core-137-A	II	0.25	11/14/06	8082	<200	<200	<200	<200	470	<200	<200	470	Geomatrix
DC-138	Core-138-A	II	0.25	11/14/06	8082	<200	<200	<200	<200	<200	<200	<200	<200	Geomatrix

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DC-139	Core-139-A	II	0.25	11/14/06	8082	<200	<200	<200	<200	<200	<200	<200	<200	Geomatrix
DC-140	Core-140-A	II	0.25	11/14/06	8082	<200	<200	<200	<200	<200	<200	<200	<200	Geomatrix
DC-141	Core-141-A	II	0.25	11/14/06	8082	<10,000	<10,000	<10,000	<10,000	22,000	<10,000	<10,000	22,000	Geomatrix
DC-142	Core-142-A	II	0.25	11/14/06	8082	<200	<200	<200	<200	<200	<200	<200	<200	Geomatrix
DC-143	Core-143-A	II	0.25	11/14/06	8082	<200	<200	<200	<200	<200	<200	<200	<200	Geomatrix
DC-144	Core-144-A	II	0.25	11/30/06	8082	<200	<200	<200	<200	<200	<200	<200	<200	Geomatrix
DC-145	Core-145-A	II	0.25	11/30/06	8082	<200	<200	<200	<200	720	<200	<200	720	Geomatrix
DC-146	Core-146-A	II	0.25	11/30/06	8082	<200	<200	<200	<200	460	<200	<200	460	Geomatrix
DC-147	Core-147-A	II	0.25	11/30/06	8082	<2000	<2000	<2000	<2000	7000	<2000	<2000	7000	Geomatrix
DC-148	Core-148-A	II	0.25	11/30/06	8082	<2000	<2000	<2000	<2000	2000	<2000	<2000	2000	Geomatrix
DC-149	Core-149-A	II	0.25	11/30/06	8082	<2000	<2000	<2000	<2000	4700	<2000	<2000	4700	Geomatrix
DC-150	Core-150-A	II	0.25	11/30/06	8082	<2000	<2000	<2000	<2000	5200	<2000	<2000	5200	Geomatrix
DC-180	Core-180-A	II	0.25	01/15/07	8082	<1000	<1000	<1000	<1000	1600	<1000	<1000	1600	Geomatrix
DC-181	Core-181-A	II	0.25	01/15/07	8082	<2000	<2000	<2000	<2000	6500	<2000	<2000	6500	Geomatrix
DC-182	Core-182-A	II	0.25	01/15/07	8082	<2000	<2000	<2000	<2000	10,000	<2000	<2000	10,000	Geomatrix
DC-184	Core-184B	II	0.25	02/13/07	8082	<200	<200	<200	<200	240	<200	5000	5240	Geomatrix
DC-194	Core-194A	II	0.25	02/14/07	8082	<200	<200	<200	<200	<200	<200	<200	<200	Geomatrix
DC-195	Core-195A	II	0.25	02/14/07	8082	<200	<200	<200	<200	<200	<200	<200	<200	Geomatrix
DC-196	Core-196A	II	0.25	02/14/07	8082	<200	<200	<200	<200	460	<200	<200	460	Geomatrix
DC-197	Core-197A	II	0.25	02/14/07	8082	<200	<200	<200	<200	<200	<200	<200	<200	Geomatrix
DC-198	Core-198A	II	0.25	02/14/07	8082	<200	<200	<200	<200	<200	<200	<200	<200	Geomatrix
DC-203	Core-203A	II	0.25	02/14/07	8082	<200	<200	<200	<200	<200	<200	<200	<200	Geomatrix
DC-204	Core-204A	II	0.25	02/14/07	8082	<200	<200	<200	<200	<200	<200	<200	<200	Geomatrix
#48	48-CS-0.3	III	0.3	12/05/05	8082	<100	<100	<100	<100	100	<100	<100	100	Geomatrix, 2006a
#35	35-CS-0.3	IV	0.3	11/28/05	8082	<200	<200	<200	<200	<200	<200	<200	<200	Geomatrix, 2006a
#35	35-CS-0.3B	IV	0.3 [4]	12/05/05	8082	<100	<100	<100	<100	<100	<100	<100	<100	Geomatrix, 2006a
#36	36-CS-0.3	IV	0.3	12/05/05	8082	<200	<200	<200	<200	<200	<200	<200	<200	Geomatrix, 2006a
B-1	Core-B1	IV	0.3	07/01/98	8082	<33[2]	<33	<33	<33	240	<33	<33	240	MFG, 1998
B-2	Core-B2	IV	0.3	07/01/98	8082	<33	<33	<33	<33	59	<33	46	105	MFG, 1998
DC-24	Core-24-A	IV	0	09/06/06	8082	<300	<300	<300	<300	<300	<300	<300	<300	Geomatrix
DC-25	Core-25-A	IV	0	09/06/06	8082	<290	<290	<290	<290	<290	<290	<290	<290	Geomatrix
DC-26	Core-26-A	IV	0	09/06/06	8082	<300	<300	<300	<300	330	<300	<300	330	Geomatrix
DC-27	Core-27-A	IV	0	09/06/06	8082	<320	<320	<320	<320	<320	<320	<320	<320	Geomatrix

TABLE 1
POLYCHLORINATED BIPHENYLS CONCRETE CHARACTERIZATION DATA
Former Pechiney Cast Plate, Inc., Facility
Vernon, California

Results shown in micrograms per kilogram (µg/kg)

Sample Location	Sample ID	Phase Area	Sample Depth[1] (Feet)	Sample Date	EPA Method	Aroclor 1016	Aroclor 1221	Aroclor 1232	Aroclor 1242	Aroclor 1248	Aroclor 1254	Aroclor 1260	Total PCBs	Data Source
DC-28	Core-28A	IV	0	09/06/06	8082	<330	<330	<330	<330	<330	<330	<330	<330	Geomatrix
DC-29	Core-29-A	IV	0	09/06/06	8082	<400	<400	<400	<400	<400	<400	<400	<400	Geomatrix
DC-30	Core-30-A	IV	0	09/06/06	8082	<300	<300	<300	<300	<300	<300	<300	<300	Geomatrix
DC-31	Core-31-A	IV	0	09/06/06	8082	<310	<310	<310	<310	<310	<310	<310	<310	Geomatrix
DC-32	Core-32-A	IV	0	09/06/06	8082	<300	<300	<300	<300	<300	<300	<300	<300	Geomatrix
DC-33	Core-33-A	IV	0	09/06/06	8082	<360	<360	<360	<360	<360	<360	<360	<360	Geomatrix
DC-34	Core-34-A	IV	0	09/06/06	8082	<320	<320	<320	<320	400	<320	<320	400	Geomatrix
DC-56	Core-56-A	IV	0	11/06/06	8082	<200	<200	<200	<200	<200	<200	<200	<200	Geomatrix
DC-57	Core-57-A	IV	0	11/06/06	8082	<200	<200	<200	<200	<200	<200	<200	<200	Geomatrix
DC-58	Core-58-A	IV	0	11/06/06	8082	<200	<200	<200	<200	<200	<200	<200	<200	Geomatrix
DC-59	Core-59-A	IV	0	11/06/06	8082	<200	<200	<200	<200	<200	<200	<200	<200	Geomatrix
DC-60	Core-60-A	IV	0	11/06/06	8082	<200	<200	<200	<200	<200	<200	<200	<200	Geomatrix
DC-61	Core-61-A	IV	0	11/06/06	8082	<200	<200	<200	<200	<200	<200	<200	<200	Geomatrix
DC-62	Core-62-A	IV	0	11/06/06	8082	<200	<200	<200	<200	<200	<200	<200	<200	Geomatrix
DC-63	Core-63-A	IV	0	11/06/06	8082	<200	<200	<200	<200	<200	<200	<200	<200	Geomatrix

Notes:
1. Depth = Top of sample depth measured in feet below ground surface.
2. < = Not detected at or above the reporting limit shown.
3. Geomatrix Consultants, Inc., 2006a, Phase II Environmental Site Assessment Report, Pechiney Cast Plate Facility, Vernon, California, March 9.
4. Bottom of sample depth
5. Not available or not analyzed
6. Geraghty and Miller, Inc. (GM), 1990, Final Report, Phase II Environmental Assessment for Alcoa – Vernon Plant, Vernon, California, September.
7. McCulley, Frick & Gilman (MFG), 1998, Limited Phase II Environmental Investigation, Alcoa Cast Plate, 5151/5401 Alcoa Avenue, Vernon, California, September 15.
8. Geomatrix Consultants, Inc., 2006b, Supplemental Phase II Environmental Site Assessment Report, Pechiney Cast Plate Facility, Vernon, California, December 19.
9. Geomatrix = "DC" concrete samples collected during above grade demolition work.

TABLE 2
POLYCHLORINATED BIPHENYLS SOIL CHARACTERIZATION DATA
Former Pechiney Cast Plate, Inc., Facility
Vernon, California

Results shown in micrograms per kilogram (µg/kg)

Sample	Phase Area	Sample Depth (Feet)	Sample Date	EPA Method	Aroclor 1016	Aroclor 1221	Aroclor 1232	Aroclor 1242	Aroclor 1248	Aroclor 1254	Aroclor 1260	Excavated Status[1]	Data Source
Industrial PRGs					21,246	NE[2]	NE	NE	NE	744	NE	--	--
#1	I	3	11/16/05	8082	<20[3]	<20	<20	<20	<20	<20	<20	--	Geomatrix, 2006a
#1	I	6.5	11/16/05	8082	<20	<20	<20	<20	<20	<20	<20	--	Geomatrix, 2006a
#2	I	3.2	11/30/05	8082	<200	<200	<200	<200	<200	<200	<200	--	Geomatrix, 2006a
#8	I	5.5	12/01/05	8082	<20	<20	<20	<20	88	<20	<20	--	Geomatrix, 2006a
#8	I	16.1	12/01/05	8082	<20	<20	<20	<20	62	<20	<20	--	Geomatrix, 2006a
#10	I	2.7	11/30/05	8082	<100	<100	<100	<100	350	<100	<100	--	Geomatrix, 2006a
#17	I	2.7	11/21/05	8082	<20	<20	<20	<20	<20	<20	<20	--	Geomatrix, 2006a
#17	I	6.3	11/21/05	8082	<20	<20	<20	<20	<20	<20	<20	--	Geomatrix, 2006a
#18	I	2.8	11/16/05	8082	<20	<20	<20	<20	<20	<20	<20	--	Geomatrix, 2006a
#19	I	2.8	11/16/05	8082	<20	<20	<20	<20	<20	<20	<20	--	Geomatrix, 2006a
#20	I	6.5	11/16/05	8082	<20	<20	<20	<20	<20	<20	<20	--	Geomatrix, 2006a
#20	I	10.5	11/16/05	8082	<20	<20	<20	<20	<20	<20	<20	--	Geomatrix, 2006a
#21	I	6.8	11/16/05	8082	<20	<20	<20	<20	<20	<20	<20	--	Geomatrix, 2006a
#21	I	10	11/16/05	8082	<20	<20	<20	<20	<20	<20	<20	--	Geomatrix, 2006a
#37	I	8.1	11/28/05	8082	<100	<100	<100	<100	<100	<100	<100	--	Geomatrix, 2006a
#37	I	16.1	11/28/05	8082	<20	<20	<20	<20	<20	<20	<20	--	Geomatrix, 2006a
#38	I	8.1	11/28/05	8082	<200	<200	<200	<200	680	<200	<200	--	Geomatrix, 2006a
#38	I	16	11/28/05	8082	<20	<20	<20	<20	<20	<20	<20	--	Geomatrix, 2006a
#39	I	2.2	11/29/05	8082	<2000	<2000	<2000	<2000	**6700**	<2000	<2000	--	Geomatrix, 2006a
#39	I	6.3	11/29/05	8082	<20	<20	<20	<20	<20	<20	<20	--	Geomatrix, 2006a
#39	I	11	11/29/05	8082	<20	<20	<20	<20	<20	<20	<20	--	Geomatrix, 2006a
#77	I	5.7	12/01/05	8082	<20	<20	<20	<20	<20	<20	<20	--	Geomatrix, 2006a
#77	I	16.3	12/01/05	8082	<20	<20	<20	<20	<20	<20	<20	--	Geomatrix, 2006a
#124	I	5	04/07/06	8082	<200	<200	<200	<200	<200	<200	<200	--	Geomatrix, 2006b
#154B	I	2	03/06/07	8082	<200	<200	<200	<200	280	<200	<200	--	Geomatrix
#154B	I	10	03/06/07	8082	<200	<200	<200	<200	<200	<200	<200	--	Geomatrix
#155	I	2	03/05/07	8082	<200	<200	<200	<200	<200	<200	2100	--	Geomatrix
#155	I	7.25	03/05/07	8082	<200	<200	<200	<200	<200	<200	<200	--	Geomatrix
#155B	I	10	03/06/07	8082	<200	<200	<200	<200	<200	<200	<200	--	Geomatrix
#156	I	2	03/05/07	8082	<200	<200	<200	<200	<200	<200	<200	--	Geomatrix
#156	I	10	03/05/07	8082	<200	<200	<200	<200	<200	<200	<200	--	Geomatrix
#157	I	2	03/05/07	8082	<200	<200	<200	<200	<200	<200	<200	--	Geomatrix

TABLE 2
POLYCHLORINATED BIPHENYLS SOIL CHARACTERIZATION DATA
Former Pechiney Cast Plate, Inc., Facility
Vernon, California

Results shown in micrograms per kilogram (µg/kg)

Sample	Phase Area	Sample Depth (Feet)	Sample Date	EPA Method	Aroclor 1016	Aroclor 1221	Aroclor 1232	Aroclor 1242	Aroclor 1248	Aroclor 1254	Aroclor 1260	Excavated Status[1]	Data Source
Industrial PRGs					21,246	NE[2]	NE	NE	NE	744	NE	--	--
#157	I	10	03/05/07	8082	<200	<200	<200	<200	<200	<200	<200	--	Geomatrix
#158	I	2	03/05/07	8082	<200	<200	<200	<200	<200	<200	<200	--	Geomatrix
#158	I	10	03/05/07	8082	<200	<200	<200	<200	<200	<200	<200	--	Geomatrix
#159	I	2	03/05/07	8082	<200	<200	<200	<200	<200	<200	<200	--	Geomatrix
#159	I	10	03/05/07	8082	<200	<200	<200	<200	<200	<200	<200	--	Geomatrix
#160	I	5	03/06/07	8082	<200	<200	<200	<200	<200	<200	<200	--	Geomatrix
#160	I	7	03/06/07	8082	<200	<200	<200	<200	<200	<200	<200	--	Geomatrix
G106-2	I	29	01/01/96	8080	ND	ND	ND	ND	ND	ND	ND	--	MKC, 1996
G106-3	I	17	01/01/96	8080	ND	ND	ND	ND	ND	ND	ND	--	MKC, 1996
G106-4	I	12	01/01/96	8080	ND	ND	ND	ND	ND	ND	ND	--	MKC, 1996
H-5F	I	4	07/01/98	8082	<33	<33	<33	<33	<33	<33	<33	--	MFG, 1998
H-5F	I	10	07/01/98	8082	<33	<33	<33	<33	<33	<33	<33	--	MFG, 1998
H-6F	I	4	07/01/98	8082	<33	<33	<33	<33	<33	<33	<33	--	MFG, 1998
H-6F	I	10	07/01/98	8082	<33	<33	<33	<33	<33	<33	<33	--	MFG, 1998
H106-1	I	21	01/01/96	8080	ND	ND	ND	ND	ND	ND	ND	--	MKC, 1996
H106-2	I	25	01/01/96	8080	ND	ND	ND	ND	ND	ND	ND	--	MKC, 1996
H106-2	I	45	01/01/96	8080	ND	ND	ND	ND	ND	ND	ND	--	MKC, 1996
H106-2	I	65	01/01/96	8080	ND	ND	ND	ND	ND	ND	ND	--	MKC, 1996
H106-3	I	5	01/01/96	8080	ND	ND	ND	ND	ND	ND	ND	--	MKC, 1996
H106-4	I	21	01/01/96	8080	ND	ND	ND	ND	ND	ND	ND	--	MKC, 1996
H106-4	I	40	01/01/96	8080	ND	ND	ND	ND	ND	ND	ND	--	MKC, 1996
H106-5	I	20	01/01/96	8080	ND	ND	ND	ND	ND	ND	ND	--	MKC, 1996
H106-5	I	45	01/01/96	8080	ND	ND	ND	ND	ND	ND	ND	--	MKC, 1996
H106-6	I	12	01/01/96	8080	ND	ND	ND	ND	ND	ND	ND	--	MKC, 1996
H106-6	I	50	01/01/96	8080	ND	ND	ND	ND	ND	ND	ND	--	MKC, 1996
NW-106-a[4]	I	3	05/01/99	8080	<1000	<1000	<1000	<1000	2700	<1000	<1000	--	A.J. Ursic, 1999b
NW-106-b	I	3	05/01/99	8080	<50	<50	<50	<50	<50	<50	<50	--	A.J. Ursic, 1999b
PP#2-Surface[5]	I	0	04/16/98	8080	<10000	<10000	<10000	<10000	**150,000**	<10000	<10000	Excavated	MKC, 1996
PP#2-Bottom	I	1.5	04/21/98	8080	<10,000	<10,000	<10,000	<10,000	**65,000**	<10,000	<10,000	Excavated	MKC, 1996
PP#2-North	I	1.5	04/21/98	8080	<10,000	<10,000	<10,000	<10,000	**95,000**	<10,000	<10,000	Excavated	MKC, 1996
PP#2-East	I	1.5	04/21/98	8080	<10,000	<10,000	<10,000	<10,000	**28,000**	<10,000	<10,000	Excavated	MKC, 1996
PP#2-South	I	1.5	04/21/98	8080	<10,000	<10,000	<10,000	<10,000	**65,000**	<10,000	<10,000	Excavated	MKC, 1996

TABLE 2
POLYCHLORINATED BIPHENYLS SOIL CHARACTERIZATION DATA
Former Pechiney Cast Plate, Inc., Facility
Vernon, California

Results shown in micrograms per kilogram (µg/kg)

Sample	Phase Area	Sample Depth (Feet)	Sample Date	EPA Method	Aroclor 1016	Aroclor 1221	Aroclor 1232	Aroclor 1242	Aroclor 1248	Aroclor 1254	Aroclor 1260	Excavated Status[1]	Data Source
Industrial PRGs					21,246	NE[2]	NE	NE	NE	744	NE	--	--
PP#2-West	I	1.5	04/21/98	8080	<10,000	<10,000	<10,000	<10,000	**130,000**	<10,000	<10,000	Excavated	MKC, 1996
PP#2-4	I	4	04/29/98	8080	<5000	<5000	<5000	<5000	**47,000**	<5000	<5000	Excavated	MKC, 1996
PP#2-7	I	7	05/01/98	8080	<50	<50	<50	<50	140	<50	<50	--	MKC, 1996
S-1	I	0	07/01/98	8082	<1600	<1600	<1600	<1600	**29,000**	<1600	**13,000**	--	MFG, 1998
#23	II	5	11/17/05	8082	<20	<20	<20	<20	<20	<20	<20	--	Geomatrix, 2006a
#23	II	9	11/17/05	8082	<20	<20	<20	<20	<20	<20	<20	--	Geomatrix, 2006a
#24	II	2.7	11/17/05	8082	<20	<20	<20	<20	<20	<20	<20	--	Geomatrix, 2006a
#24	II	7.5	11/30/05	8082	<200	<200	<200	<200	<200	<200	<200	--	Geomatrix, 2006a
#25	II	4.8	11/17/05	8082	<20	<20	<20	<20	<20	<20	<20	--	Geomatrix, 2006a
#25	II	8.7	11/17/05	8082	<20	<20	<20	<20	<20	<20	<20	--	Geomatrix, 2006a
#26	II	5.2	11/28/05	8082	<100	<100	<100	<100	<100	<100	<100	--	Geomatrix, 2006a
#26	II	8.8	11/28/05	8082	<20	<20	<20	<20	200	<20	<20	--	Geomatrix, 2006a
#27	II	4.8	11/17/05	8082	<20	<20	<20	<20	<20	<20	<20	--	Geomatrix, 2006a
#27	II	9	11/17/05	8082	<20	<20	<20	<20	<20	<20	<20	--	Geomatrix, 2006a
#28	II	5	11/17/05	8082	<20	<20	<20	<20	<20	<20	<20	--	Geomatrix, 2006a
#28	II	8.8	11/17/05	8082	<20	<20	<20	<20	<20	<20	<20	--	Geomatrix, 2006a
#29	II	2.8	11/21/05	8082	<20	<20	<20	<20	<20	<20	<20	--	Geomatrix, 2006a
#29	II	6.7	11/21/05	8082	<20	<20	<20	<20	<20	<20	<20	--	Geomatrix, 2006a
#30[7]	II	3.5	11/30/05	8082	<200	<200	<200	<200	<200	<200	<200	Excavated	Geomatrix, 2006a
#30	II	6.3	11/30/05	8082	<200	<200	<200	<200	<200	<200	<200	--	Geomatrix, 2006a
#30	II	9.6	11/30/05	8082	<200	<200	<200	<200	<200	<200	<200	--	Geomatrix, 2006a
#40	II	5	12/09/05	8082	<100J	<100J	<100J	<100J	<100J	<100J	<100J	--	Geomatrix, 2006a
#40	II	8.5	12/09/05	8082	<100,000J[6]	<100,000J	<100,000J	<100,000J	**440,000J**	<100,000J	<100,000J	--	Geomatrix, 2006a
#40	II	11.5	12/09/05	8082	<2000J	<2000J	<2000J	<2000J	**5700J**	<2000J	<2000J	--	Geomatrix, 2006a
#40	II	21.5	12/09/05	8082	<200,000J	<200,000J	<200,000J	<200,000J	**2,000,000J**	<200,000J	<200,000J	--	Geomatrix, 2006a
#40	II	26.5	12/09/05	8082	<100J	<100J	<100J	<100J	280J	<100J	<100J	--	Geomatrix, 2006a
#40	II	31.5	12/09/05	8082	<200	<200	<200	<200	710	<200	<200	--	Geomatrix, 2006a
#40	II	41.5	12/09/05	8082	<200	<200	<200	<200	440	<200	<200	--	Geomatrix, 2006a
#40	II	51.5	12/09/05	8082	<200	<200	<200	<200	520	<200	<200	--	Geomatrix, 2006a
#40	II	61.5	12/09/05	8082	<200	<200	<200	<200	400	<200	<200	--	Geomatrix, 2006a
#40	II	71.5	12/09/05	8082	<200	<200	<200	<200	490	<200	<200	--	Geomatrix, 2006a
#41	II	2.6	11/21/05	8082	<400	<400	<400	<400	2000	<400	<400	--	Geomatrix, 2006a

TABLE 2
POLYCHLORINATED BIPHENYLS SOIL CHARACTERIZATION DATA
Former Pechiney Cast Plate, Inc., Facility
Vernon, California

Results shown in micrograms per kilogram (µg/kg)

Sample	Phase Area	Sample Depth (Feet)	Sample Date	EPA Method	Aroclor 1016	Aroclor 1221	Aroclor 1232	Aroclor 1242	Aroclor 1248	Aroclor 1254	Aroclor 1260	Excavated Status[1]	Data Source
Industrial PRGs					21,246	NE[2]	NE	NE	NE	744	NE	--	--
#43B	II	2.5	12/02/05	8082	<100	<100	<100	<100	<100	<100	<100	--	Geomatrix, 2006a
#43B	II	7.5	12/02/05	8082	<100	<100	<100	<100	<100	<100	<100	--	Geomatrix, 2006a
#44	II	2.8	11/29/05	8082	<20	<20	<20	<20	<20	<20	<20	--	Geomatrix, 2006a
#44	II	6.6	11/29/05	8082	<20	<20	<20	<20	<20	<20	<20	--	Geomatrix, 2006a
#70	II	2	11/30/05	8082	<200	<200	<200	<200	<200	<200	<200	--	Geomatrix, 2006a
#70	II	8.8	11/30/05	8082	<200	<200	<200	<200	<200	<200	<200	--	Geomatrix, 2006a
#70	II	14.3	11/30/05	8082	<200	<200	<200	<200	<200	<200	<200	--	Geomatrix, 2006a
#73	II	2.6	12/05/05	8082	<200,000	<200,000	<200,000	<200,000	**960,000**	<200,000	<200,000	--	Geomatrix, 2006a
#73	II	6.4	12/05/05	8082	<100	<100	<100	<100	<100	<100	<100	--	Geomatrix, 2006a
#74	II	2.9	11/21/05	8082	<20	<20	<20	<20	<20	<20	<20	--	Geomatrix, 2006a
#75	II	4.8	11/17/05	8082	<20	<20	<20	<20	<20	<20	<20	--	Geomatrix, 2006a
#75	II	8.9	11/17/05	8082	<20	<20	<20	<20	<20	<20	<20	--	Geomatrix, 2006a
#94	II	10.5	04/06/06	8082	<2000	<2000	<2000	<2000	3500	<2000	<2000	--	Geomatrix, 2006b
#94	II	21	04/06/06	8082	<200	<200	<200	<200	<200	<200	<200	--	Geomatrix, 2006b
#94	II	31	04/06/06	8082	<200	<200	<200	<200	<200	<200	<200	--	Geomatrix, 2006b
#94	II	41	04/06/06	8082	<200	<200	<200	<200	<200	<200	<200	--	Geomatrix, 2006b
#94	II	51	04/06/06	8082	<200	<200	<200	<200	<200	<200	<200	--	Geomatrix, 2006b
#94	II	61	04/06/06	8082	<200	<200	<200	<200	<200	<200	<200	--	Geomatrix, 2006b
#94	II	71	04/06/06	8082	<200	<200	<200	<200	<200	<200	<200	--	Geomatrix, 2006b
#94	II	81	04/06/06	8082	<200	<200	<200	<200	<200	<200	<200	--	Geomatrix, 2006b
#95	II	10.5	04/06/06	8082	<20,000	<20,000	<20,000	<20,000	**77,000**	<20,000	<20,000	--	Geomatrix, 2006b
#95	II	20.5	04/06/06	8082	<400,000	<400,000	<400,000	<400,000	**2,000,000**	<400,000	<400,000	--	Geomatrix, 2006b
#95	II	30.5	04/06/06	8082	<200	<200	<200	<200	260	<200	<200	--	Geomatrix, 2006b
#95	II	40.5	04/06/06	8082	<200	<200	<200	<200	580	<200	<200	--	Geomatrix, 2006b
#95	II	50.5	04/06/06	8082	<200	<200	<200	<200	<200	<200	<200	--	Geomatrix, 2006b
#95	II	60.5	04/06/06	8082	<200	<200	<200	<200	<200	<200	<200	--	Geomatrix, 2006b
#95	II	70.5	04/06/06	8082	<200	<200	<200	<200	<200	<200	<200	--	Geomatrix, 2006b
#95	II	80.5	04/06/06	8082	<200	<200	<200	<200	<200	<200	<200	--	Geomatrix, 2006b
#96	II	11	04/14/06	8082	<200	<200	<200	<200	<200	<200	<200	--	Geomatrix, 2006b
#96	II	21	04/14/06	8082	<200	<200	<200	<200	<200	<200	<200	--	Geomatrix, 2006b
#96	II	31	04/14/06	8082	<200	<200	<200	<200	<200	<200	<200	--	Geomatrix, 2006b
#96	II	41	04/14/06	8082	<200	<200	<200	<200	<200	<200	<200	--	Geomatrix, 2006b
#96	II	51	04/14/06	8082	<200	<200	<200	<200	<200	<200	<200	--	Geomatrix, 2006b

TABLE 2
POLYCHLORINATED BIPHENYLS SOIL CHARACTERIZATION DATA
Former Pechiney Cast Plate, Inc., Facility
Vernon, California

Results shown in micrograms per kilogram (µg/kg)

Sample	Phase Area	Sample Depth (Feet)	Sample Date	EPA Method	Aroclor 1016	Aroclor 1221	Aroclor 1232	Aroclor 1242	Aroclor 1248	Aroclor 1254	Aroclor 1260	Excavated Status[1]	Data Source
Industrial PRGs					21,246	NE[2]	NE	NE	NE	744	NE	--	--
#96	II	61	04/14/06	8082	<200	<200	<200	<200	<200	<200	<200	--	Geomatrix, 2006b
#96	II	71	04/14/06	8082	<200	<200	<200	<200	<200	<200	<200	--	Geomatrix, 2006b
#96	II	80.5	04/14/06	8082	<200	<200	<200	<200	<200	<200	<200	--	Geomatrix, 2006b
#97	II	9.5	04/05/06	8082	<200	<200	<200	<200	<200	<200	<200	--	Geomatrix, 2006b
#97	II	20.5	04/05/06	8082	<200	<200	<200	<200	<200	<200	<200	--	Geomatrix, 2006b
#97	II	30.5	04/05/06	8082	<200	<200	<200	<200	<200	<200	<200	--	Geomatrix, 2006b
#97	II	40.5	04/05/06	8082	<200	<200	<200	<200	<200	<200	<200	--	Geomatrix, 2006b
#97	II	50.5	04/05/06	8082	<200	<200	<200	<200	<200	<200	<200	--	Geomatrix, 2006b
#97	II	60.5	04/05/06	8082	<200	<200	<200	<200	<200	<200	<200	--	Geomatrix, 2006b
#97	II	70.5	04/05/06	8082	<200	<200	<200	<200	<200	<200	<200	--	Geomatrix, 2006b
#97	II	80.5	04/05/06	8082	<200	<200	<200	<200	<200	<200	<200	--	Geomatrix, 2006b
#98	II	10.5	04/05/06	8082	<20,000	<20,000	<20,000	<20,000	**44,000**	<20,000	<20,000	--	Geomatrix, 2006b
#98	II	20.5	04/05/06	8082	<200	<200	<200	<200	<200	<200	<200	--	Geomatrix, 2006b
#98	II	30.5	04/05/06	8082	<10,000	<10,000	<10,000	<10,000	**12,000**	<10,000	<10,000	--	Geomatrix, 2006b
#99	II	10.5	04/05/06	8082	<200	<200	<200	<200	<200	<200	<200	--	Geomatrix, 2006b
#99	II	20.5	04/05/06	8082	<200	<200	<200	<200	<200	<200	<200	--	Geomatrix, 2006b
#99	II	30.5	04/05/06	8082	<200	<200	<200	<200	<200	<200	<200	--	Geomatrix, 2006b
#99	II	40.5	04/05/06	8082	<200	<200	<200	<200	<200	<200	<200	--	Geomatrix, 2006b
#99	II	50.5	04/05/06	8082	<200	<200	<200	<200	<200	<200	<200	--	Geomatrix, 2006b
#99	II	60.5	04/05/06	8082	<200	<200	<200	<200	<200	<200	<200	--	Geomatrix, 2006b
#99	II	70.5	04/05/06	8082	<200	<200	<200	<200	<200	<200	<200	--	Geomatrix, 2006b
#99	II	80.5	04/05/06	8082	<200	<200	<200	<200	<200	<200	<200	--	Geomatrix, 2006b
#100	II	1.5	04/05/06	8082	<20,000	<20,000	<20,000	<20,000	**74,000**	<20,000	<20,000	--	Geomatrix, 2006b
#100	II	6.0	04/24/06	8082	<200	<200	<200	<200	<200	<200	<200	--	Geomatrix, 2006b
#101	II	1.3	04/06/06	8082	<200	<200	<200	<200	380	<200	<200	--	Geomatrix, 2006b
#101	II	6.0	04/24/06	8082	<200	<200	<200	<200	<200	<200	<200	--	Geomatrix, 2006b
#102	II	1.3	04/05/06	8082	<200	<200	<200	<200	<200	<200	<200	--	Geomatrix, 2006b
#102	II	5.5	04/05/06	8082	<200	<200	<200	<200	<200	<200	<200	--	Geomatrix, 2006b
#103	II	1.8	04/05/06	8082	<200	<200	<200	<200	<200	<200	<200	--	Geomatrix, 2006b
#103	II	6.0	04/05/06	8082	<200	<200	<200	<200	<200	<200	<200	--	Geomatrix, 2006b
#115	II	6	04/07/06	8082	<200	<200	<200	<200	<200	<200	<200	--	Geomatrix, 2006b
#115	II	11	04/07/06	8082	<200	<200	<200	<200	<200	<200	<200	--	Geomatrix, 2006b
#115	II	16	04/07/06	8082	<200	<200	<200	<200	<200	<200	<200	--	Geomatrix, 2006b

TABLE 2
POLYCHLORINATED BIPHENYLS SOIL CHARACTERIZATION DATA
Former Pechiney Cast Plate, Inc., Facility
Vernon, California

Results shown in micrograms per kilogram (µg/kg)

Sample	Phase Area	Sample Depth (Feet)	Sample Date	EPA Method	Aroclor 1016	Aroclor 1221	Aroclor 1232	Aroclor 1242	Aroclor 1248	Aroclor 1254	Aroclor 1260	Excavated Status[1]	Data Source
Industrial PRGs					21,246	NE[2]	NE	NE	NE	744	NE	--	--
#115	II	21	04/07/06	8082	<200	<200	<200	<200	<200	<200	<200	--	Geomatrix, 2006b
#115	II	26	04/07/06	8082	<200	<200	<200	<200	<200	<200	<200	--	Geomatrix, 2006b
#115	II	31	04/07/06	8082	<200	<200	<200	<200	<200	<200	<200	--	Geomatrix, 2006b
#115	II	36	04/07/06	8082	<200	<200	<200	<200	<200	<200	<200	--	Geomatrix, 2006b
#115	II	41	04/07/06	8082	<200	<200	<200	<200	<200	<200	<200	--	Geomatrix, 2006b
#115	II	45.5	04/07/06	8082	<200	<200	<200	<200	<200	<200	<200	--	Geomatrix, 2006b
#115	II	48	04/07/06	8082	<200	<200	<200	<200	<200	<200	<200	--	Geomatrix, 2006b
#115	II	49.5	04/07/06	8082	<200	<200	<200	<200	<200	<200	<200	--	Geomatrix, 2006b
#116	II	6	04/13/06	8082	<200	<200	<200	<200	<200	<200	<200	--	Geomatrix, 2006b
#116	II	11	04/13/06	8082	<200	<200	<200	<200	<200	<200	<200	--	Geomatrix, 2006b
#116	II	16	04/13/06	8082	<200	<200	<200	<200	<200	<200	<200	--	Geomatrix, 2006b
#116	II	21	04/13/06	8082	<200	<200	<200	<200	<200	<200	<200	--	Geomatrix, 2006b
#116	II	26	04/13/06	8082	<200	<200	<200	<200	<200	<200	<200	--	Geomatrix, 2006b
#116	II	31	04/13/06	8082	<200	<200	<200	<200	<200	<200	<200	--	Geomatrix, 2006b
#116	II	36	04/13/06	8082	<200	<200	<200	<200	<200	<200	<200	--	Geomatrix, 2006b
#116	II	41	04/13/06	8082	<200	<200	<200	<200	<200	<200	<200	--	Geomatrix, 2006b
#116	II	46	04/13/06	8082	<200	<200	<200	<200	<200	<200	<200	--	Geomatrix, 2006b
#116	II	50.5	04/13/06	8082	<200	<200	<200	<200	<200	<200	<200	--	Geomatrix, 2006b
#117	II	6	04/07/06	8082	<200	<200	<200	<200	<200	<200	<200	--	Geomatrix, 2006b
#117	II	11	04/07/06	8082	<200	<200	<200	<200	<200	<200	<200	--	Geomatrix, 2006b
#117	II	16	04/07/06	8082	<200	<200	<200	<200	<200	<200	<200	--	Geomatrix, 2006b
#117	II	21	04/07/06	8082	<200	<200	<200	<200	<200	<200	<200	--	Geomatrix, 2006b
#117	II	26	04/07/06	8082	<200	<200	<200	<200	<200	<200	<200	--	Geomatrix, 2006b
#117	II	31	04/07/06	8082	<200	<200	<200	<200	<200	<200	<200	--	Geomatrix, 2006b
#117	II	36	04/07/06	8082	<200	<200	<200	<200	<200	<200	<200	--	Geomatrix, 2006b
#117	II	41	04/07/06	8082	<200	<200	<200	<200	<200	<200	<200	--	Geomatrix, 2006b
#118	II	6	04/07/06	8082	<200	<200	<200	<200	<200	<200	<200	--	Geomatrix, 2006b
#118	II	11	04/07/06	8082	<200	<200	<200	<200	<200	<200	<200	--	Geomatrix, 2006b
#118	II	16	04/07/06	8082	<200	<200	<200	<200	<200	<200	<200	--	Geomatrix, 2006b
#118	II	21	04/07/06	8082	<200	<200	<200	<200	<200	<200	<200	--	Geomatrix, 2006b
#118	II	26	04/07/06	8082	<200	<200	<200	<200	<200	<200	<200	--	Geomatrix, 2006b
#118	II	31	04/07/06	8082	<200	<200	<200	<200	<200	<200	<200	--	Geomatrix, 2006b
#118	II	36	04/07/06	8082	<200	<200	<200	<200	<200	<200	<200	--	Geomatrix, 2006b

TABLE 2
POLYCHLORINATED BIPHENYLS SOIL CHARACTERIZATION DATA
Former Pechiney Cast Plate, Inc., Facility
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Results shown in micrograms per kilogram (µg/kg)

Sample	Phase Area	Sample Depth (Feet)	Sample Date	EPA Method	Aroclor 1016	Aroclor 1221	Aroclor 1232	Aroclor 1242	Aroclor 1248	Aroclor 1254	Aroclor 1260	Excavated Status[1]	Data Source
Industrial PRGs					21,246	NE[2]	NE	NE	NE	744	NE	--	--
#118	II	41	04/07/06	8082	<200	<200	<200	<200	<200	<200	<200	--	Geomatrix, 2006b
#119	II	6	04/07/06	8082	<200	<200	<200	<200	<200	<200	<200	--	Geomatrix, 2006b
#119	II	11	04/07/06	8082	<200	<200	<200	<200	<200	<200	<200	--	Geomatrix, 2006b
#119	II	16	04/07/06	8082	<200	<200	<200	<200	<200	<200	<200	--	Geomatrix, 2006b
#119	II	21	04/07/06	8082	<200	<200	<200	<200	<200	<200	<200	--	Geomatrix, 2006b
#119	II	26	04/07/06	8082	<200	<200	<200	<200	<200	<200	<200	--	Geomatrix, 2006b
#119	II	31	04/07/06	8082	<200	<200	<200	<200	<200	<200	<200	--	Geomatrix, 2006b
#119	II	36	04/07/06	8082	<200	<200	<200	<200	<200	<200	<200	--	Geomatrix, 2006b
#119	II	41	04/07/06	8082	<200	<200	<200	<200	<200	<200	<200	--	Geomatrix, 2006b
#127B	II	11	04/14/06	8082	<200	<200	<200	<200	580	<200	<200	--	Geomatrix, 2006b
#127B	II	21	04/14/06	8082	<200	<200	<200	<200	1200	<200	<200	--	Geomatrix, 2006b
#127B	II	31	04/14/06	8082	<200	<200	<200	<200	330	<200	<200	--	Geomatrix, 2006b
#127B	II	41	04/14/06	8082	<200	<200	<200	<200	<200	<200	<200	--	Geomatrix, 2006b
#127B	II	51	04/14/06	8082	<200	<200	<200	<200	<200	<200	<200	--	Geomatrix, 2006b
#127B	II	61	04/14/06	8082	<200	<200	<200	<200	<200	<200	<200	--	Geomatrix, 2006b
#127B	II	71	04/14/06	8082	<200	<200	<200	<200	<200	<200	<200	--	Geomatrix, 2006b
#127B	II	81	04/14/06	8082	<200	<200	<200	<200	<200	<200	<200	--	Geomatrix, 2006b
#148	II	7.75	03/06/07	8082	<200	<200	<200	<200	320	<200	<200	--	Geomatrix, 2006b
#148	II	10	03/06/07	8082	<200	<200	<200	<200	<200	<200	<200	--	Geomatrix, 2006b
#149	II	9	03/06/07	8082	<200	<200	<200	<200	260	<200	<200	--	Geomatrix, 2006b
#149	II	15	03/06/07	8082	<200	<200	<200	<200	<200	<200	<200	--	Geomatrix, 2006b
T-3-N[7]	II	18	08/01/92	8080	ND[8]	ND	ND	ND	ND	ND	ND	Excavated	OHM, 1992
PV-1[7]	II	8	08/01/92	8080	ND	ND	ND	ND	ND	ND	ND	Excavated	OHM, 1992
P-2[7]	II	3.5	08/01/92	8080	ND	ND	ND	ND	ND	ND	ND	Excavated	OHM, 1992
G112A-1	II	8	01/01/96	8080	ND	ND	ND	ND	ND	ND	ND	--	MKC, 1996; A.J. Ursic, 1999b
G112A-1	II	15	01/01/96	8080	ND	ND	ND	ND	ND	ND	ND	--	MKC, 1996; A.J. Ursic, 1999b
G112A-2	II	8	01/01/96	8080	ND	ND	ND	ND	ND	ND	ND	--	MKC, 1996; A.J. Ursic, 1999b
G112A-3	II	9.5	01/01/96	8080	ND	ND	ND	ND	ND	ND	ND	--	MKC, 1996; A.J. Ursic, 1999b
H-7F	II	0	07/01/98	8082	<33	<33	<33	<33	160	<33	72	--	MFG, 1998
H-7F	II	5	07/01/98	8082	<33	<33	<33	<33	<33	<33	<33	--	MFG, 1998
H-8F	II	0	07/01/98	8082	<160	<160	<160	<160	1000	<160	300	--	MFG, 1998
H-8F	II	5	07/01/98	8082	<33	<33	<33	<33	<33	<33	<33	--	MFG, 1998
H-9F	II	5	07/01/98	8082	<33	<33	<33	<33	<33	<33	60	--	MFG, 1998

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Sample	Phase Area	Sample Depth (Feet)	Sample Date	EPA Method	Aroclor 1016	Aroclor 1221	Aroclor 1232	Aroclor 1242	Aroclor 1248	Aroclor 1254	Aroclor 1260	Excavated Status[1]	Data Source
Industrial PRGs					21,246	NE[2]	NE	NE	NE	744	NE	--	--
SWO 7-1[9]	II	1	01/05/99	8080	<50	<50	<50	<50	2900	<50	<50	Excavated	A.J. Ursic, 1999a
SWO 7-1	II	5	01/05/99	8080	<50	<50	<50	<50	53	<50	<50	Excavated	A.J. Ursic, 1999a
SWO 7-1	II	7	01/05/99	8080	<50	<50	<50	<50	<50	<50	<50	--	A.J. Ursic, 1999a
SWO 7-1	II	10	01/05/99	8080	<50	<50	<50	<50	<50	<50	<50	--	A.J. Ursic, 1999a
SWO 7-2	II	1	01/05/99	8080	<2,500	<2500	<2500	<2500	**26,000**	<2500	<2500	Excavated	A.J. Ursic, 1999a
SWO 7-2	II	5	01/05/99	8080	<50	<50	<50	<50	130	<50	<50	Excavated	A.J. Ursic, 1999a
SWO 7-2	II	7	01/05/99	8080	<50	<50	<50	<50	<50	<50	<50	--	A.J. Ursic, 1999a
SWO 7-2	II	10	01/05/99	8080	<50	<50	<50	<50	<50	<50	<50	--	A.J. Ursic, 1999a
SWO 7-3	II	1	01/05/99	8080	<2500	<2500	<2500	<2500	**29,000**	<2500	<2500	Excavated	A.J. Ursic, 1999a
SWO 7-3	II	5	01/05/99	8080	<50	<50	<50	<50	250	<50	<50	Excavated	A.J. Ursic, 1999a
SWO 7-3	II	7	01/05/99	8080	<50	<50	<50	<50	<50	<50	<50	--	A.J. Ursic, 1999a
SWO 7-3	II	10	01/05/99	8080	<50	<50	<50	<50	<50	<50	<50	--	A.J. Ursic, 1999a
SWO 7-6	II	1	03/11/99	8080	<5000	<5000	<5000	<5000	**26,000**	<5000	**40,000**	Excavated	A.J. Ursic, 1999a
SWO 7-6	II	2	03/11/99	8080	<500	<500	<500	<500	940	<500	1300	Excavated	A.J. Ursic, 1999a
SWO 7-7	II	1	03/11/99	8080	<5000	<5000	<5000	<5000	**10,000**	<51	**24,000**	Excavated	A.J. Ursic, 1999a
SWO 7-7	II	2	03/11/99	8080	<500	<500	<500	<500	2200	<500	5000	Excavated	A.J. Ursic, 1999a
SWO 7-M	II	6	05/03/99	8080	<500	<500	<500	<500	4500	<500	<500	--	A.J. Ursic, 1999a
SWO 7-N	II	6	05/03/99	8080	<500	<500	<500	<500	3400	<500	<500	--	A.J. Ursic, 1999a
SWO 7-S	II	6	05/04/99	8080	<50	<50	<50	<50	540	<50	<50	--	A.J. Ursic, 1999a
B112-7	II	5	06/25/98	8080	<50	<50	<50	<50	<50	<50	<50	--	A.J. Ursic, 1999a
#45	IIIA	16	11/22/05	8082	<20	<20	<20	<20	<20	<20	<20	--	Geomatrix, 2006a
#45	IIIA	21	11/22/05	8082	<20	<20	<20	<20	<20	<20	<20	--	Geomatrix, 2006a
#46	IIIA	16	11/22/05	8082	<20	<20	<20	<20	<20	<20	<20	--	Geomatrix, 2006a
#46	IIIA	21.1	11/22/05	8082	<200	<200	<200	<200	730	<200	<200	--	Geomatrix, 2006a
#47	IIIA	6.2	11/30/05	8082	<200	<200	<200	<200	<200	<200	<200	--	Geomatrix, 2006a
#47	IIIA	11	11/30/05	8082	<200	<200	<200	<200	<200	<200	<200	--	Geomatrix, 2006a
#104	IIIA	24.3	04/07/06	8082	<200	<200	<200	<200	<200	<200	<200	--	Geomatrix, 2006b
#104	IIIA	29	04/07/06	8082	<200	<200	<200	<200	<200	<200	<200	--	Geomatrix, 2006b
#105	IIIA	2.5	04/06/06	8082	<200	<200	<200	<200	<200	<200	<200	--	Geomatrix, 2006b
#105	IIIA	8.3	04/06/06	8082	<200	<200	<200	<200	<200	<200	<200	--	Geomatrix, 2006b
#105	IIIA	13	04/06/06	8082	<200	<200	<200	<200	<200	<200	<200	--	Geomatrix, 2006b
#105	IIIA	18.3	04/06/06	8082	<200	<200	<200	<200	<200	<200	<200	--	Geomatrix, 2006b
#105	IIIA	23	04/06/06	8082	<200	<200	<200	<200	<200	<200	<200	--	Geomatrix, 2006b

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Sample	Phase Area	Sample Depth (Feet)	Sample Date	EPA Method	Aroclor 1016	Aroclor 1221	Aroclor 1232	Aroclor 1242	Aroclor 1248	Aroclor 1254	Aroclor 1260	Excavated Status[1]	Data Source
Industrial PRGs					21,246	NE[2]	NE	NE	NE	744	NE	--	--
#105	IIIA	29	04/13/06	8082	<200	<200	<200	<200	<200	<200	<200	--	Geomatrix, 2006b
#105	IIIA	34	04/13/06	8082	<200	<200	<200	<200	<200	<200	<200	--	Geomatrix, 2006b
#106	IIIA	5	04/13/06	8082	<200	<200	<200	<200	<200	<200	<200	--	Geomatrix, 2006b
#106	IIIA	9	04/13/06	8082	<200	<200	<200	<200	<200	<200	<200	--	Geomatrix, 2006b
#106	IIIA	14	04/13/06	8082	<200	<200	<200	<200	<200	<200	<200	--	Geomatrix, 2006b
#106	IIIA	19	04/13/06	8082	<200	<200	<200	<200	<200	<200	<200	--	Geomatrix, 2006b
#106	IIIA	24	04/13/06	8082	<200	<200	<200	<200	<200	<200	<200	--	Geomatrix, 2006b
#106	IIIA	29	04/13/06	8082	<200	<200	<200	<200	<200	<200	<200	--	Geomatrix, 2006b
#106	IIIA	34	04/13/06	8082	<200	<200	<200	<200	<200	<200	<200	--	Geomatrix, 2006b
B-4F	IIIA	1	07/01/98	8082	<3300	<3300	<3300	<3300	**60,000**	<3300	<3300	Excavated	MFG, 1998
B-4F	IIIA	10	07/01/98	8082	<33	<33	<33	<33	<33	<33	<33	--	MFG, 1998
B-4F	IIIA	20	07/01/98	8082	<33	<33	<33	<33	<33	<33	<33	--	MFG, 1998
B-5F	IIIA	1	07/01/98	8082	<33	<33	<33	<33	<33	86	100	--	MFG, 1998
B-5F	IIIA	10	07/01/98	8082	<33	<33	<33	<33	<33	<33	<33	--	MFG, 1998
B-5F	IIIA	20	07/01/98	8082	<33	<33	<33	<33	<33	<33	<33	--	MFG, 1998
B-6F	IIIA	15	07/01/98	8082	<33	<820	<820	<820	<820	**11,000**	<33	Excavated	MFG, 1998
B-6F	IIIA	20	07/01/98	8082	<160	<160	<160	<160	<160	1600	<160	Excavated	MFG, 1998
B-6F	IIIA	30	07/01/98	8082	<160	<160	<160	<160	<160	1400	<160	Excavated	MFG, 1998
B-6F	IIIA	35	07/01/98	8082	<33	<33	<33	<33	<33	<33	<33	Excavated	MFG, 1998
B-6F	IIIA	40	07/01/98	8082	<33	<33	<33	<33	<33	<33	<33	--	MFG, 1998
H-4F	IIIA	0	07/01/98	8082	<8200	<8200	<8200	<8200	**70,000**	<8200	<8200	Excavated	MFG, 1998
H-4F	IIIA	5	07/01/98	8082	<330	<330	<330	<330	3200	<330	<330	--	MFG, 1998
HW-2[10]	IIIA	1	12/01/98	8080	<500	<500	<500	<500	**7100**	<500	<500	Excavated	A.J. Ursic, 1999a
HW-2A	IIIA	1	12/01/98	8080	<50	<50	<50	<50	<50	<50	<50	Excavated	A.J. Ursic, 1999a
HW-2A	IIIA	5	12/01/98	8080	<50	<50	<50	<50	<50	<50	<50	--	A.J. Ursic, 1999a
HW-2A	IIIA	7	12/01/98	8080	<50	<50	<50	<50	<50	<50	<50	--	A.J. Ursic, 1999a
HW-2A	IIIA	10	12/01/98	8080	<50	<50	<50	<50	<50	<50	<50	--	A.J. Ursic, 1999a
HW-3	IIIA	1	12/01/98	8080	<50	<50	<50	<50	160	<50	<50	Excavated	A.J. Ursic, 1999a
HW-3	IIIA	5	12/01/98	8080	<50	<50	<50	<50	230	<50	<50	--	A.J. Ursic, 1999a
HW-3	IIIA	7	12/01/98	8080	<50	<50	<50	<50	310	<50	<50	--	A.J. Ursic, 1999a
HW-3	IIIA	10	12/01/98	8080	<50	<50	<50	<50	<50	<50	<50	--	A.J. Ursic, 1999a
HW-4	IIIA	1	12/01/98	8080	<50	<50	<50	<50	**21,000**	<50	<50	Excavated	A.J. Ursic, 1999a
HW-4	IIIA	5	12/01/98	8080	<50	<50	<50	<50	<50	<50	<50	--	A.J. Ursic, 1999a

TABLE 2
POLYCHLORINATED BIPHENYLS SOIL CHARACTERIZATION DATA
Former Pechiney Cast Plate, Inc., Facility
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Results shown in micrograms per kilogram (µg/kg)

Sample	Phase Area	Sample Depth (Feet)	Sample Date	EPA Method	Aroclor 1016	Aroclor 1221	Aroclor 1232	Aroclor 1242	Aroclor 1248	Aroclor 1254	Aroclor 1260	Excavated Status[1]	Data Source
Industrial PRGs					21,246	NE[2]	NE	NE	NE	744	NE	--	--
HW-4	IIIA	7	12/01/98	8080	<50	<50	<50	<50	<50	<50	<50	--	A.J. Ursic, 1999a
HW-4	IIIA	10	12/01/98	8080	<50	<50	<50	<50	<50	<50	<50	--	A.J. Ursic, 1999a
HW-5	IIIA	1	12/01/98	8080	<50	<50	<50	<50	<50	<50	<50	Excavated	A.J. Ursic, 1999a
HW-5	IIIA	5	12/01/98	8080	<50	<50	<50	<50	<50	<50	<50	--	A.J. Ursic, 1999a
HW-5	IIIA	7	12/01/98	8080	<50	<50	<50	<50	<50	<50	<50	--	A.J. Ursic, 1999a
HW-5	IIIA	10	12/01/98	8080	<50	<50	<50	<50	<50	<50	<50	--	A.J. Ursic, 1999a
HW-6	IIIA	1	12/01/98	8080	<50	<50	<50	<50	900	<50	<50	Excavated	A.J. Ursic, 1999a
HW-6	IIIA	5	12/01/98	8080	<50	<50	<50	<50	<50	<50	<50	--	A.J. Ursic, 1999a
HW-6	IIIA	7	12/01/98	8080	<50	<50	<50	<50	<50	<50	<50	--	A.J. Ursic, 1999a
HW-6	IIIA	10	12/01/98	8080	<50	<50	<50	<50	<50	<50	<50	--	A.J. Ursic, 1999a
HW-N	IIIA	2	04/15/99	8080	<500	<500	<500	<500	**8400**	<500	<500	Excavated	A.J. Ursic, 1999a
HW-N	IIIA	3	04/15/99	8080	<50	<50	<50	<50	630	<50	<50	--	A.J. Ursic, 1999a
HW-S	IIIA	2	04/15/99	8080	<2000	<2000	<2000	<2000	**18,000**	<2000	<2000	Excavated	A.J. Ursic, 1999a
HW-S	IIIA	3	04/15/99	8080	<500	<500	<500	<500	**6900**	<500	<500	--	A.J. Ursic, 1999a
IWDP-N (Black)[11]	IIIA	10	03/22/99	8080	<500	<500	<500	<500	<500	5200	<500	--	A.J. Ursic, 1999a
IWDP-NE	IIIA	30	03/25/99	8080	<50	<50	<50	<50	<50	<50	<50	--	A.J. Ursic, 1999a
IWDP-NWB	IIIA	30	03/23/99	8080	<50	<50	<50	<50	<50	<50	<50	--	A.J. Ursic, 1999a
SWO-6-1[12]	IIIA	5	01/01/99	8080	<50	<50	<50	<50	<50	<50	<50	--	A.J. Ursic, 1999a
SWO-6-1	IIIA	7	01/01/99	8080	<50	<50	<50	<50	<50	<50	<50	--	A.J. Ursic, 1999a
SWO-6-1	IIIA	10	01/01/99	8080	<50	<50	<50	<50	<50	<50	<50	--	A.J. Ursic, 1999a
SWO-6-2	IIIA	5	01/01/99	8080	<50	<50	<50	<50	<50	150	<50	--	A.J. Ursic, 1999a
SWO-6-2	IIIA	7	01/01/99	8080	<50	<50	<50	<50	56	<50	<50	--	A.J. Ursic, 1999a
SWO-6-2	IIIA	10	01/01/99	8080	<50	<50	<50	<50	<50	<50	<50	--	A.J. Ursic, 1999a
SWO-6-3	IIIA	5	01/01/99	8080	<50	<50	<50	<50	<50	<50	<50	--	A.J. Ursic, 1999a
SWO-6-3	IIIA	7	01/01/99	8080	<50	<50	<50	<50	<50	<50	<50	--	A.J. Ursic, 1999a
SWO-6-3	IIIA	10	01/01/99	8080	<50	<50	<50	<50	<50	<50	<50	--	A.J. Ursic, 1999a
SWO-6-4	IIIA	5	01/01/99	8080	<50	<50	<50	<50	<50	<50	<50	--	A.J. Ursic, 1999a
SWO-6-4	IIIA	7	01/01/99	8080	<50	<50	<50	<50	<50	<50	<50	--	A.J. Ursic, 1999a
SWO-6-4	IIIA	10	01/01/99	8080	<50	<50	<50	<50	<50	<50	<50	--	A.J. Ursic, 1999a
SWO-6-5	IIIA	5	01/01/99	8080	<50	<50	<50	<50	130	<50	<50	--	A.J. Ursic, 1999a
SWO-6-5	IIIA	7	01/01/99	8080	<50	<50	<50	<50	77	<50	<50	--	A.J. Ursic, 1999a
SWO-6-5	IIIA	10	01/01/99	8080	<50	<50	<50	<50	<50	<50	<50	--	A.J. Ursic, 1999a
SWO-6-Fence	IIIA	2	04/01/99	8080	<100	<100	<100	<100	1100	<100	<100	--	A.J. Ursic, 1999a

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Sample	Phase Area	Sample Depth (Feet)	Sample Date	EPA Method	Aroclor 1016	Aroclor 1221	Aroclor 1232	Aroclor 1242	Aroclor 1248	Aroclor 1254	Aroclor 1260	Excavated Status[1]	Data Source
Industrial PRGs					21,246	NE[2]	NE	NE	NE	744	NE	--	--
SWO-6-N	IIIA	2	04/01/99	8080	<500	<500	<500	<500	**7100**	<500	<500	--	A.J. Ursic, 1999a
SWO-6-S	IIIA	2	04/01/99	8080	<500	<500	<500	<500	**7000**	<500	<500	--	A.J. Ursic, 1999a
SWO-6-Tracks	IIIA	2	04/01/99	8080	<250	<250	<250	<250	1400	<250	<250	--	A.J. Ursic, 1999a
SWO 6-1	IIIA	1	01/01/99	8080	<50	<50	<50	<50	100	<50	<50	Excavated	A.J. Ursic, 1999a
SWO 6-2	IIIA	1	01/01/99	8080	<250	<250	<250	<250	2600	<250	<250	Excavated	A.J. Ursic, 1999a
SWO 6-3	IIIA	1	01/01/99	8080	<50	<50	<50	<50	260	<50	<50	Excavated	A.J. Ursic, 1999a
SWO 6-4	IIIA	1	01/01/99	8080	<2000	<2000	<2000	<2000	**39,000**	<2000	<2000	Excavated	A.J. Ursic, 1999a
SWO 6-5	IIIA	1	01/01/99	8080	<200	<200	<200	<200	1500	<200	<200	Excavated	A.J. Ursic, 1999a
D-1	IIIB	5	04/01/95	8080	ND	ND	ND	ND	ND	ND	ND	--	A.J. Ursic, 1999a
IWDP-1[11]	IIIB	5	12/10/98	8080	<50	<50	<50	<50	<50	<50	<50	Excavated	A.J. Ursic, 1999a
IWDP-1	IIIB	10	12/10/98	8080	<5000	<5000	<5000	<5000	<5000	**30,000**	**12,000**	Excavated	A.J. Ursic, 1999a
IWDP-1	IIIB	15	12/10/98	8080	<1000	<1000	<1000	<1000	<1000	2200	<1000	Excavated	A.J. Ursic, 1999a
IWDP-1	IIIB	20	12/10/98	8080	<200	<200	<200	<200	<200	2600	<200	Excavated	A.J. Ursic, 1999a
IWDP-1	IIIB	25	12/10/98	8080	<50	<50	<50	<50	<50	<50	<50	Excavated	A.J. Ursic, 1999a
IWDP-1	IIIB	30	12/10/98	8080	<50	<50	<50	<50	<50	<50	<50	Excavated	A.J. Ursic, 1999a
IWDP-1	IIIB	35	12/10/98	8080	<50	<50	<50	<50	<50	<50	<50	Excavated	A.J. Ursic, 1999a
IWDP-1	IIIB	40	12/10/98	8080	<50	<50	<50	<50	<50	<50	<50	Excavated	A.J. Ursic, 1999a
IWDP-1	IIIB	45	12/10/98	8080	<50	<50	<50	<50	<50	<50	<50	--	A.J. Ursic, 1999a
IWDP-2	IIIB	5	12/10/98	8080	<50	<50	<50	<50	<50	<50	<50	Excavated	A.J. Ursic, 1999a
IWDP-2	IIIB	10	12/10/98	8080	<500	<500	<500	<500	<500	2100	<500	Excavated	A.J. Ursic, 1999a
IWDP-2	IIIB	15	12/10/98	8080	<500	<500	<500	<500	<500	1400	<500	Excavated	A.J. Ursic, 1999a
IWDP-2	IIIB	20	12/10/98	8080	<50	<50	<50	<50	<50	81	<50	Excavated	A.J. Ursic, 1999a
IWDP-2	IIIB	25	12/10/98	8080	<50	<50	<50	<50	<50	<50	<50	Excavated	A.J. Ursic, 1999a
IWDP-2	IIIB	30	12/10/98	8080	<500	<500	<500	<500	<500	800	<500	Excavated	A.J. Ursic, 1999a
IWDP-2	IIIB	35	12/10/98	8080	<500	<500	<500	<500	<500	**5800**	<500	Excavated	A.J. Ursic, 1999a
IWDP-2	IIIB	40	12/10/98	8080	<50	<50	<50	<50	<50	<50	<50	Excavated	A.J. Ursic, 1999a
IWDP-2	IIIB	45	12/10/98	8080	<50	<50	<50	<50	<50	<50	<50	--	A.J. Ursic, 1999a
IWDP-3	IIIB	5	12/08/98	8080	<50	<50	<50	<50	<50	<50	130	Excavated	A.J. Ursic, 1999a
IWDP-3	IIIB	10	12/08/98	8080	<500	<500	<500	<500	<500	4400	<500	Excavated	A.J. Ursic, 1999a
IWDP-3	IIIB	15	12/08/98	8080	<500	<500	<500	<500	<500	3100	<500	Excavated	A.J. Ursic, 1999a
IWDP-3	IIIB	20	12/08/98	8080	<250	<250	<250	<250	<250	2200	<250	Excavated	A.J. Ursic, 1999a
IWDP-3	IIIB	25	12/08/98	8080	<500	<500	<500	<500	<500	3700	<500	Excavated	A.J. Ursic, 1999a
IWDP-3	IIIB	30	12/08/98	8080	<50	<50	<50	<50	<50	<50	<50	Excavated	A.J. Ursic, 1999a

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Sample	Phase Area	Sample Depth (Feet)	Sample Date	EPA Method	Aroclor 1016	Aroclor 1221	Aroclor 1232	Aroclor 1242	Aroclor 1248	Aroclor 1254	Aroclor 1260	Excavated Status[1]	Data Source
Industrial PRGs					21,246	NE[2]	NE	NE	NE	744	NE	--	--
IWDP-3	IIIB	35	12/08/98	8080	<50	<50	<50	<50	<50	<50	<50	Excavated	A.J. Ursic, 1999a
IWDP-3	IIIB	40	12/08/98	8080	<50	<50	<50	<50	<50	<50	<50	Excavated	A.J. Ursic, 1999a
IWDP-3	IIIB	45	12/08/98	8080	<50	<50	<50	<50	<50	<50	<50	--	A.J. Ursic, 1999a
IWDP-4	IIIB	5	12/10/98	8080	<50	<50	<50	<50	<50	<50	<50	Excavated	A.J. Ursic, 1999a
IWDP-4	IIIB	10	12/01/98	8080	<5000	<5000	<5000	<5000	<5000	**52,000**	<5000	Excavated	A.J. Ursic, 1999a
IWDP-4	IIIB	15	12/01/98	8080	<500	<500	<500	<500	<500	4400	<500	Excavated	A.J. Ursic, 1999a
IWDP-4	IIIB	20	12/01/98	8080	<500	<500	<500	<500	<500	2900	<500	Excavated	A.J. Ursic, 1999a
IWDP-4	IIIB	25	12/01/98	8080	<500	<500	<500	<500	<500	1700	<500	Excavated	A.J. Ursic, 1999a
IWDP-4	IIIB	30	12/01/98	8080	<500	<500	<500	<500	<500	4200	<500	Excavated	A.J. Ursic, 1999a
IWDP-4	IIIB	35	12/01/98	8080	<50	<50	<50	<50	<50	<50	<50	Excavated	A.J. Ursic, 1999a
IWDP-4	IIIB	40	12/01/98	8080	<50	<50	<50	<50	<50	<50	<50	Excavated	A.J. Ursic, 1999a
IWDP-4	IIIB	45	12/10/98	8080	<50	<50	<50	<50	<50	<50	<50	--	A.J. Ursic, 1999a
IWDP-5	IIIB	5	12/09/98	8080	<50	<50	<50	<50	<50	<50	<50	Excavated	A.J. Ursic, 1999a
IWDP-5	IIIB	10	12/09/98	8080	<50	<50	<50	<50	<50	<50	170	Excavated	A.J. Ursic, 1999a
IWDP-5	IIIB	12	12/09/98	8080	<50	<50	<50	<50	<50	3100	<50	Excavated	A.J. Ursic, 1999a
IWDP-5	IIIB	15	12/09/98	8080	<2000	<2000	<2000	<2000	<2000	**24,000**	<2000	Excavated	A.J. Ursic, 1999a
IWDP-5	IIIB	20	12/09/98	8080	<500	<500	<500	<500	<500	4800	<500	Excavated	A.J. Ursic, 1999a
IWDP-5	IIIB	25	12/09/98	8080	<500	<500	<500	<500	<500	3400	<500	Excavated	A.J. Ursic, 1999a
IWDP-5	IIIB	30	12/09/98	8080	<125	<125	<125	<125	<125	1300	<125	Excavated	A.J. Ursic, 1999a
IWDP-5	IIIB	35	12/09/98	8080	<50	<50	<50	<50	<50	<50	<50	Excavated	A.J. Ursic, 1999a
IWDP-5	IIIB	40	12/09/98	8080	<50	<50	<50	<50	<50	<50	<50	Excavated	A.J. Ursic, 1999a
IWDP-5	IIIB	45	12/09/98	8080	<50	<50	<50	<50	<50	<50	<50	--	A.J. Ursic, 1999a
IWDP-6	IIIB	5	12/09/98	8080	<50	<50	<50	<50	<50	670	<50	Excavated	A.J. Ursic, 1999a
IWDP-6	IIIB	10	12/09/98	8080	<50	<50	<50	<50	<50	<50	<50	Excavated	A.J. Ursic, 1999a
IWDP-6	IIIB	15	12/09/98	8080	<50	<50	<50	<50	<50	**16,000**	<50	Excavated	A.J. Ursic, 1999a
IWDP-6	IIIB	20	12/09/98	8080	<125	<125	<125	<125	<125	1200	<125	Excavated	A.J. Ursic, 1999a
IWDP-6	IIIB	25	12/09/98	8080	<50	<50	<50	<50	<50	<50	<50	Excavated	A.J. Ursic, 1999a
IWDP-6	IIIB	30	12/09/98	8080	<50	<50	<50	<50	<50	<50	<50	Excavated	A.J. Ursic, 1999a
IWDP-6	IIIB	35	12/09/98	8080	<50	<50	<50	<50	<50	<50	<50	Excavated	A.J. Ursic, 1999a
IWDP-6	IIIB	40	12/09/98	8080	<50	<50	<50	<50	<50	<50	<50	Excavated	A.J. Ursic, 1999a
IWDP-6	IIIB	45	12/09/98	8080	<50	<50	<50	<50	<50	<50	<50	--	A.J. Ursic, 1999a
IWDP-7	IIIB	5	12/01/98	8080	<2000	<2000	<2000	<2000	<2000	**12,000**	<2000	Excavated	A.J. Ursic, 1999a
IWDP-7	IIIB	10	12/01/98	8080	<500	<500	<500	<500	<500	3300	<500	Excavated	A.J. Ursic, 1999a

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Sample	Phase Area	Sample Depth (Feet)	Sample Date	EPA Method	Aroclor 1016	Aroclor 1221	Aroclor 1232	Aroclor 1242	Aroclor 1248	Aroclor 1254	Aroclor 1260	Excavated Status[1]	Data Source
Industrial PRGs					21,246	NE[2]	NE	NE	NE	744	NE	--	--
IWDP-7	IIIB	15	12/01/98	8080	<50	<50	<50	<50	<50	<50	<50	Excavated	A.J. Ursic, 1999a
IWDP-7	IIIB	20	12/10/98	8080	<50	<50	<50	<50	<50	<50	<50	Excavated	A.J. Ursic, 1999a
IWDP-7	IIIB	25	12/10/98	8080	<50	<50	<50	<50	<50	<50	<50	Excavated	A.J. Ursic, 1999a
IWDP-7	IIIB	30	12/10/98	8080	<50	<50	<50	<50	<50	<50	<50	Excavated	A.J. Ursic, 1999a
IWDP-7	IIIB	35	12/10/98	8080	<50	<50	<50	<50	<50	<50	<50	Excavated	A.J. Ursic, 1999a
IWDP-7	IIIB	40	12/10/98	8080	<50	<50	<50	<50	<50	<50	<50	Excavated	A.J. Ursic, 1999a
IWDP-7	IIIB	45	12/10/98	8080	<50	<50	<50	<50	<50	<50	<50	--	A.J. Ursic, 1999a
IWDP-8	IIIB	5	12/09/98	8080	<50	<50	<50	<50	<50	120	<50	Excavated	A.J. Ursic, 1999a
IWDP-8	IIIB	10	12/01/98	8080	<400	<400	<400	<400	<400	2000	<400	Excavated	A.J. Ursic, 1999a
IWDP-8	IIIB	15	12/01/98	8080	<500	<500	<500	<500	<500	2800	<500	Excavated	A.J. Ursic, 1999a
IWDP-8	IIIB	20	12/01/98	8080	<50	<50	<50	<50	<50	<50	<50	Excavated	A.J. Ursic, 1999a
IWDP-8	IIIB	25	12/01/98	8080	<50	<50	<50	<50	<50	<50	<50	Excavated	A.J. Ursic, 1999a
IWDP-8	IIIB	30	12/01/98	8080	<50	<50	<50	<50	<50	<50	<50	Excavated	A.J. Ursic, 1999a
IWDP-8	IIIB	35	12/01/98	8080	<50	<50	<50	<50	<50	<50	<50	Excavated	A.J. Ursic, 1999a
IWDP-8	IIIB	40	12/01/98	8080	<50	<50	<50	<50	<50	<50	<50	Excavated	A.J. Ursic, 1999a
IWDP-8	IIIB	45	12/01/98	8080	<50	<50	<50	<50	<50	<50	<50	--	A.J. Ursic, 1999a
IWDP-9	IIIB	5	12/09/98	8080	<50	<50	<50	<50	<50	<50	<50	Excavated	A.J. Ursic, 1999a
IWDP-9	IIIB	10	12/09/98	8080	<50	<50	<50	<50	<50	<50	<50	Excavated	A.J. Ursic, 1999a
IWDP-9	IIIB	15	12/09/98	8080	<100	<100	<100	<100	<100	880	<100	Excavated	A.J. Ursic, 1999a
IWDP-9	IIIB	20	12/08/98	8080	<100	<100	<100	<100	<100	1300	<100	Excavated	A.J. Ursic, 1999a
IWDP-9	IIIB	25	12/08/98	8080	<50	<50	<50	<50	<50	<50	<50	Excavated	A.J. Ursic, 1999a
IWDP-9	IIIB	30	12/08/98	8080	<50	<50	<50	<50	<50	<50	<50	Excavated	A.J. Ursic, 1999a
IWDP-9	IIIB	35	12/08/98	8080	<50	<50	<50	<50	<50	<50	<50	Excavated	A.J. Ursic, 1999a
IWDP-9	IIIB	40	12/08/98	8080	<50	<50	<50	<50	<50	<50	<50	Excavated	A.J. Ursic, 1999a
IWDP-9	IIIB	45	12/08/98	8080	<50	<50	<50	<50	<50	<50	<50	--	A.J. Ursic, 1999a
IWDP-10	IIIB	5	12/01/98	8080	<500	<500	<500	<500	<500	1700	<500	Excavated	A.J. Ursic, 1999a
IWDP-10	IIIB	10	12/01/98	8080	<50	<50	<50	<50	<50	<50	<50	Excavated	A.J. Ursic, 1999a
IWDP-10	IIIB	15	12/01/98	8080	<50	<50	<50	<50	<50	<50	<50	Excavated	A.J. Ursic, 1999a
IWDP-10	IIIB	20	12/01/98	8080	<50	<50	<50	<50	<50	<50	<50	Excavated	A.J. Ursic, 1999a
IWDP-10	IIIB	25	12/01/98	8080	<50	<50	<50	<50	<50	<50	<50	Excavated	A.J. Ursic, 1999a
IWDP-10	IIIB	30	12/01/98	8080	<50	<50	<50	<50	<50	<50	<50	Excavated	A.J. Ursic, 1999a
IWDP-10	IIIB	35	12/01/98	8080	<50	<50	<50	<50	<50	<50	<50	Excavated	A.J. Ursic, 1999a
IWDP-10	IIIB	40	12/01/98	8080	<50	<50	<50	<50	<50	<50	<50	Excavated	A.J. Ursic, 1999a

TABLE 2
POLYCHLORINATED BIPHENYLS SOIL CHARACTERIZATION DATA
Former Pechiney Cast Plate, Inc., Facility
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Results shown in micrograms per kilogram (µg/kg)

Sample	Phase Area	Sample Depth (Feet)	Sample Date	EPA Method	Aroclor 1016	Aroclor 1221	Aroclor 1232	Aroclor 1242	Aroclor 1248	Aroclor 1254	Aroclor 1260	Excavated Status[1]	Data Source
Industrial PRGs					21,246	NE[2]	NE	NE	NE	744	NE	--	--
IWDP-10	IIIB	40	12/01/98	8080	<50	<50	<50	<50	<50	<50	<50	--	A.J. Ursic, 1999a
IWDP-10	IIIB	45	12/01/98	8080	<50	<50	<50	<50	<50	<50	<50	--	A.J. Ursic, 1999a
IWDP-11	IIIB	5	12/01/98	8080	<50	<50	<50	<50	<50	<50	<50	Excavated	A.J. Ursic, 1999a
IWDP-11	IIIB	10	12/01/98	8080	<500	<500	<500	<500	<500	1400	<500	Excavated	A.J. Ursic, 1999a
IWDP-11	IIIB	15	12/01/98	8080	<2000	<2000	<2000	<2000	<2000	**13,000**	<2000	Excavated	A.J. Ursic, 1999a
IWDP-11	IIIB	20	12/01/98	8080	<500	<500	<500	<500	<500	**6500**	<500	Excavated	A.J. Ursic, 1999a
IWDP-11	IIIB	25	12/01/98	8080	<50	<50	<50	<50	<50	<50	<50	Excavated	A.J. Ursic, 1999a
IWDP-11	IIIB	30	12/01/98	8080	<50	<50	<50	<50	<50	<50	<50	Excavated	A.J. Ursic, 1999a
IWDP-11	IIIB	35	12/01/98	8080	<50	<50	<50	<50	<50	<50	<50	Excavated	A.J. Ursic, 1999a
IWDP-11	IIIB	40	12/01/98	8080	<50	<50	<50	<50	<50	<50	<50	Excavated	A.J. Ursic, 1999a
IWDP-11	IIIB	45	12/01/98	8080	<50	<50	<50	<50	<50	<50	<50	--	A.J. Ursic, 1999a
IWDP-11	IIIB	50	12/01/98	8080	<50	<50	<50	<50	<50	<50	<50	--	A.J. Ursic, 1999a
IWDP-12	IIIB	5	12/01/98	8080	<50	<50	<50	<50	<50	<50	<50	Excavated	A.J. Ursic, 1999a
IWDP-12	IIIB	10	12/01/98	8080	<50	<50	<50	<50	<50	<50	<50	Excavated	A.J. Ursic, 1999a
IWDP-12	IIIB	15	12/01/98	8080	<50	<50	<50	<50	<50	<50	<50	Excavated	A.J. Ursic, 1999a
IWDP-12	IIIB	20	12/01/98	8080	<50	<50	<50	<50	<50	<50	<50	Excavated	A.J. Ursic, 1999a
IWDP-12	IIIB	25	12/01/98	8080	<50	<50	<50	<50	<50	<50	<50	Excavated	A.J. Ursic, 1999a
IWDP-12	IIIB	30	12/01/98	8080	<50	<50	<50	<50	<50	<50	<50	Excavated	A.J. Ursic, 1999a
IWDP-12	IIIB	35	12/01/98	8080	<50	<50	<50	<50	<50	<50	<50	Excavated	A.J. Ursic, 1999a
IWDP-12	IIIB	40	12/01/98	8080	<50	<50	<50	<50	<50	<50	<50	Excavated	A.J. Ursic, 1999a
IWDP-12	IIIB	45	12/01/98	8080	<50	<50	<50	<50	<50	<50	<50	--	A.J. Ursic, 1999a
IWDP-12	IIIB	50	12/01/98	8080	<50	<50	<50	<50	<50	<50	<50	--	A.J. Ursic, 1999a
IWDP-13	IIIB	5	12/01/98	8080	<50	<50	<50	<50	<50	170	<50	Excavated	A.J. Ursic, 1999a
IWDP-13	IIIB	10	12/01/98	8080	<50	<50	<50	<50	<50	<50	<50	Excavated	A.J. Ursic, 1999a
IWDP-13	IIIB	15	12/01/98	8080	<500	<500	<500	<500	<500	2100	<500	Excavated	A.J. Ursic, 1999a
IWDP-13	IIIB	20	12/01/98	8080	<50	<50	<50	<50	<50	<50	<50	Excavated	A.J. Ursic, 1999a
IWDP-13	IIIB	25	12/01/98	8080	<50	<50	<50	<50	<50	<50	<50	Excavated	A.J. Ursic, 1999a
IWDP-13	IIIB	30	12/01/98	8080	<50	<50	<50	<50	<50	<50	<50	Excavated	A.J. Ursic, 1999a
IWDP-13	IIIB	35	12/01/98	8080	<50	<50	<50	<50	<50	<50	<50	Excavated	A.J. Ursic, 1999a
IWDP-13	IIIB	40	12/01/98	8080	<50	<50	<50	<50	<50	<50	<50	Excavated	A.J. Ursic, 1999a
IWDP-13	IIIB	45	12/01/98	8080	<50	<50	<50	<50	<50	<50	<50	--	A.J. Ursic, 1999a
IWDP-S	IIIB	30	03/25/99	8080	<50	<50	<50	<50	<50	<50	<50	--	A.J. Ursic, 1999a
IWDP-SE	IIIB	30	03/25/99	8080	<50	<50	<50	<50	<50	<50	<50	--	A.J. Ursic, 1999a

TABLE 2
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Sample	Phase Area	Sample Depth (Feet)	Sample Date	EPA Method	Aroclor 1016	Aroclor 1221	Aroclor 1232	Aroclor 1242	Aroclor 1248	Aroclor 1254	Aroclor 1260	Excavated Status[1]	Data Source
Industrial PRGs					21,246	NE[2]	NE	NE	NE	744	NE	--	--
IWDP-SWB	IIIB	30	03/23/99	8080	<50	<50	<50	<50	<50	900	<50	--	A.J. Ursic, 1999a
IWDP-W (Clean)	IIIB	30	03/22/99	8080	<250	<250	<250	<250	<250	890	<250	--	A.J. Ursic, 1999a
IWDP-W (Gray)	IIIB	--[13]	03/22/99	8080	<50	<50	<50	<50	<50	**4000**	<50	--	A.J. Ursic, 1999a
IWDP-Na (Clean)	IIIB	--[13]	03/22/99	8080	<50	<50	<50	<50	<50	<50	<50	--	A.J. Ursic, 1999a
IWDP-Nb (Clean)	IIIB	--[13]	03/22/99	8080	<50	<50	<50	<50	<50	<50	<50	--	A.J. Ursic, 1999a
#31	IV	1.8	11/18/05	8082	<20	<20	<20	<20	<20	<20	<20	--	Geomatrix, 2006a
#31	IV	6.4	11/18/05	8082	<20	<20	<20	<20	<20	<20	<20	--	Geomatrix, 2006a
#32	IV	2	11/18/05	8082	<20	<20	<20	<20	<20	<20	<20	--	Geomatrix, 2006a
#32	IV	6.5	11/18/05	8082	<20	<20	<20	<20	<20	<20	<20	--	Geomatrix, 2006a
#33	IV	2.8	11/18/05	8082	<20	<20	<20	<20	<20	<20	<20	--	Geomatrix, 2006a
#33	IV	6.8	11/18/05	8082	<20	<20	<20	<20	<20	<20	<20	--	Geomatrix, 2006a
#34	IV	3.1	11/18/05	8082	<20	<20	<20	<20	<20	<20	<20	--	Geomatrix, 2006a
#34	IV	6.9	11/18/05	8082	<20	<20	<20	<20	<20	<20	<20	--	Geomatrix, 2006a
#35	IV	2.7	11/18/05	8082	<20	<20	<20	<20	<20	<20	<20	--	Geomatrix, 2006a
#35	IV	7.1	11/18/05	8082	<20	<20	<20	<20	<20	<20	<20	--	Geomatrix, 2006a
#36	IV	2.3	11/18/05	8082	<20	<20	<20	<20	<20	<20	<20	--	Geomatrix, 2006a
#36	IV	7.5	12/02/05	8082	<200	<200	<200	<200	<200	<200	<200	--	Geomatrix, 2006a
#51	IV	3	11/28/05	8082	<20	<20	<20	<20	<20	<20	<20	--	Geomatrix, 2006a
#51	IV	6.9	11/28/05	8082	<20	<20	<20	<20	<20	<20	<20	--	Geomatrix, 2006a
#107	IV	2.7	04/04/06	8082	<200	<200	<200	<200	<200	<200	460	Excavated	Geomatrix, 2006b
#107	IV	4.5	04/04/06	8082	<200	<200	<200	<200	<200	<200	<200	--	Geomatrix, 2006b
#107	IV	7.3	04/05/06	8082	<200	<200	<200	<200	<200	<200	<200	--	Geomatrix, 2006b
A-1	IV	5	04/01/95	8080	<50	<50	<50	<50	<50	<50	<50	--	MKC, 1996, A.J. Ursic, 1999a
A-1	IV	10	04/01/95	8080	<50	<50	**470**	<50	<50	<50	<50	--	MKC, 1996, A.J. Ursic, 1999a
A-12	IV	5	04/21/95	8080	ND	ND	ND	ND	ND	ND	ND	--	MKC, 1996, A.J. Ursic, 1999a
B-1	IV	5	04/01/95	8080	ND	ND	ND	ND	ND	ND	ND	--	MKC, 1996, A.J. Ursic, 1999a
C-1	IV	5	04/01/95	8080	ND	ND	ND	ND	ND	ND	ND	--	MKC, 1996, A.J. Ursic, 1999a
E-1A[14]	IV	1.5	04/01/95	8080	<250	<250	**1,900**	<250	<250	<250	<250	Excavated	MKC, 1996, A.J. Ursic, 1999a
B-1F	IV	1	07/01/98	8082	<33	<33	<33	<33	<33	<33	<33	--	MFG, 1998
B-1F	IV	5	07/01/98	8082	<33	<33	<33	<33	77	<33	<33	--	MFG, 1998
B-1F	IV	10	07/01/98	8082	<33	<33	<33	<33	<33	<33	<33	--	MFG, 1998
B-1F	IV	30	07/01/98	8082	<33	<33	<33	<33	<33	<33	<33	--	MFG, 1998
B-2F	IV	1	07/01/98	8082	<330	<330	<330	<330	<330	<330	1200	--	MFG, 1998

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Sample	Phase Area	Sample Depth (Feet)	Sample Date	EPA Method	Aroclor 1016	Aroclor 1221	Aroclor 1232	Aroclor 1242	Aroclor 1248	Aroclor 1254	Aroclor 1260	Excavated Status[1]	Data Source
Industrial PRGs					21,246	NE[2]	NE	NE	NE	744	NE	--	--
B-2F	IV	10	07/01/98	8082	<33	<33	<33	<33	<33	<33	<33	--	MFG, 1998
B-2F	IV	30	07/01/98	8082	<33	<33	<33	<33	<33	<33	<33	--	MFG, 1998
B-3F	IV	1	07/01/98	8082	<33	<33	<33	<33	<33	<33	<33	--	MFG, 1998
B-3F	IV	10	07/01/98	8082	<33	<33	<33	<33	<33	<33	<33	--	MFG, 1998
B-3F	IV	20	07/01/98	8082	<33	<33	<33	<33	<33	<33	<33	--	MFG, 1998
B-3F	IV	25	07/01/98	8082	<33	<33	<33	<33	<33	<33	<33	--	MFG, 1998
SWC-1	IV	1	12/16/98	8080	<50	<50	<50	<50	<50	<50	51	--	A.J. Ursic, 1999a
SWC-1	IV	5	12/16/98	8080	<50	<50	<50	<50	<50	<50	<50	--	A.J. Ursic, 1999a
SWC-1	IV	10	12/01/98	8080	<50	<50	<50	<50	<50	<50	<50	--	A.J. Ursic, 1999a
SWC-1	IV	15	12/01/98	8080	<50	<50	<50	<50	<50	<50	<50	--	A.J. Ursic, 1999a
SWC-1	IV	20	12/01/98	8080	<50	<50	<50	<50	<50	<50	<50	--	A.J. Ursic, 1999a
SWC-1	IV	25	12/01/98	8080	<50	<50	<50	<50	<50	<50	<50	--	A.J. Ursic, 1999a
SWC-1	IV	30	12/01/98	8080	<50	<50	<50	<50	<50	<50	<50	--	A.J. Ursic, 1999a
SWC-2	IV	1	12/16/98	8080	<50	<50	<50	<50	<50	<50	<50	--	A.J. Ursic, 1999a
SWC-2	IV	5	12/16/98	8080	<50	<50	<50	<50	<50	<50	<50	--	A.J. Ursic, 1999a
SWC-2	IV	10	12/16/98	8080	<50	<50	<50	<50	<50	<50	<50	--	A.J. Ursic, 1999a
SWC-2	IV	15	12/16/98	8080	<50	<50	<50	<50	<50	<50	<50	--	A.J. Ursic, 1999a
SWC-2	IV	20	12/16/98	8080	<50	<50	<50	<50	<50	<50	<50	--	A.J. Ursic, 1999a
SWC-2	IV	25	12/16/98	8080	<50	<50	<50	<50	<50	<50	<50	--	A.J. Ursic, 1999a
SWC-2C	IV	20	12/16/98	8080	<50	<50	<50	<50	<50	<50	<50	--	A.J. Ursic, 1999a
SWC-2C	IV	25	12/16/98	8080	<50	<50	<50	<50	<50	<50	<50	--	A.J. Ursic, 1999a
SWC-3	IV	1	12/16/98	8080	<50	<50	<50	<50	250	<50	<50	--	A.J. Ursic, 1999a
SWC-3	IV	5	12/16/98	8080	<50	<50	<50	<50	<50	<50	<50	--	A.J. Ursic, 1999a
SWC-3	IV	10	12/16/98	8080	<50	<50	<50	<50	<50	<50	<50	--	A.J. Ursic, 1999a
SWC-3	IV	15	12/16/98	8080	<50	<50	<50	<50	<50	<50	<50	--	A.J. Ursic, 1999a
SWC-3	IV	20	12/16/98	8080	<50	<50	<50	<50	<50	<50	<50	--	A.J. Ursic, 1999a
SWC-3	IV	25	12/16/98	8080	<50	<50	<50	<50	<50	<50	<50	--	A.J. Ursic, 1999a
SWC-3	IV	30	12/16/98	8080	<50	<50	<50	<50	<50	<50	<50	--	A.J. Ursic, 1999a
SWC-3B	IV	1	12/16/98	8080	<50	<50	<50	<50	250	<50	<50	--	A.J. Ursic, 1999a
SWC-3B	IV	5	12/16/98	8080	<50	<50	<50	<50	<50	<50	<50	--	A.J. Ursic, 1999a
SWC-3B	IV	10	12/16/98	8080	<50	<50	<50	<50	<50	<50	<50	--	A.J. Ursic, 1999a
SWC-3B	IV	15	12/16/98	8080	<50	<50	<50	<50	<50	<50	<50	--	A.J. Ursic, 1999a
SWC-3B	IV	20	12/16/98	8080	<50	<50	<50	<50	<50	<50	<50	--	A.J. Ursic, 1999a

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Sample	Phase Area	Sample Depth (Feet)	Sample Date	EPA Method	Aroclor 1016	Aroclor 1221	Aroclor 1232	Aroclor 1242	Aroclor 1248	Aroclor 1254	Aroclor 1260	Excavated Status[1]	Data Source
Industrial PRGs					21,246	NE[2]	NE	NE	NE	744	NE	--	--
SWC-3B	IV	25	12/16/98	8080	<50	<50	<50	<50	<50	<50	<50	--	A.J. Ursic, 1999a
SWC-3B	IV	30	12/16/98	8080	<50	<50	<50	<50	<50	<50	<50	--	A.J. Ursic, 1999a
SWC-4A	IV	1	12/16/98	8080	<50	<50	<50	<50	<50	<50	<50	--	A.J. Ursic, 1999a
SWC-4A	IV	5	12/16/98	8080	<50	<50	<50	<50	<50	<50	<50	--	A.J. Ursic, 1999a
SWC-4A	IV	10	12/16/98	8080	<50	<50	<50	<50	<50	<50	<50	--	A.J. Ursic, 1999a
SWC-4A	IV	15	12/16/98	8080	<50	<50	<50	<50	<50	<50	<50	--	A.J. Ursic, 1999a
SWC-4A	IV	20	12/16/98	8080	<50	<50	<50	<50	<50	<50	<50	--	A.J. Ursic, 1999a
SWC-4A	IV	25	12/16/98	8080	<50	<50	<50	<50	<50	<50	<50	--	A.J. Ursic, 1999a
SWC-4A	IV	30	12/16/98	8080	<50	<50	<50	<50	<50	<50	<50	--	A.J. Ursic, 1999a
SWC-4A	IV	35	12/17/98	8080	<50	<50	<50	<50	<50	<50	<50	--	A.J. Ursic, 1999a
SWC-4A	IV	40	12/17/98	8080	<50	<50	<50	<50	<50	<50	<50	--	A.J. Ursic, 1999a
SWC-4A	IV	45	12/16/98	8080	<50	<50	<50	<50	<50	<50	<50	--	A.J. Ursic, 1999a
SWC-4A	IV	45	12/17/98	8080	<50	<50	<50	<50	<50	<50	<50	--	A.J. Ursic, 1999a
SWC-5B	IV	1	12/01/98	8080	<50	<50	<50	<50	<50	<50	<50	--	A.J. Ursic, 1999a
SWC-5B	IV	5	12/01/98	8080	<50	<50	<50	<50	<50	<50	<50	--	A.J. Ursic, 1999a
SWC-5C	IV	1	12/16/98	8080	<50	<50	<50	<50	<50	<50	<50	--	A.J. Ursic, 1999a
SWC-5C	IV	5	12/01/98	8080	<50	<50	<50	<50	<50	<50	<50	--	A.J. Ursic, 1999a
SWC-5C	IV	10	12/16/98	8080	<50	<50	<50	<50	<50	<50	<50	--	A.J. Ursic, 1999a
SWC-5C	IV	15	12/16/98	8080	<50	<50	<50	<50	<50	<50	<50	--	A.J. Ursic, 1999a
SWC-5C	IV	20	12/16/98	8080	<50	<50	<50	<50	<50	<50	<50	--	A.J. Ursic, 1999a
SWC-5C	IV	25	12/16/98	8080	<50	<50	<50	<50	<50	<50	<50	--	A.J. Ursic, 1999a
SWC-5C	IV	30	12/16/98	8080	<50	<50	<50	<50	<50	<50	<50	--	A.J. Ursic, 1999a
SWC-5C	IV	35	12/01/98	8080	<50	<50	<50	<50	<50	--[14]	--	--	A.J. Ursic, 1999a
SWC-5C	IV	35	12/16/98	8080	<50	<50	<50	<50	<50	<50	<50	--	A.J. Ursic, 1999a
SWC-5C	IV	40	12/16/98	8080	<50	<50	<50	<50	<50	<50	<50	--	A.J. Ursic, 1999a
SWC-5C	IV	45	12/16/98	8080	<50	<50	<50	<50	<50	<50	<50	--	A.J. Ursic, 1999a
SWC-6	IV	1	12/16/98	8080	<50	<50	<50	<50	<50	<50	<50	--	A.J. Ursic, 1999a
SWC-6	IV	5	12/16/98	8080	<50	<50	<50	<50	<50	<50	<50	--	A.J. Ursic, 1999a
SWC-6	IV	10	12/16/98	8080	<50	<50	<50	<50	<50	<50	<50	--	A.J. Ursic, 1999a
SWC-6	IV	15	12/16/98	8080	<50	<50	<50	<50	<50	<50	<50	--	A.J. Ursic, 1999a
SWC-6	IV	20	12/16/98	8080	<50	<50	<50	<50	<50	<50	<50	--	A.J. Ursic, 1999a

TABLE 2
POLYCHLORINATED BIPHENYLS SOIL CHARACTERIZATION DATA
Former Pechiney Cast Plate, Inc., Facility
Vernon, California

Results shown in micrograms per kilogram (µg/kg)

Sample	Phase Area	Sample Depth (Feet)	Sample Date	EPA Method	Aroclor 1016	Aroclor 1221	Aroclor 1232	Aroclor 1242	Aroclor 1248	Aroclor 1254	Aroclor 1260	Excavated Status[1]	Data Source
Industrial PRGs					21,246	NE[2]	NE	NE	NE	744	NE	--	--
SWC-6	IV	25	12/16/98	8080	<50	<50	<50	<50	<50	<50	<50	--	A.J. Ursic, 1999a
SWC-6	IV	30	12/16/98	8080	<50	<50	<50	<50	<50	<50	<50	--	A.J. Ursic, 1999a
SWC-6	IV	35	12/16/98	8080	<50	<50	<50	<50	<50	<50	<50	--	A.J. Ursic, 1999a
SWC-6	IV	40	12/16/98	8080	<50	<50	<50	<50	<50	<50	<50	--	A.J. Ursic, 1999a
SWC-7	IV	1	12/16/98	8080	<50	<50	<50	<50	<50	<50	<50	--	A.J. Ursic, 1999a
SWC-7	IV	5	12/16/98	8080	<50	<50	<50	<50	<50	<50	<50	--	A.J. Ursic, 1999a
SWC-7	IV	10	12/16/98	8080	<50	<50	<50	<50	<50	<50	<50	--	A.J. Ursic, 1999a
SWC-7	IV	15	12/16/98	8080	<50	<50	<50	<50	<50	<50	<50	--	A.J. Ursic, 1999a
SWC-7	IV	20	12/16/98	8080	<50	<50	<50	<50	<50	<50	<50	--	A.J. Ursic, 1999a
SWC-7	IV	25	12/16/98	8080	<50	<50	<50	<50	<50	<50	<50	--	A.J. Ursic, 1999a
SWC-7	IV	40	12/16/98	8080	<50	<50	<50	<50	<50	<50	<50	--	A.J. Ursic, 1999a
SWC-8	IV	1	12/16/98	8080	<50	<50	<50	<50	<50	<50	<50	--	A.J. Ursic, 1999a
SWC-8	IV	5	12/16/98	8080	<50	<50	<50	<50	<50	<50	<50	--	A.J. Ursic, 1999a
SWC-8	IV	10	12/16/98	8080	<50	<50	<50	<50	<50	<50	<50	--	A.J. Ursic, 1999a
SWC-8	IV	15	12/16/98	8080	<50	<50	<50	<50	<50	<50	<50	--	A.J. Ursic, 1999a
SWC-8	IV	20	12/16/98	8080	<50	<50	<50	<50	<50	<50	<50	--	A.J. Ursic, 1999a
SWC-8	IV	25	12/16/98	8080	<50	<50	<50	<50	<50	<50	<50	--	A.J. Ursic, 1999a
SWC-8	IV	40	12/16/98	8080	<50	<50	<50	<50	<50	<50	<50	--	A.J. Ursic, 1999a
SWC-9	IV	1	12/16/98	8080	<50	<50	<50	<50	<50	<50	<50	--	A.J. Ursic, 1999a
SWC-9	IV	5	12/16/98	8080	<50	<50	<50	<50	<50	<50	<50	--	A.J. Ursic, 1999a
SWC-9	IV	10	12/16/98	8080	<50	<50	<50	<50	<50	<50	<50	--	A.J. Ursic, 1999a
SWC-9	IV	15	12/16/98	8080	<50	<50	<50	<50	<50	<50	<50	--	A.J. Ursic, 1999a
SWC-9	IV	20	12/16/98	8080	<50	<50	<50	<50	<50	<50	<50	--	A.J. Ursic, 1999a
SWC-9	IV	25	12/16/98	8080	<50	<50	<50	<50	<50	<50	<50	--	A.J. Ursic, 1999a
SWC-9	IV	40	12/16/98	8080	<50	<50	<50	<50	<50	<50	<50	--	A.J. Ursic, 1999a
#71	VI	2.3	12/02/05	8082	<200	<200	<200	<200	<200	<200	570	--	Geomatrix, 2006a
#71	VI	6.3	12/02/05	8082	<100	<100	<100	<100	<100	<100	<100	--	Geomatrix, 2006a
#71	VI	11.1	12/02/05	8082	<20	<20	<20	<20	140	<20	<20	--	Geomatrix, 2006a
#72	VI	10.8	11/30/05	8082	<200	<200	<200	<200	<200	<200	<200	--	Geomatrix, 2006a
#72	VI	20.8	11/30/05	8082	<200	<200	<200	<200	<200	<200	<200	--	Geomatrix, 2006a
G114-1	VI	14	01/29/96	8082	ND[4]	ND	ND	ND	ND	ND	ND	--	MKC, 1996; A.J. Ursic, 1999b

TABLE 2
POLYCHLORINATED BIPHENYLS SOIL CHARACTERIZATION DATA
Former Pechiney Cast Plate, Inc., Facility
Vernon, California

Results shown in micrograms per kilogram (µg/kg)

Sample	Phase Area	Sample Depth (Feet)	Sample Date	EPA Method	Aroclor 1016	Aroclor 1221	Aroclor 1232	Aroclor 1242	Aroclor 1248	Aroclor 1254	Aroclor 1260	Excavated Status[1]	Data Source
Industrial PRGs					21,246	NE[2]	NE	NE	NE	744	NE	--	--
G114-2	VI	17	01/29/96	8082	ND	ND	ND	ND	ND	ND	ND	--	MKC, 1996; A.J. Ursic, 1999b
G114-3	VI	17	01/29/96	8082	ND	ND	ND	ND	ND	ND	ND	--	MKC, 1996; A.J. Ursic, 1999b
G114-4	VI	22	01/29/96	8082	ND	ND	ND	ND	ND	ND	ND	--	MKC, 1996; A.J. Ursic, 1999b
H114-1	VI	22	01/29/96	8082	ND	ND	ND	ND	ND	ND	ND	--	MKC, 1996; A.J. Ursic, 1999b
H2F	VI	0	07/01/98	8082	<33	<33	<33	<33	<33	<33	<33	--	MFG, 1998, A.J. Ursic, 1999a
H3F	VI	0	07/01/98	8082	<33	<33	<33	<33	<33	<33	140	--	MFG, 1998, A.J. Ursic, 1999a

Notes:
1. Samples which have been previously excavated are listed "excavated".
2. NE = Not Established.
3. < = Not detected at or above the reporting limit shown.
4. NW-106 = Northwest Corner of Building 106 (see Figures 5a/5b).
5. PP#2 = Former Press Pit #2 Area (see Figures 5a/5b).
6. J = Estimated concentration.
7. Former Area of Diesel Underground Tanks (see Figures 5a/5b).
8. ND = Non-Detected.
9. SWO 7 = Former Stormwater Outfall #7 Discharge Area (see Figures 5a/5b).
10. HW = Previous excavation area next to hot well (see Figures 5a/5b).
11. IWDP = Former Inert Waste Disposal Pit Area (see Figures 5a/5b).
12. SWO 6 = Former Stormwater Outfall #6 Discharge Area (see Figures 5a/5b).
13. Depth unknown for sidewall samples.
14. Former sump sediment sample in Building 112A.

Morrison Knudsen Corporation, 1995, Final Report Stoddard Solvent System Field Investigation, Aluminum Company of America, October 27.
Geraghty and Miller, Inc. (GM), 1990, Final Report, Phase II Environmental Assessment for Alcoa – Vernon Plant, Vernon, California, September.
Geomatrix Consultants, Inc., 2006a, Phase II Environmental Site Assessment Report, Pechiney Cast Plate Facility, Vernon, California, March 9.
Geomatrix Consultants, Inc., 2006b, Supplemental Phase II Environmental Site Assessment Report, Pechiney Cast Plate Facility, Vernon, California, December 19.
OHM Remediation Services Corporation, 1992, Report of Underground Tank Removal, December.
A.J. Ursic, Jr., 1999a, Aluminum Company of America Divestiture of The Alcoa Cast Plate Facility, Parcels 6, 7, and 8, Vernon, California, May 28.
A.J. Ursic, Jr., 1999b, Aluminum Company of America Divestiture of The Alcoa Cast Plate Facility, Parcels 6, 7, and 8, Vernon, California, July 26.
Morrison Knudsen Corporation, 1996, Pits, Sumps, and Tunnels Soil Characterization Report, Aluminum Company of America, Vernon, Los Angeles County, California, March 25.
McCulley, Frick & Gilman (MFG), 1998, Limited Phase II Environmental Investigation, Alcoa Cast Plate, 5151/5401 Alcoa Avenue, Vernon, California, September 15.

Geomatrix = Selected samples collected during above grade demolition work.

TABLE 3
RISK-BASED SCREENING LEVELS
Pechiney Cast Plate Facility
Vernon, California

CAS No.	Chemical	Oral Cancer Slope Factor (CSF_o) $(mg/kg\text{-}day)^{-1}$	Inhalation Cancer Slope Factor (CSF_i) $(mg/kg\text{-}day)^{-1}$	Oral Reference Dose (RfDo) (mg/kg-day)	Inhalation Reference Dose (RfDi) (mg/kg-day)	RISK-BASED SCREENING LEVELS (RBSLs), SOIL			
						Outdoor Commercial/Industrial Worker		Construction Worker	
						Cancer (mg/kg)	Noncancer (mg/kg)	Cancer (mg/kg)	Noncancer (mg/kg)
11141165	Aroclor-1232	2	2	NA	NA	5.3E-01	--	3.5E+00	--
12672296	Aroclor-1248	2	2	NA	NA	5.3E-01	--	3.5E+00	--
11097691	Aroclor-1254	2	2	2.0E-05	2.0E-05	5.3E-01	7.5E+00	3.5E+00	2.0E+00
11096825	Aroclor-1260	2	2	NA	NA	5.3E-01	--	3.5E+00	--

Notes:

1. Risk-based screening levels (RBSL) calculated using the methodology presented by OEHHA, 2005, Human-Exposed-Based Screening Numbers Developed to Aid Estimation of Cleanup Costs for Contaminated Soil, January.

Abbreviations:

CAS No. = chemical abstract service number
mg/kg = milligrams per kilogram
mg/kg-day = milligrams per kilogram - day
NA = not available
-- = not applicable

Equations:

$$RBSL_{soil-cancer} = \frac{TR \times BW \times AT_{ca}}{ED \times EF \times \left[\left(\frac{IR_s \times CSF_o}{CF_{kg-mg}}\right) + \left(\frac{SAs \times SAF \times ABS \times CSF_o}{CF_{kg-mg}}\right) + \left(\frac{IHR_a \times CSF_i}{PEF}\right)\right]}$$

$$RBSL_{soil-noncancer} = \frac{THQ \times BW \times AT_{nc}}{ED \times EF \times \left[\left(\frac{1}{RfD_o} \times \frac{IR_s}{CF_{kg-mg}}\right) + \left(\frac{1}{RfD_o} \times \frac{SAs \times SAF \times ABS}{CF_{kg-mg}}\right) + \left(\frac{1}{RfD_i} \times \frac{IHR_a}{PEF}\right)\right]}$$

TABLE 4
COMPARISON OF MAXIMUM SOIL CONCENTRATIONS TO RISK-BASED SCREENING LEVELS
Former Pechiney Cast Plate, Inc., Facility
Vernon, California

CAS No.	Chemical	Maximum Concentration in Soil (mg/kg)	Outdoor Commercial/Industrial Worker				Construction Worker			
			RBSLs		Predicted Risks		RBSLs		Predicted Risks	
			Cancer (mg/kg)	Noncancer (mg/kg)	Risk	Hazard Quotient	Cancer (mg/kg)	Noncancer (mg/kg)	Risk	Hazard Quotient
PHASE I AREA										
11141165	Aroclor-1232	ND	5.3E-01	--	--	--	3.5E+00	--	--	--
12672296	**Aroclor-1248**	29	5.3E-01	--	**5.5E-05**	--	3.5E+00	--	**8.4E-06**	--
11097691	Aroclor-1254	ND	5.3E-01	7.5E+00	--	--	3.5E+00	2.0E+00	--	--
11096825	**Aroclor-1260**	13	5.3E-01	--	**2.5E-05**	--	3.5E+00	--	**3.8E-06**	--
					8E-05	--			1E-05	--
PHASE II AREA										
11141165	Aroclor-1232	ND	5.3E-01	--	--	--	3.5E+00	--	--	--
12672296	**Aroclor-1248**	960	5.3E-01	--	**1.8E-03**	--	3.5E+00	--	**2.8E-04**	--
11097691	Aroclor-1254	ND	5.3E-01	7.5E+00	--	--	3.5E+00	2.0E+00	--	--
11096825	Aroclor-1260	0.3	5.3E-01	--	5.7E-07	--	3.5E+00	--	8.7E-08	--
					2E-03	--			3E-04	--
PHASE IIIa AREA										
11141165	Aroclor-1232	ND	5.3E-01	--	--	--	3.5E+00	--	--	--
12672296	**Aroclor-1248**	7.1	5.3E-01	--	**1.3E-05**	--	3.5E+00	--	**2.1E-06**	--
11097691	**Aroclor-1254**	5.2	5.3E-01	7.5E+00	**9.8E-06**	6.9E-01	3.5E+00	2.0E+00	**1.5E-06**	**2.6E+00**
11096825	Aroclor-1260	0.1	5.3E-01	--	1.9E-07	--	3.5E+00	--	2.9E-08	--
					2E-05	0.7			4E-06	3
PHASE IV AREA										
11141165	Aroclor-1232	0.47	5.3E-01	--	8.9E-07	--	3.5E+00	--	1.4E-07	--
12672296	Aroclor-1248	0.25	5.3E-01	--	4.7E-07	--	3.5E+00	--	7.2E-08	--
11097691	Aroclor-1254	ND	5.3E-01	7.5E+00	--	--	3.5E+00	2.0E+00	--	--
11096825	**Aroclor-1260**	1.2	5.3E-01	--	**2.3E-06**	--	3.5E+00	--	3.5E-07	--
					4E-06	--			6E-07	--
PHASE VI AREA										
11141165	Aroclor-1232	ND	5.3E-01	--	--	--	3.5E+00	--	--	--
12672296	Aroclor-1248	0.14	5.3E-01	--	2.7E-07	--	3.5E+00	--	4.0E-08	--
11097691	Aroclor-1254	ND	5.3E-01	7.5E+00	--	--	3.5E+00	2.0E+00	--	--
11096825	**Aroclor-1260**	0.57	5.3E-01	--	**1.1E-06**	--	3.5E+00	--	1.6E-07	--
					1E-06	--			2E-07	--

Notes:

PCBs contributing a cancer risk level greater than $1x10^{-6}$ or a hazard quotient of 1 for either receptor are highlighted in **bold**.

Abbreviations:

CAS No. = chemical abstract service number
mg/kg = milligrams per kilogram
ND = not detected
RBSL = risk-based screening level
-- = not applicable

TABLE 5
SUMMARY OF MAXIMUM PREDICTED LIFETIME EXCESS CANCER RISKS AND NONCANCER HAZARD INDEXES -- SOIL EXPOSURE

Former Pechiney Cast Plate, Inc., Facility
Vernon, California

Area[1]	Cancer Risks		Noncancer HIs	
	Outdoor Commercial/Industrial Worker	Construction Worker	Outdoor Commercial/Industrial Worker	Construction Worker
Phase I	8E-05	1E-05	--	--
Phase II	**2E-03**	**3E-04**	--	--
Phase IIIa	2E-05	4E-06	0.7	**3**
Phase IV	4E-06	6E-07	--	--
Phase VI	1E-06	2E-07	--	--

Notes:

Cancer risks and HIs above the ranges considered acceptable by regulatory agencies are highlighted in **bold**.

1. Cancer risks and noncancer hazard indexes not calculated for the Phase IIIb and Phase V areas as PCBs were not analyzed for or not detected in soil in these areas.

Abbreviations:

HI = hazard index

-- = not applicable. Noncancer hazard indexes were not calculated for the Phase I, Phase II, Phase IV, and Phase VI areas as no noncarcinogenic PCBs were detected in soil in these areas.

TABLE 6
COMPARISON OF MAXIMUM CONCRETE CONCENTRATIONS TO RISK-BASED SCREENING LEVELS
Former Pechiney Cast Plate, Inc., Facility
Vernon, California

CAS No.	Chemical	Maximum Concentration in Concrete (mg/kg)	Outdoor Commercial/Industrial Worker				Construction Worker			
			RBSLs		Predicted Risks		RBSLs		Predicted Risks	
			Cancer (mg/kg)	Noncancer (mg/kg)	Risk	Hazard Quotient	Cancer (mg/kg)	Noncancer (mg/kg)	Risk	Hazard Quotient
PHASE I AREA										
11141165	Aroclor-1232	ND	5.3E-01	--	--	--	3.5E+00	--	--	--
12672296	**Aroclor-1248**	150	5.3E-01	--	**2.8E-04**	--	3.5E+00	--	**4.3E-05**	--
11097691	**Aroclor-1254**	1.8	5.3E-01	7.5E+00	**3.4E-06**	2.4E-01	3.5E+00	2.0E+00	5.2E-07	9.1E-01
11096825	Aroclor-1260	0.19	5.3E-01	--	3.6E-07	--	3.5E+00	--	5.5E-08	--
					3E-04	0.2			4E-05	0.9
PHASE II AREA										
11141165	Aroclor-1232	ND	5.3E-01	--	--	--	3.5E+00	--	--	--
12672296	**Aroclor-1248**	3300	5.3E-01	--	**6.3E-03**	--	3.5E+00	--	**9.5E-04**	--
11097691	Aroclor-1254	ND	5.3E-01	7.5E+00	--	--	3.5E+00	2.0E+00	--	--
11096825	**Aroclor-1260**	5	5.3E-01	--	**9.5E-06**	--	3.5E+00	--	**1.4E-06**	--
					6E-03	--			1E-03	--
PHASE IIIa AREA										
11141165	Aroclor-1232	ND	5.3E-01	--	--	--	3.5E+00	--	--	--
12672296	Aroclor-1248	0.1	5.3E-01	--	1.9E-07	--	3.5E+00	--	2.9E-08	--
11097691	Aroclor-1254	ND	5.3E-01	7.5E+00	--	--	3.5E+00	2.0E+00	--	--
11096825	Aroclor-1260	ND	5.3E-01	--	--	--	3.5E+00	--	--	--
					2E-07	--			3E-08	--
PHASE IV AREA										
11141165	Aroclor-1232	ND	5.3E-01	--	--	--	3.5E+00	--	--	--
12672296	Aroclor-1248	0.4	5.3E-01	--	7.6E-07	--	3.5E+00	--	1.2E-07	--
11097691	Aroclor-1254	ND	5.3E-01	7.5E+00	--	--	3.5E+00	2.0E+00	--	--
11096825	Aroclor-1260	0.046	5.3E-01	--	8.7E-08	--	3.5E+00	--	1.3E-08	--
					8E-07	--			1E-07	--

Notes:

PCBs contributing a cancer risk level greater than $1x10^{-6}$ or a hazard quotient of 1 for either receptor are highlighted in **bold**.

Abbreviations:

CAS No. = chemical abstract service number
mg/kg = milligrams per kilogram
ND = not detected
RBSL = risk-based screening level
-- = not applicable

TABLE 7
SUMMARY OF MAXIMUM PREDICTED LIFETIME EXCESS CANCER RISKS AND NONCANCER HAZARD INDEXES -- CONCRETE EXPOSURE

Former Pechiney Cast Plate, Inc., Facility
Vernon, California

Area[1]	Cancer Risks		Noncancer HIs	
	Outdoor Commercial/Industrial Worker	Construction Worker	Outdoor Commercial/Industrial Worker	Construction Worker
Phase I	**3E-04**	4E-05	0.2	0.9
Phase II	**6E-03**	**1E-03**	--	--
Phase IIIa	2E-07	3E-08	--	--
Phase IV	8E-07	1E-07	--	--

Notes:

Cancer risks and HIs above the ranges considered acceptable by regulatory agencies are highlighted in **bold**.

1. Cancer risks and noncancer hazard indexes not calculated for the Phase IIIb, Phase V, and Phase VI areas as PCBs were not analyzed for in concrete in these areas.

Abbreviations:

HI = hazard index

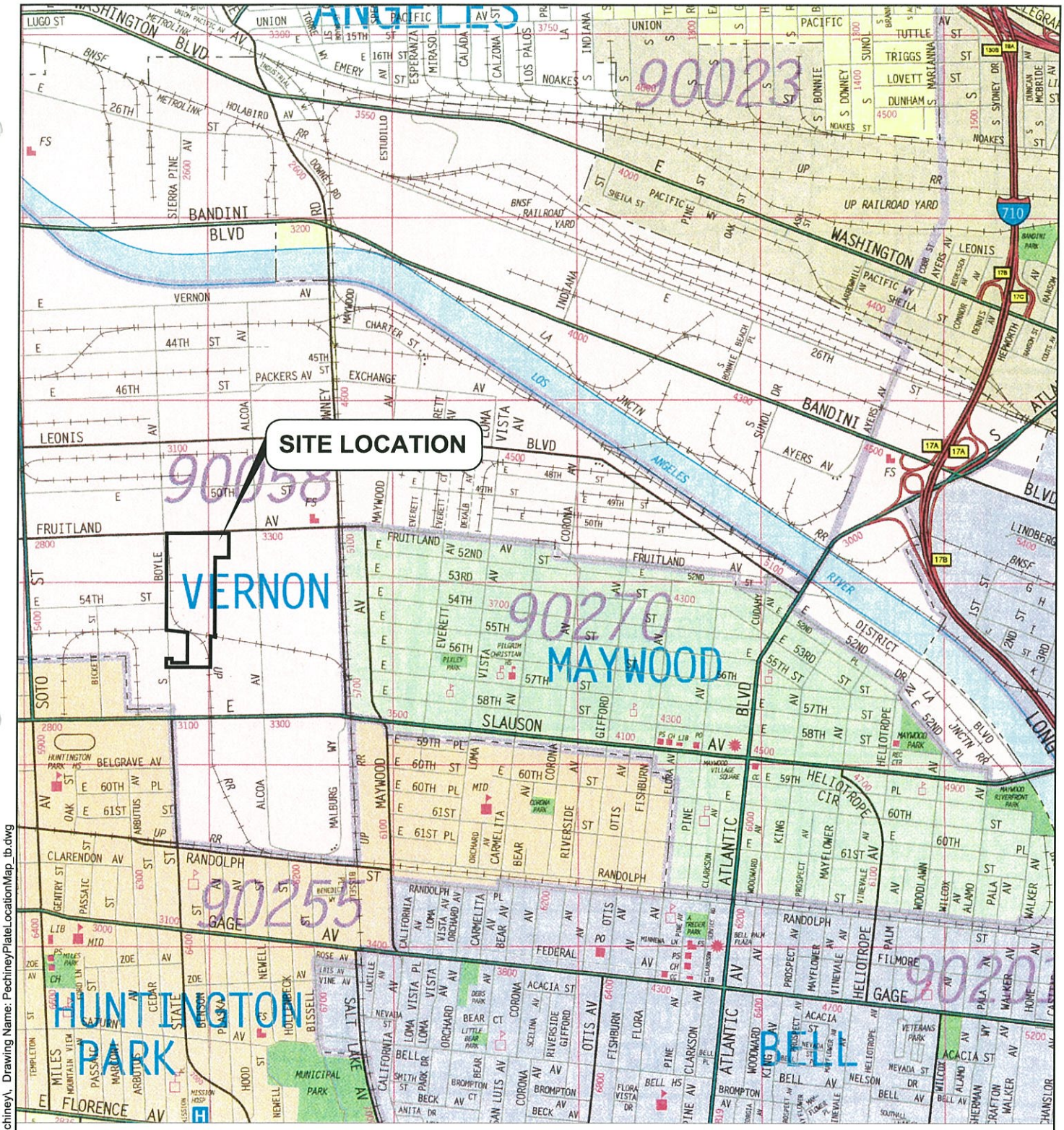
-- = not applicable. Noncancer hazard indexes were not calculated for the Phase II, Phase IIIa, and Phase IV areas as no noncarcinogenic PCBs were detected in concrete in these areas.

TABLE 8
SITE-SPECIFIC REMEDIATION GOALS FOR PCBs
Former Pechiney Cast Plate, Inc., Facility
Vernon, California

Compound	Remediation Goal (milligrams per kilogram; mg/kg)	Explanation
PCBs[1] in Soil		
Aroclor-1254	2.0	Noncarcinogenic RBSL[2] for construction workers. Also protective of commercial/industrial worker exposure.
Total PCBs (Aroclor-1232, Aroclor-1248, Aroclor-1254, and Aroclor-1260) *For soil that may be left exposed at the surface following redevelopment*	5.3	Derived from the carcinogenic RBSL for outdoor commercial/industrial workers (0.53 mg/kg). A total PCB concentration of 5.3 mg/kg is protective of cumulative commercial/industrial worker exposure to PCBs, based on a target cancer risk of 10^{-5}. Also protective of cumulative construction worker exposure to PCBs.
Total PCBs (Aroclor-1232, Aroclor-1248, Aroclor-1254, and Aroclor-1260) *For soil left below pavement or a buffer of "clean" soil following redevelopment*	35	Derived from the carcinogenic RBSL for construction workers (3.5 mg/kg). A total PCB concentration of 35 mg/kg is protective of cumulative construction worker exposure to PCBs, based on a target cancer risk of 10^{-5}.
PCBs in Concrete		
Total PCBs (Aroclor-1232, Aroclor-1248, Aroclor-1254, and Aroclor-1260)	5.3	Derived from the carcinogenic RBSL for outdoor commercial/industrial workers (0.53 mg/kg). A total PCB concentration of 5.3 mg/kg is protective of cumulative commercial/industrial worker exposure to PCBs, based on a target cancer risk of 10^{-5}. Also protective of cumulative construction worker exposure to PCBs. Applying this remediation goal ensures that waste criteria for concrete containing PCBs is also met [i.e. less than 50 mg/kg, as defined in 40 CFR Section 761.61(a)(4)(i)(A)].

Notes:
1. PCBs- Polychlorinated Biphenyls.
2. RBSL- Risk-Based Screening Level. Developed based on the methodology described in Section 4.2.2, RBSLs were used to conduct the screening-level human health risk assessment.

FIGURES



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Approximate Scale in Feet

0 1000 2000

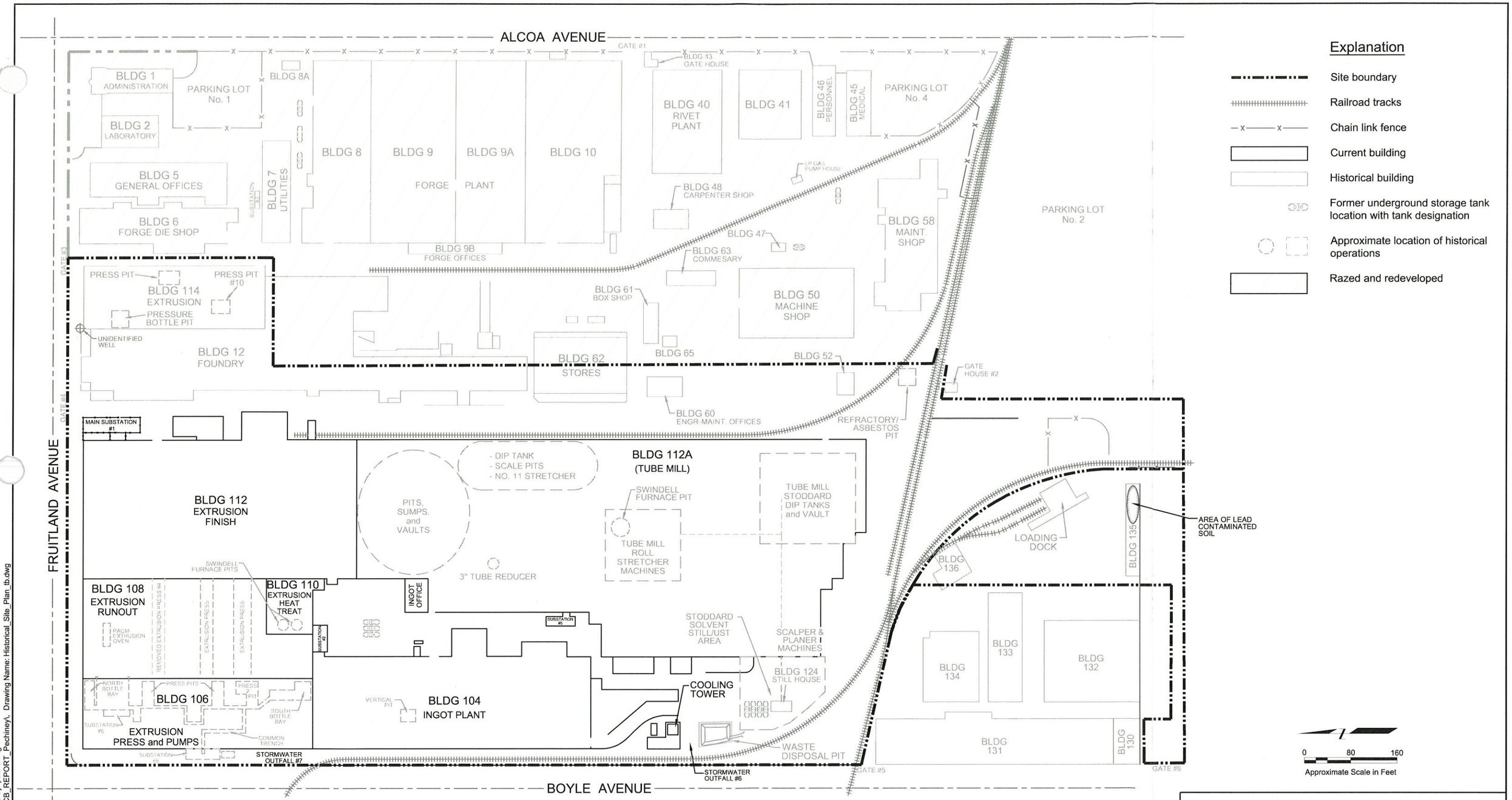
0 300 600

Approximate Scale in Meters

SITE LOCATION MAP
Former Pechiney Cast Plate, Inc. Facility
3200 Fruitland Avenue
Vernon, California

By: pah	Date: 07/01/09	Project No. 10627.003
AMEC Geomatrix		Figure 1

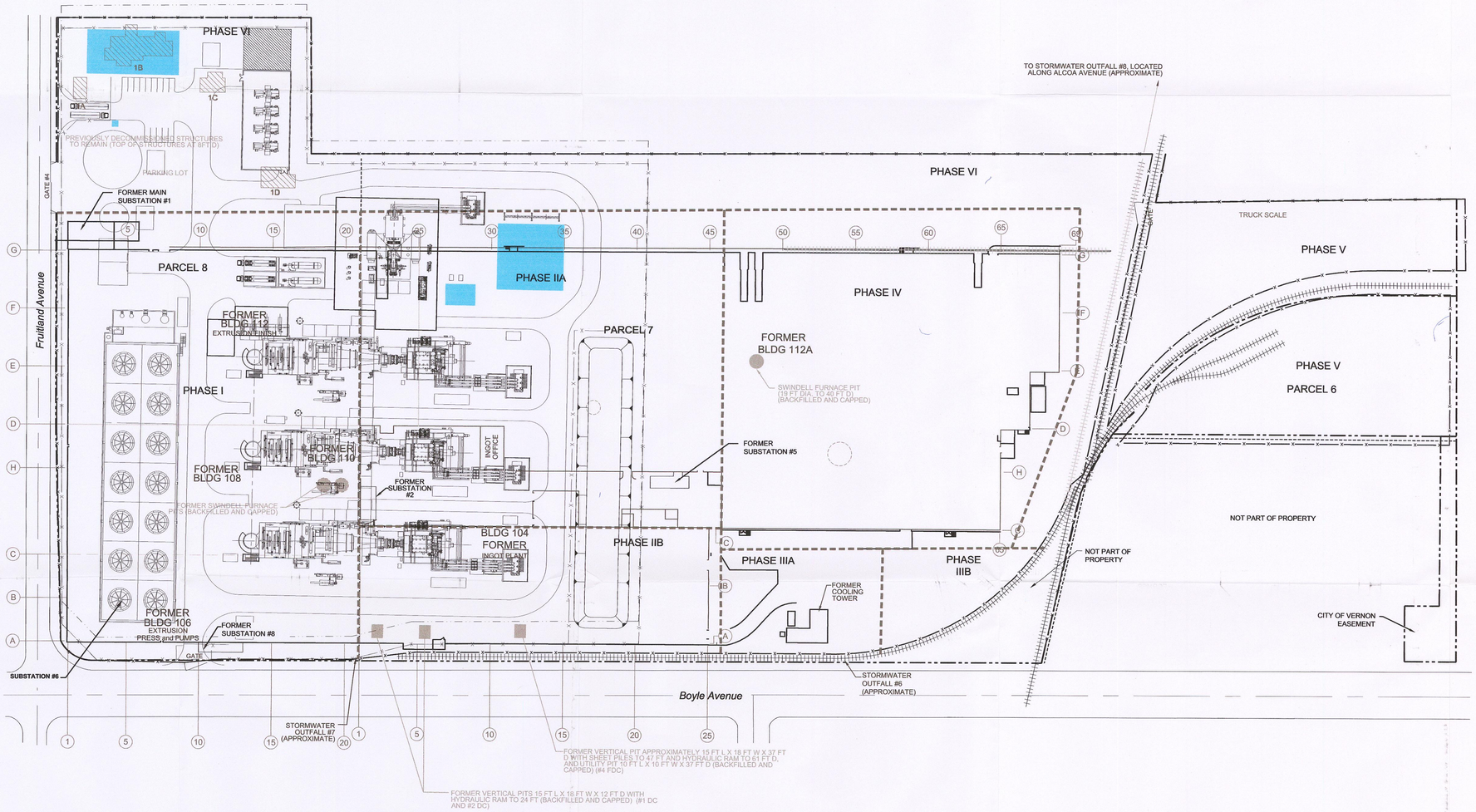
Plot Date: 07/08/0 :38am, Plotted by: pat.herring
Drawing Path: Y:\106 :003.0\acad\PCB_REPORT_Pechiney\, Drawing Name: PechineyPlateLocationMap_tb.dwg



HISTORICAL SITE LAYOUT
Former Pechiney Cast Plate, Inc., Facility
3200 Fruitland Avenue
Vernon, California

By: pah	Date: 07/01/09	Project No. 10627.003
AMEC Geomatrix		Figure 2

Plot Date: 07/08/0 :38am, Plotted by: pat.herring
Drawing Path: Y:\ 003.0\acad\PCB_REPORT_Pechiney\, Drawing Name: Historical_Site_Plan_tb.dwg



Explanation

- Site boundary
- Parcel boundary
- Phase boundary
- Railroad track (at grade)
- Railroad track (buried)
- Chain link fence
- Existing footing
- BLDG Building
- 20 B Column and row numbering system for footings
- Former vertical pit
- Existing vertical pit (not backfilled)
- Former Swindell pit
- Proposed building for high occupancy use

Note:

Site boundary and groundwater monitoring well locations are approximate.

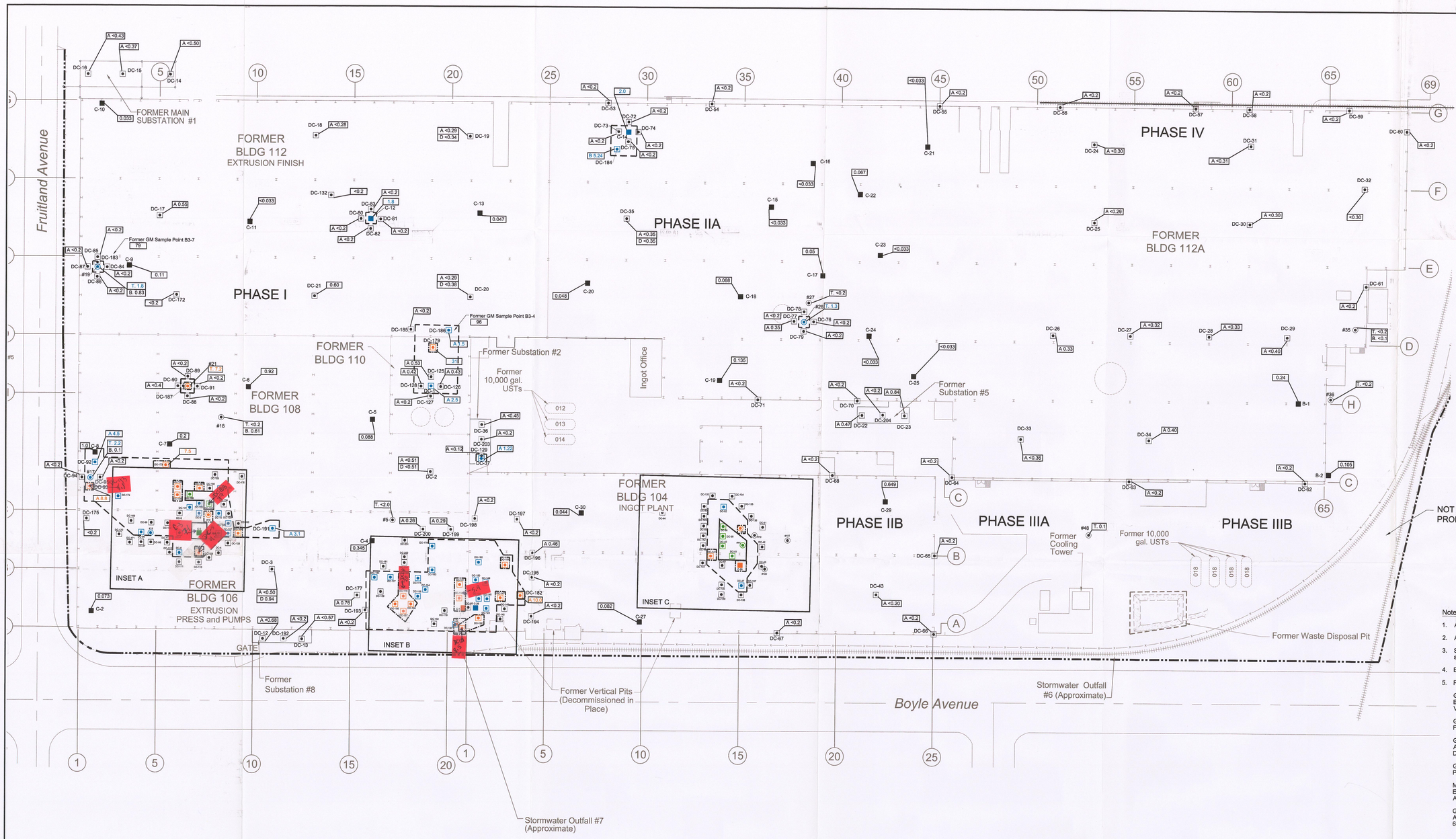
0 40 80
Approximate Scale in Feet

Basemap modified from Pechiney Cast Plate, Inc. Site Plan dated January 9, 2002; Geraghty & Miller, Inc. "Groundwater Elevation and Volatile Organic Compound Concentrations December 8, 1994" figure dated February 2, 1995; Aluminum Company of America "Works General-MPA" figure dated October 10, 1984; and Los Angeles County Assessor's Office Parcel Map 6310/Sheet 8 dated November 5, 1958.

CURRENT SITE LAYOUT WITH THE PROPOSED FOOTPRINT OF THE POWER PLANT
Former Pechiney Cast Plate, Inc., Facility
3200 Fruitland Avenue
Vernon, California

By: pah	Date: 07/01/09	Project No. 10627.003
AMEC Geomatrix		Figure 3

Plot Date: 07/08/09 - 4:02pm, Plotted by: pah,herring
Drawing Path: Y:\10627.003.0\acad\PCB_REPORT_Pechiney\, Drawing Name: Current_Site_Plan_B.dwg



Explanation

- DC-01 Concrete core sample (Geomatrix, 2006a, b, c, and d)
- #1 Soil boring with concrete core sample
- C-30 Concrete core sample (MFG, 1998)
- WS021 Concrete floor wipe sample (Aurora, 2005)
- Site boundary
- Railroad track (on grade)
- Railroad track (buried)
- Chain link fence
- Building wall and columns
- PCBs Total polychlorinated biphenyls
- BLDG Building
- <0.2 Sample results less than the reporting limit shown in milligrams per kilogram (mg/kg)
- T. Top of concrete sample
- B. Bottom of concrete sample
- A Surface to depth of 0.25 inch
- B Depth of 0.25 inch to 1.5 inches
- C Depth of 1.5 inches to 3.0 inches
- D Second slab of concrete
- PCB Concentration > 1 mg/kg and ≤ 5.3 mg/kg
- PCB Concentration ≥ 5.3 mg/kg and < 50 mg/kg
- PCB Concentration ≥ 50 mg/kg
- PCB-impacted concrete ≥ 1 mg/kg
- PCB-impacted concrete ≥ 5.3 mg/kg
- PCB-impacted concrete ≥ 50 mg/kg

Notes:

1. All locations are approximate.
2. All samples are bulk samples unless noted otherwise.
3. Samples analyzed using EPA method 8082; refer to Table 2 for a summary of test methods and analytical results.
4. Bulk sample results reported in milligrams per kilogram (mg/kg).
5. References:

Geomatrix Consultants, Inc. (Geomatrix), 2006, Phase II Environmental Site Assessment Report, Pechiney Cast Plate Facility, Vernon, California, March 9.

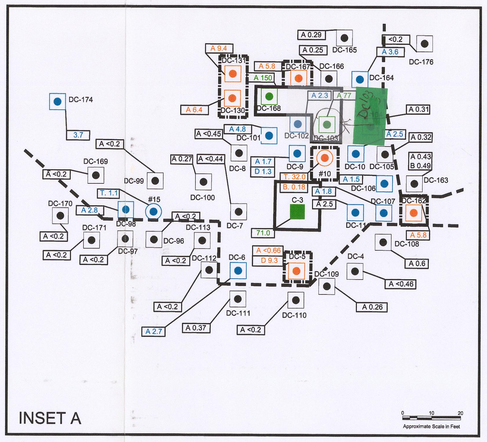
Geomatrix, 2006, PCB Notification Plan, Pechiney Cast Plate, Inc. Facility, Vernon, California, September 27.

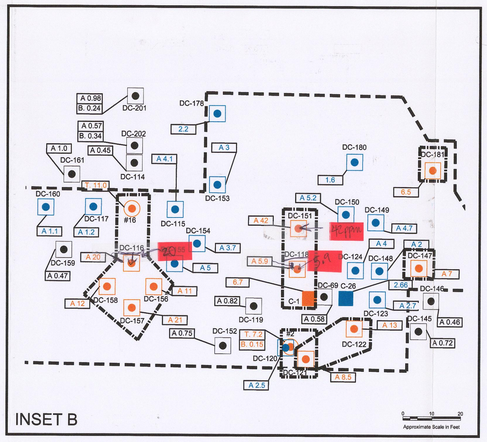
Geomatrix, 2006, Supplemental Phase II Environmental Site Assessment Report, Pechiney Cast Plate Facility, Vernon, California, December 19.

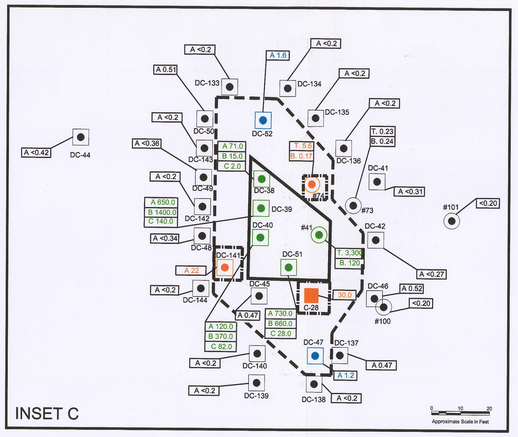
Geomatrix, 2006, Above Grade Demolition Completion Report, Pechiney Cast Plate, Inc. Facility, Vernon, California, December 26.

McCulley, Frick & Gillman (MFG), 1998, Limited Phase II Environmental Investigation, Alcoa Cast Plate, 5151/5401 Alcoa Avenue, Vernon, California, September 15.

Geraghty and Miller, Inc., 1990, Final Report, Phase III Environmental Assessment for Alcoa - Vernon Plant, Vernon, California, September 6.







Note: Figure shall be produced in color to maintain information.

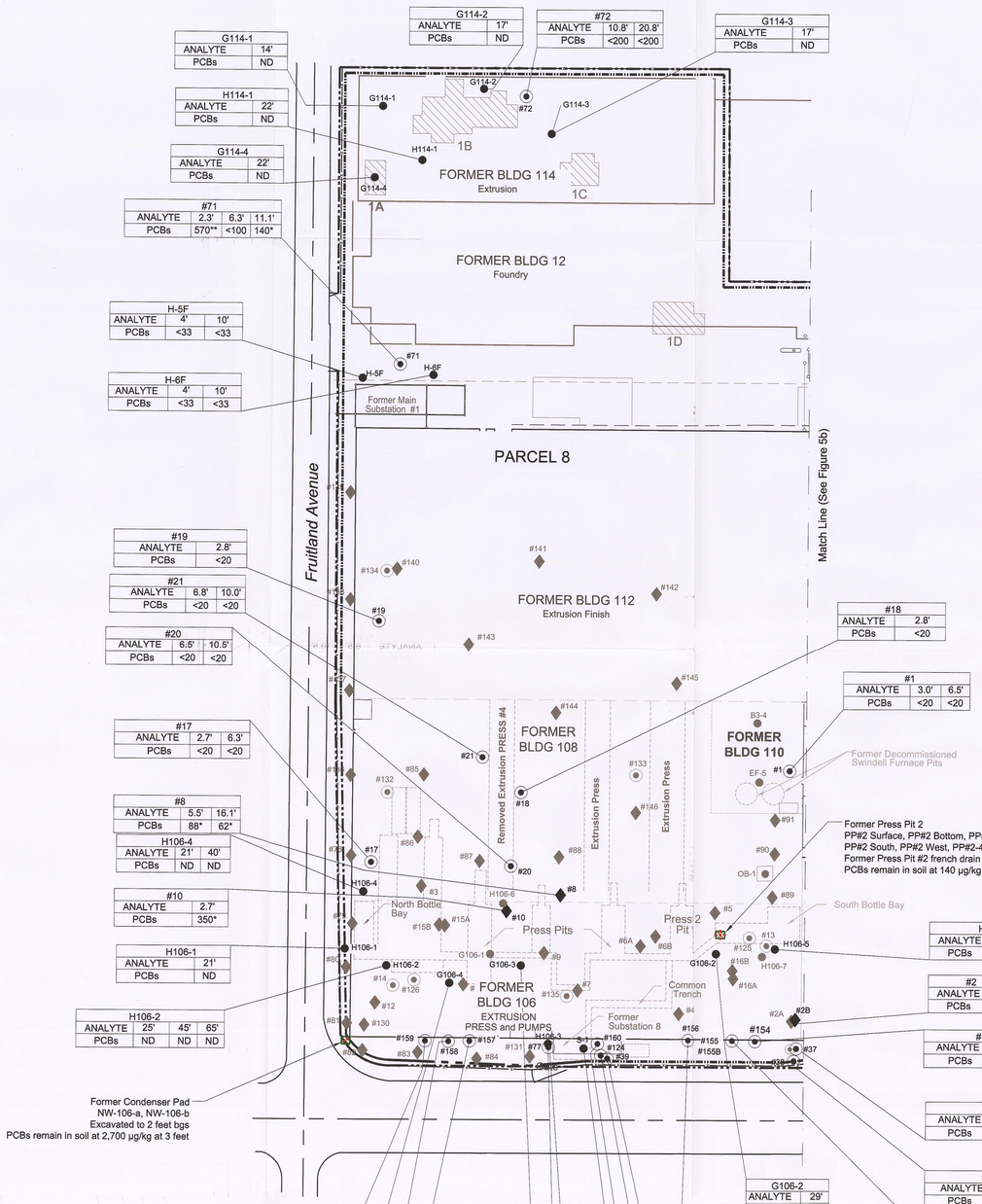
Approximate Scale in Feet

Basemap modified from Pechiney Cast Plate, Inc. Site Plan dated January 9, 2002; Geraghty & Miller, Inc. "Groundwater Elevation and Volatile Organic Compound Concentrations December 8, 1994" figure dated February 2, 1995; Aluminum Company of America "Works General-MFA" figure dated October 15, 1984; and Los Angeles County Assessor's Office Parcel Map 5313/Sheet 8 dated November 9, 1968.

CONCRETE CHARACTERIZATION
SAMPLE LOCATIONS AND PCB CONCENTRATIONS
Former Pechiney Cast Plate Facility
3200 Fruitland Avenue
Vernon, California

By: BRP	Date: 07/01/09	Project No. 10627.003
AMEC Geomatrix	Figure	4

Plot Date: 07/06/09 3:10pm, Plotted by: pat\wang
Drawing Name: N:\10627\Acad\10627FC\Archives\, Drawing Name: PCB_Composite_8.dwg



G114-1	
ANALYTE	14'
PCBs	ND

G114-2	
ANALYTE	17'
PCBs	ND

#72		
ANALYTE	10.8'	20.8'
PCBs	<200	<200

G114-3	
ANALYTE	17'
PCBs	ND

H114-1	
ANALYTE	22'
PCBs	ND

G114-4	
ANALYTE	22'
PCBs	ND

#71			
ANALYTE	2.3'	6.3'	11.1'
PCBs	570**	<100	140*

H-5F		
ANALYTE	4'	10'
PCBs	<33	<33

H-6F		
ANALYTE	4'	10'
PCBs	<33	<33

#19	
ANALYTE	2.8'
PCBs	<20

#21		
ANALYTE	6.8'	10.0'
PCBs	<20	<20

#20		
ANALYTE	6.5'	10.5'
PCBs	<20	<20

#17		
ANALYTE	2.7'	6.3'
PCBs	<20	<20

#8		
ANALYTE	5.5'	16.1'
PCBs	88*	62*

H106-4		
ANALYTE	21'	40'
PCBs	ND	ND

#10	
ANALYTE	2.7'
PCBs	350*

H106-1	
ANALYTE	21'
PCBs	ND

H106-2			
ANALYTE	25'	45'	65'
PCBs	ND	ND	ND

#18	
ANALYTE	2.8'
PCBs	<20

#1		
ANALYTE	3.0'	6.5'
PCBs	<20	<20

H106-5		
ANALYTE	20'	45'
PCBs	ND	ND

#2	
ANALYTE	3.2'
PCBs	<200

#154B		
ANALYTE	2'	10'
PCBs	280*	<200

#37		
ANALYTE	8.1'	16.1'
PCBs	<100	<20

#38		
ANALYTE	8.1'	16.0'
PCBs	680*	<20

#155 and #155B			
ANALYTE	2'	7.25'	10'
PCBs	2100**	<200	<200

G106-2	
ANALYTE	29'
PCBs	ND

#159		
ANALYTE	2'	10'
PCBs	<200	<200

G106-4	
ANALYTE	12'
PCBs	ND

#158		
ANALYTE	2'	10'
PCBs	<200	<200

#157		
ANALYTE	2'	10'
PCBs	<200	<200

G106-3	
ANALYTE	17'
PCBs	ND

H106-3	
ANALYTE	5'
PCBs	ND

#77		
ANALYTE	5.7'	16.3'
PCBs	<20	<20

#156		
ANALYTE	2'	10'
PCBs	<200	<200

#39			
ANALYTE	2.2'	6.3'	11.0'
PCBs	6700*	<20	<20

#124	
ANALYTE	5.0'
PCBs	<200

#160		
ANALYTE	5'	7'
PCBs	<200	<200

S-1	
ANALYTE	0'
PCBs	42,000* **

← #39

← S-1

Explanation

- #78 ◆ Soil vapor sampling point, 2005 and 2006
- #115 ◉ Soil boring, 2005 and 2006
- B-1 ● Soil boring, 1996 and 1998
- • Sample taken before and during excavation activities
- Site boundary
- —x—x— Chain link fence
- Previous excavation (all previous limits of excavation are approximate)
- Previously decommissioned and concrete capped buried structures with PCB impacts in former Alcoa Building 114 (Ursic 1996b)
- BLDG Building
- 6.0' Sample depth at feet below ground surface
- <2.0 Sample result is less than the reporting limit shown
- E Previously excavated soil or removed during above grade demolition
- ND Not detected
- ‡ Sum of Aroclor-1248 and Aroclor-1260
- * Aroclor-1248
- ** Aroclor-1260
- PCBs Polychlorinated Biphenyls (PCBs) reported in micrograms per kilogram (µg/kg)

NOTES:

1. All locations are approximate.
2. Samples analyzed using EPA methods 8080 and 8082.
3. References:

A.J. Ursic, Jr., 1999, Aluminum Company of America Divestiture of The Alcoa Cast Plate Facility, Parcels 6, 7, and 8, Vernon, California, July 26.

A.J. Ursic, Jr., 1999, Aluminum Company of America Divestiture of The Alcoa Cast Plate Facility, Parcels 6, 7, and 8, Vernon, California, June 30.

Morrison Knudsen Corporation, 1996, Pits, Sumps, and Tunnels Soil Characterization Report, Aluminum Company of America, Vernon, Los Angeles County, California, March 25.

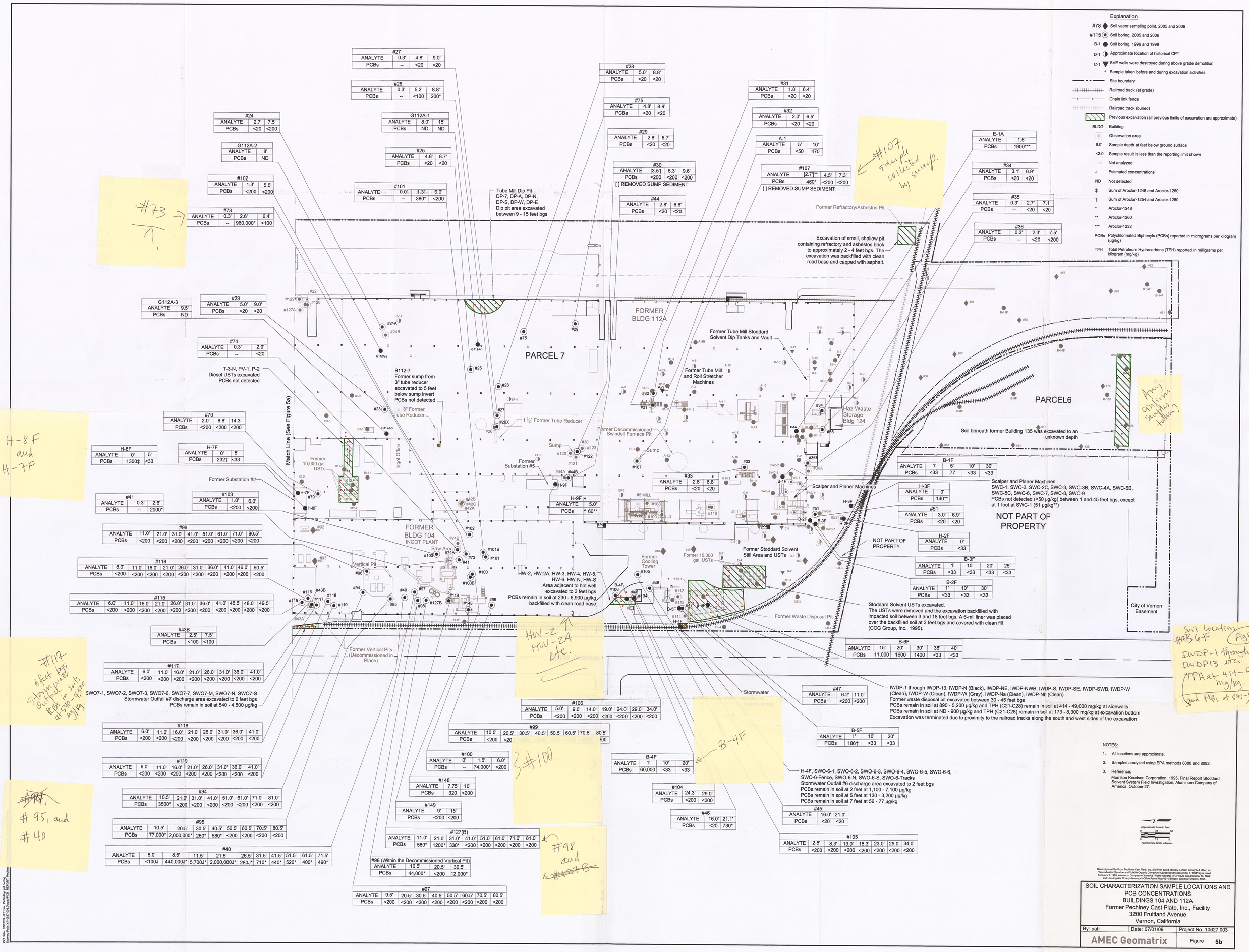
Approximate Scale in Feet
0 45 90
0 7.5 15
Approximate Scale in Meters

Basemap modified from Pechiney Cast Plate, Inc. Site Plan dated January 9, 2002; Geraghty & Miller, Inc. "Groundwater Elevation and Volatile Organic Compound Concentrations December 8, 1994" figure dated February 2, 1995; Aluminum Company of America "Works General-MPA" figure dated October 10, 1964; and Los Angeles County Assessor's Office Parcel Map 6310/Sheet 6, dated November 5, 1958.

SOIL CHARACTERIZATION SAMPLE LOCATIONS AND PCB CONCENTRATIONS
FORMER BUILDINGS 106, 108, AND 112A
Former Pechiney Cast Plate, Inc., Facility
3200 Fruitland Avenue
Vernon, California

By: pah	Date: 07/01/09	Project No. 10627.003
AMEC Geomatrix	Figure	5a

Plot Date: 07/13/09 - 10:55am, Plotted by: pah/ewing
Drawing Path: Y:\10627.003\Acad\PCB_REPORT_Railway_Drawing Name: p5_106_bldg_A_B.dwg


Explanation
#78 Soil vapor sampling point, 2005 and 2006
#115 Soil boring, 2005 and 2006
B-1 Soil boring, 1996 and 1998
D-1 Approximate location of historical CPT
C-1 SVE wells were destroyed during above grade demolition
Sample taken before and during excavation activities
Site boundary
Railroad track (at grade)
Chain link fence
Railroad track (buried)
Previous excavation (all previous limits of excavation are approximate)
BLDG Building
Observation area
6.0' Sample depth at feet below ground surface
<2.0 Sample result is less than the reporting limit shown
-- Not analyzed
J Estimated concentrations
ND Not detected
‡ Sum of Aroclor-1248 and Aroclor-1260
† Sum of Aroclor-1254 and Aroclor-1260
* Aroclor-1248
** Aroclor-1260
*** Aroclor-1232
PCBs Polychlorinated Biphenyls (PCBs) reported in micrograms per kilogram (µg/kg)
TPH Total Petroleum Hydrocarbons (TPH) reported in milligrams per kilogram (mg/kg)
#27 ANALYTE 0.3' 4.8' 9.0' PCBs -- <20 <20
#26 ANALYTE 0.3' 5.2' 8.8' PCBs -- <100 200*
#24 ANALYTE 2.7' 7.5' PCBs <20 <200
G112A-2 ANALYTE 8' PCBs ND
#102 ANALYTE 1.3' 5.5' PCBs <200 <200
#73 ANALYTE 0.3' 2.6' 6.4' PCBs -- 960,000* <100
G112A-3 ANALYTE 9.5' PCBs ND
#23 ANALYTE 5.0' 9.0' PCBs <20 <20
#74 ANALYTE 0.3' 2.9' PCBs -- <20
#70 ANALYTE 2.0' 8.8' 14.3' PCBs <200 <200 <200
H-8F ANALYTE 0' 5' PCBs 1300‡ <33
H-7F ANALYTE 0' 5' PCBs 232‡ <33
#41 ANALYTE 0.3' 2.6' PCBs -- 2000*
#103 ANALYTE 1.8' 6.0' PCBs <200 <200
#96 ANALYTE 11.0' 21.0' 31.0' 41.0' 51.0' 61.0' 71.0' 80.5' PCBs <200 <200 <200 <200 <200 <200 <200 <200
#116 ANALYTE 6.0' 11.0' 16.0' 21.0' 26.0' 31.0' 36.0' 41.0' 46.0' 50.5' PCBs <200 <200 <200 <200 <200 <200 <200 <200 <200 <200
#115 ANALYTE 6.0' 11.0' 16.0' 21.0' 26.0' 31.0' 36.0' 41.0' 45.5' 48.0' 49.5' PCBs <200 <200 <200 <200 <200 <200 <200 <200 <200 <200 <200
#43B ANALYTE 2.5' 7.5' PCBs <100 <100
#117 ANALYTE 6.0' 11.0' 16.0' 21.0' 26.0' 31.0' 36.0' 41.0' PCBs <200 <200 <200 <200 <200 <200 <200 <200
#118 ANALYTE 6.0' 11.0' 16.0' 21.0' 26.0' 31.0' 36.0' 41.0' PCBs <200 <200 <200 <200 <200 <200 <200 <200
#119 ANALYTE 6.0' 11.0' 16.0' 21.0' 26.0' 31.0' 36.0' 41.0' PCBs <200 <200 <200 <200 <200 <200 <200 <200
#94 ANALYTE 10.5' 21.0' 31.0' 41.0' 51.0' 61.0' 71.0' 81.0' PCBs 3500* <200 <200 <200 <200 <200 <200 <200
#95 ANALYTE 10.5' 20.5' 30.5' 40.5' 50.5' 60.5' 70.5' 80.5' PCBs 77,000* 2,000,000* 260* 580* <200 <200 <200 <200
#40 ANALYTE 5.0' 8.5' 11.5' 21.5' 26.5' 31.5' 41.5' 51.5' 61.5' 71.5' PCBs <100J 440,000J* 5,700J* 2,000,000J* 280J* 710* 440* 520* 400* 490*
#27 ANALYTE 0.3' 4.8' 9.0' PCBs -- <20 <20
#26 ANALYTE 0.3' 5.2' 8.8' PCBs -- <100 200*
G112A-1 ANALYTE 8.0' 15' PCBs ND ND
#25 ANALYTE 4.8' 8.7' PCBs <20 <20
#101 ANALYTE 0.0' 1.3' 6.0' PCBs -- 380* <200
Tube Mill Dip Pit
DP-7, DP-A, DP-N, DP-S, DP-W, DP-E
Dip pit area excavated between 9 - 15 feet bgs
#28 ANALYTE 5.0' 8.8' PCBs <20 <20
#75 ANALYTE 4.8' 8.9' PCBs <20 <20
#29 ANALYTE 2.8' 6.7' PCBs <20 <20
#30 ANALYTE [3.5'] 6.3' 9.6' PCBs <200 <200 <200
[ ] REMOVED SUMP SEDIMENT
#44 ANALYTE 2.8' 6.6' PCBs <20 <20
#31 ANALYTE 1.8' 6.4' PCBs <20 <20
#32 ANALYTE 2.0' 6.5' PCBs <20 <20
A-1 ANALYTE 5' 10' PCBs <50 470
#107 ANALYTE [2.7]** 4.5' 7.3' PCBs 460* <200 <200
[ ] REMOVED SUMP SEDIMENT
#107 sample collected by sump.
E-1A ANALYTE 1.5' PCBs 1900***
#34 ANALYTE 3.1' 6.9' PCBs <20 <20
#35 ANALYTE 0.3' 2.7' 7.1' PCBs -- <20 <20
#36 ANALYTE 0.3' 2.3' 7.5' PCBs -- <20 <200
Former Refractory/Asbestos Pit
Excavation of small, shallow pit containing refractory and asbestos brick to approximately 2 - 4 feet bgs. The excavation was backfilled with clean road base and capped with asphalt.
FORMER BLDG 112A
PARCEL 7
PARCEL6
B112-7
Former sump from 3" tube reducer excavated to 5 feet below sump invert
PCBs not detected
3" Former Tube Reducer
1 ½" Former Tube Reducer
T-3-N, PV-1, P-2
Diesel USTs excavated
PCBs not detected
Former Tube Mill Stoddard Solvent Dip Tanks and Vault
Former Tube Mill and Roll Stretcher Machines
Haz Waste Storage Bldg 124
Former Decommissioned Swindell Furnace Pit
Sump
Former Substation #5
Former Substation #2
Former 10,000 gal. USTs
Ingot Office
Match Line (See Figure 5a)
#33 ANALYTE 2.8' 6.8' PCBs <20 <20
H-9F ANALYTE 5.0' PCBs 60**
#5 MILL
FORMER BLDG 104 INGOT PLANT
Saw Area
Vertical Pit
Former Cooling Tower #105
Former 10,000 gal. USTs
Former Stoddard Solvent Still Area and USTs
HW-2, HW-2A, HW-3, HW-4, HW-5, HW-6, HW-N, HW-S
Area adjacent to hot well excavated to 3 feet bgs
PCBs remain in soil at 230 - 6,900 µg/kg, backfilled with clean road base
Former Vertical Pits (Decommissioned in Place)
Soil beneath former Building 135 was excavated to an unknown depth
B-1F ANALYTE 1' 5' 10' 30' PCBs <33 77 <33 <33
Scalper and Planer Machines
Scalper and Planer Machines
SWC-1, SWC-2, SWC-2C, SWC-3, SWC-3B, SWC-4A, SWC-5B, SWC-5C, SWC-6, SWC-7, SWC-8, SWC-9
PCBs not detected (<50 µg/kg) between 1 and 45 feet bgs, except at 1 foot at SWC-1 (51 µg/kg**)
NOT PART OF PROPERTY
H-3F ANALYTE 0' PCBs 140**
#51 ANALYTE 3.0' 6.9' PCBs <20 <20
H-2F ANALYTE 0' PCBs <33
B-3F ANALYTE 1' 10' 20' 25' PCBs <33 <33 <33 <33
B-2F ANALYTE 1' 10' 30' PCBs <33 <33 <33
NOT PART OF PROPERTY
Stoddard Solvent USTs excavated.
The USTs were removed and the excavation backfilled with impacted soil between 3 and 18 feet bgs. A 6-mil liner was placed over the backfilled soil at 3 feet bgs and covered with clean fill (CCG Group, Inc., 1995).
Former Waste Disposal Pit
City of Vernon Easement
B-6F ANALYTE 15' 20' 30' 35' 40' PCBs 11,000 1600 1400 <33 <33
IWDP-1 through IWDP-13, IWDP-N (Black), IWDP-NE, IWDP-NWB, IWDP-S, IWDP-SE, IWDP-SWB, IWDP-W (Clean), IWDP-W (Clean), IWDP-W (Gray), IWDP-Na (Clean), IWDP-Nb (Clean)
Former waste disposal pit excavated between 30 - 45 feet bgs
PCBs remain in soil at 890 - 5,200 µg/kg and TPH (C21-C28) remain in soil at 414 - 49,000 mg/kg at sidewalls
PCBs remain in soil at ND - 900 µg/kg and TPH (C21-C28) remain in soil at 173 - 8,300 mg/kg at excavation bottom
Excavation was terminated due to proximity to the railroad tracks along the south and west sides of the excavation
Stormwater
#47 ANALYTE 6.2' 11.0' PCBs <200 <200
B-5F ANALYTE 1' 10' 20' PCBs 186† <33 <33
H-4F, SWO-6-1, SWO-6-2, SWO-6-3, SWO-6-4, SWO-6-5, SWO-6-6, SWO-6-Fence, SWO-6-N, SWO-6-S, SWO-6-Tracks
Stormwater Outfall #6 discharge area excavated to 2 feet bgs
PCBs remain in soil at 2 feet at 1,100 - 7,100 µg/kg
PCBs remain in soil at 5 feet at 130 - 3,200 µg/kg
PCBs remain in soil at 7 feet at 56 - 77 µg/kg
#45 ANALYTE 16.0' 21.0' PCBs <20 <20
#105 ANALYTE 2.5' 8.3' 13.0' 18.3' 23.0' 29.0' 34.0' PCBs <200 <200 <200 <200 <200 <200 <200
SWO7-1, SWO7-2, SWO7-3, SWO7-6, SWO7-7, SWO7-M, SWO7-N, SWO7-S
Stormwater Outfall #7 discharge area excavated to 6 feet bgs
PCBs remain in soil at 540 - 4,500 µg/kg
#106 ANALYTE 5.0' 9.0' 14.0' 19.0' 24.0' 29.0' 34.0' PCBs <200 <200 <200 <200 <200 <200 <200
#99 ANALYTE 10.5' 20.5' 30.5' 40.5' 50.5' 60.5' 70.5' 80.5' PCBs <200 <200
#100 ANALYTE 0' 1.5' 6.0' PCBs -- 74,000* <200
#148 ANALYTE 7.75' 10' PCBs 320 <200
#149 ANALYTE 9' 15' PCBs <200 <200
#127(B) ANALYTE 11.0' 21.0' 31.0' 41.0' 51.0' 61.0' 71.0' 81.0' PCBs 580* 1200* 330* <200 <200 <200 <200 <200
#98 (Within the Decommissioned Vertical Pit) ANALYTE 10.5' 20.5' 30.5' PCBs 44,000* <200 12,000*
#97 ANALYTE 9.5' 20.5' 30.5' 40.5' 50.5' 60.5' 70.5' 80.5' PCBs <200 <200 <200 <200 <200 <200 <200 <200
B-4F ANALYTE 1' 10' 20' PCBs 60,000 <33 <33
#104 ANALYTE 24.3' 29.0' PCBs <200 <200
#46 ANALYTE 16.0' 21.1' PCBs <20 730*
NOTES:
1. All locations are approximate.
2. Samples analyzed using EPA methods 8080 and 8082.
3. Reference: Morrison Knudsen Corporation, 1995, Final Report Stoddard Solvent System Field Investigation, Aluminum Company of America, October 27.
Approximate Scale in Feet
Approximate Scale in Meters
Basemap modified from Pechiney Cast Plate, Inc. Site Plan dated January 9, 2002; Geraghty & Miller, Inc. "Groundwater Contamination Compound Concentrations December 8, 1994" figure dated February 2, 1995; Aluminum Company of America "Vernon Service-MPH" figure dated October 10, 1984; and Los Angeles County Assessor's Office Parcel Map 6515/Sheet 6, dated November 5, 1956.
SOIL CHARACTERIZATION SAMPLE LOCATIONS AND PCB CONCENTRATIONS
BUILDINGS 104 AND 112A
Former Pechiney Cast Plate, Inc., Facility
3200 Fruitland Avenue
Vernon, California
By: pah
Date: 07/01/09
Project No. 10627.003
AMEC Geomatrix
Figure 5b
#73 →
H-8F and H-7F
#117 6 feet bgs Stormwater Outfall PCBs in soils at 540 - 4,500 µg/kg.
~~#98~~, #95, and #40
HW-2 HW-2A etc.
3 #100
B-4F
#98 and ~~#127B~~
Any confirm samples taken?
Soil Location #47B 6-F Fig 5b
IWDP-1 through IWDP13 etc. TPH at 414 - 49,000 mg/kg. and PCBs at 890 - 5,200 µg/kg.

Explanation

- Previous excavation (all previous limits of excavation are approximate)
- Sample taken during excavation activities
- #90 Geomatrix soil vapor sampling point
- #109 Geomatrix soil boring
- B-1 Approximate location of historical boring
- D-1 Approximate location of historical CPT
- C-1 Approximate location of historical vapor extraction well (destroyed 2006)
- C-30 Approximate location of historical concrete core sample
- 20 B Column and row numbering system for footings
- Limits of work
- Phasing area boundary
- Railroad track (at grade)
- Chain link fence
- Railroad track (buried)
- BLDG Building
- Previously decommissioned and capped buried structures with PCB impacts (to remain)
- Approximate extent of Stoddard Solvent impacted soil within Phase III and Phase IV areas. Extent based on soil and CPT/Rost data.

Notes:

1. Historical sample locations are approximate.
2. PCB sample results reported in micrograms per kilogram (µg/kg). See Table 2.
3. TPH sample results reported in milligrams per kilogram (mg/kg).

Approximate Scale in Feet

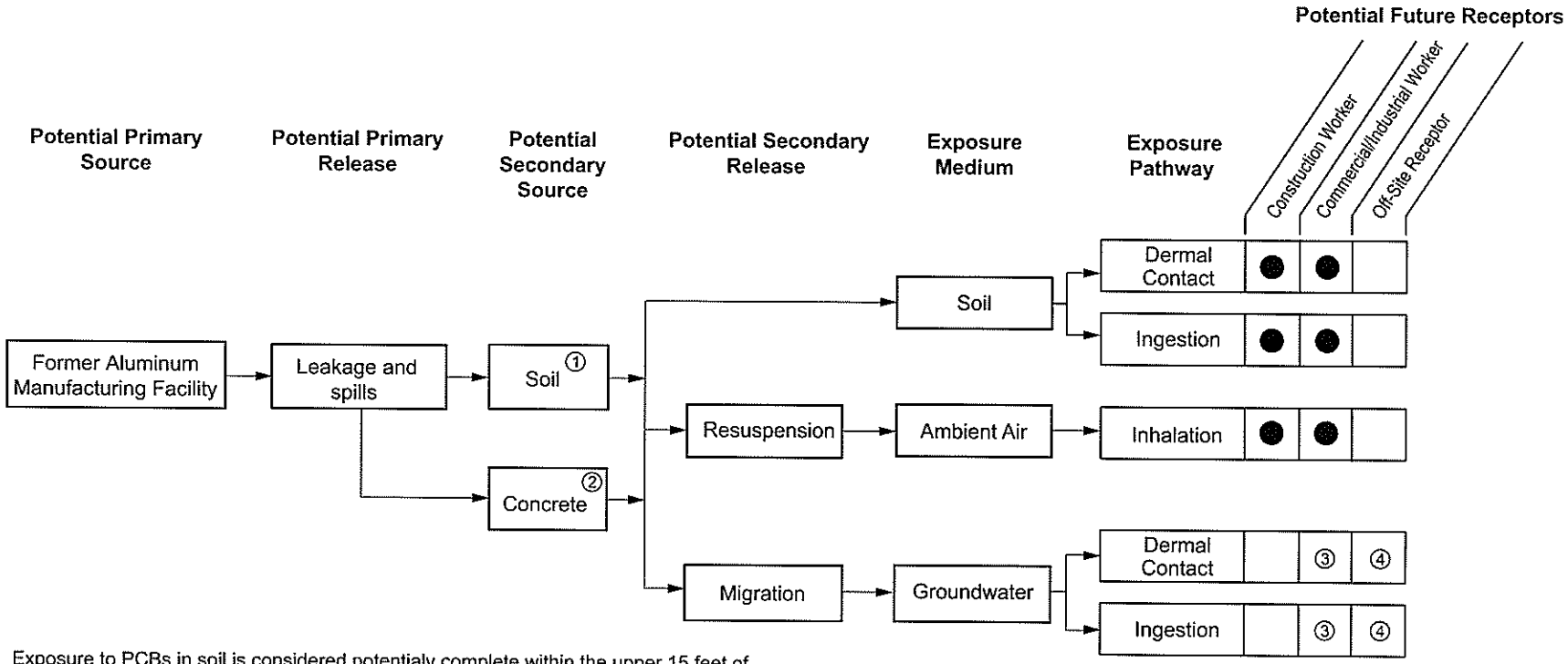
Basemap modified from: Pechiney Cast Plate, Inc. Site Plan dated January 9, 2002; Geraghty & Miller, Inc. "Groundwater Elevation and Volatile Organic Compound Concentrations December 6, 1994" figure dated February 2, 1995; Aluminum Company of America "Works General AIPA" figure dated October 10, 1984; and Los Angeles County Assessor's Office Parcel Map 8310/Sheet 8 dated November 5, 1956.

PREVIOUS PCB REMEDIATION AREAS
Former Pechiney Cast Plate, Inc., Facility
3200 Fruitland Avenue
Vernon, California

By: pah	Date: 07/01/09	Project No. 10627.003
AMEC Geomatrix	Figure 6	

Plot Date: 07/13/09 - 3:31pm, Plotted by: pahwang
Drawing Name: H:\10627.003\Geo\10627B_REVISIT.dwg, Drawing Name: Previous_Excavation_Completed_areas_Bullet

S:\10600\10627\10627.003\task-8_fig_07_scm.ai



① Exposure to PCBs in soil is considered potentialy complete within the upper 15 feet of soil. Future development (e.g., grading/excavation activities) may bring subsurface soil (0 to 15 feet bgs) to the surface, resulting in potential exposure for all on-site receptors.

② Concrete present in former building slab areas of the Site may be demolished on site, crushed, and reused as fill in soil and foundation removal areas. Exposure may be potentially complete to PCBs in crushed concrete for construction workers during redevelopment, and for commercial/industrial workers following redevelopment if crushed concrete is left uncovered at the surface.

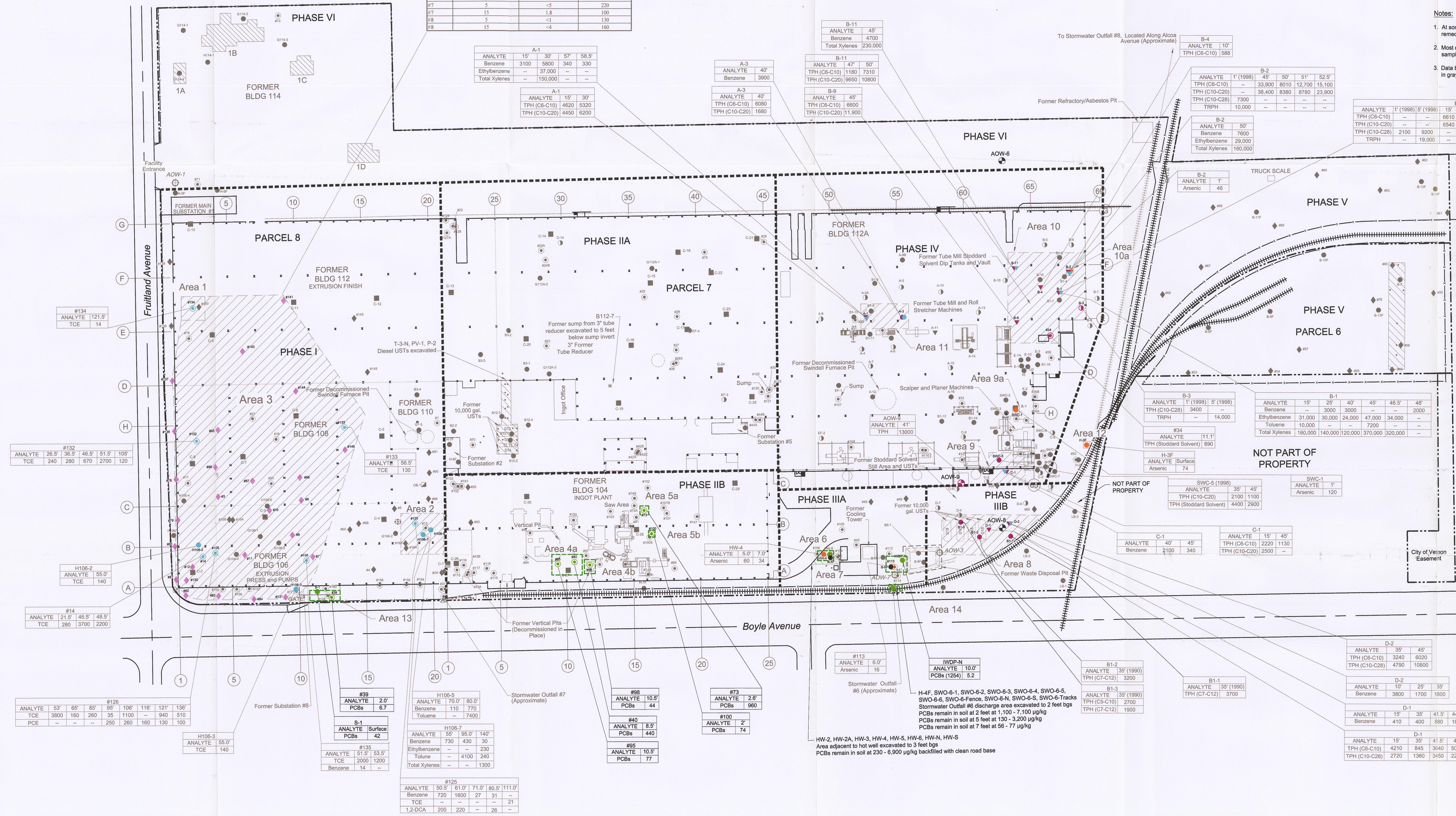
③ PCBs in soil and concrete will be evaluated for the potential to migrate to first-encountered groundwater. However, on-site exposure to groundwater in the first water bearing unit is considered incomplete for commercial/industrial workers as a land use deed covenant to be issued for the Site will restrict on-site use.

④ PCBs in soil and concrete will be evaluated for the potential to migrate to groundwater. Off-site exposure to groundwater may be potentially complete as groundwater in the Site vicinity is designated for beneficial use.

SITE CONCEPTUAL MODEL
Former Pechiney Cast Plate, Inc., Facility
3200 Fruitland Avenue
Vernon, California

By: TB	Date: 07/01/09	Project No. 10627.003
AMEC Geomatrix		Figure 7

Area 3 Soil Vapor Concentrations			
Sample	Sample Depth in Feet	Tetrachloroethene (PCE)	Trichloroethene (TCE)
#78	5	<5	40
#78	15	6.2	140
#79	5	8	130
#79	15	22	420
#80	5	30	550
#80	15	49	900
#81	5	110	1,400
#81	15	120	1,900
#82	5	49	970
#82	15	120	1,900
#83	5	13	170
#83	15	29	360
#-84	5	11	100
#-84	15	25	250
#-85	5	<5	88
#-85	15	13	350
#86	5	15	310
#86	15	11	290
#87	5	28	600
#87	15	32	740
#88	5	15	310
#88	15	18	390
#130	5	49	730
#130	15	95	1,500
#131	5	7.2	73
#131	15	18	200
#136	5	0.93	18
#136	15	7.2	130
#137	15	1.8	39
#141	15	0.81	21
#143	5	3.3	74
#143	15	4.1	130
#144	15	4.1	82
#146	5	2.4	38
#146	15	3.4	92
#9	5	8	310
#9	15	12	590
#10	5	<10	490
#10	15	29	1,100
#11	5	<5	350
#11	15	40	1,100
#12	5	44	1,200
#12	15	68	1,600
#3	5	28	780
#3	15	46	1,400
#7	5	<5	220
#7	15	1.8	100
#8	5	<1	130
#8	15	<4	160



Explanation

- Previous excavation (all previous limits of excavation are approximate)
- Sample taken during excavation activities
- AOW-9 Groundwater monitoring well
- AOW-3 Groundwater monitoring well destroyed
- #90 Geomatrix soil vapor sampling point
- #109 Geomatrix soil boring
- B-1 Approximate location of historical boring
- D-1 Approximate location of historical CPT
- C-1 Approximate location of historical vapor extraction well (destroyed 2006)
- C-30 Approximate location of historical concrete core sample
- OB-1 Observation area
- 20 B Column and row numbering system for footings
- Limits of work
- Phasing area boundary
- Railroad track (at grade)
- Railroad track (buried)
- Chain link fence
- BLDG Building
- Previously decommissioned, capped buried structures containing PCB-impacted concrete (to remain)
- Metals in soil above site-specific remediation goals (mg/kg)
- Polychlorinated Biphenyl's (PCBs) in soil above site-specific remediation goals (mg/kg)
- Volatile Organic Compounds (VOCs) in soil above site-specific remediation goals (μg/kg)
- Total Petroleum Hydrocarbons (TPH) in soil above site-specific remediation goals (mg/kg)
- VOCs in soil vapor above site-specific remediation goals (μg/L)
- Area above PCB remediation goal
- Areas above site-specific remediation goals for other chemicals

Notes:

1. At some sampling locations more than one COC exceeded remediation goals (see FS/RAP, Geomatrix 2008).
2. Most recent TPH results (2005 data) shown for historical sampling points unless otherwise noted.
3. Data boxes in black indicate PCBs results and data boxes in gray indicate other chemicals.

0 30 60
Approximate Scale in Feet

Basemap modified from Pechiney Cast Plate, Inc. Site Plan dated January 9, 2002; Geraghty & Miller, Inc. "Groundwater Elevation and Volatile Organic Compound Concentrations December 8, 1994" figure dated February 2, 1995; Aluminum Company of America "Works General-MPA" figure dated October 10, 1984; and Los Angeles County Assessor's Office Parcel Map 6310/Sheet 8 dated November 5, 1958.

AREAS WITH PCBs ABOVE RISK-BASED REMEDIATION GOALS
Former Pechiney Cast Plate, Inc., Facility
3200 Fruitland Avenue
Vernon, California

By: BRP	Date: 07/01/09	Project No. 10627.003
AMEC Geomatrix		Figure 8

Explanation

- AOW-9 Groundwater monitoring well
- AOW-3 Groundwater monitoring well destroyed
- #92 Geomatrix soil vapor sampling point
- #108 Geomatrix soil boring
- B-1 Approximate location of historical boring
- D-1 Approximate location of historical CPT
- C-1 Approximate location of historical vapor extraction well (destroyed 2006)
- C-30 Approximate location of historical concrete core sample
- OB-1 Observation area
- 20 / B Column and row numbering system for footings
- Limits of work
- Phasing area boundary
- Railroad track (at grade)
- Railroad track (buried)
- Chain link fence
- BLDG Building
- Previously decommissioned buried structures (to remain)
- Metals in soil above site-specific remediation goals
- Polychlorinated Biphenyls (PCBs) in soil above site-specific remediation goals
- Volatile Organic Compounds (VOCs) in soil above site-specific remediation goals
- Total Petroleum Hydrocarbons (TPH) in soil above site-specific remediation goals
- VOCs in soil vapor above site-specific remediation goals
- Proposed approximate area of PCB excavations

Notes:

1. Historical sample locations are approximate.
2. For additional remediation areas for compounds other than PCBs, refer to FSI/RAP (Geomatrix, 2008). Gray indicates remediation attributed to other site specific compounds.

Area Designation	Length (ft)	Width (ft)	Depth (ft)	COPC(s)	Notes
1	--	--	--	VOCs	Soil Vapor Extraction
2	--	--	--	VOCs	Soil Vapor Extraction
3	--	--	--	VOCs	Soil Vapor Extraction
4a	50	40	12	PCBs	Excavation
4b	15	18	11	PCBs	Excavation (removal of material within former vertical pit)
5a	10	10	4	PCBs	Excavation
5b	10	10	4	PCBs	Excavation
6	15	15	8	Arsenic	Excavation
	15	15	4	PCBs	Excavation
7	40	25	12	PCBs, Arsenic	Excavation
8	--	--	--	Stoddard Solvent, VOCs	Soil Vapor Extraction/Bioventing
9	--	--	--	Stoddard Solvent, VOCs	Soil Vapor Extraction/Bioventing
9a	5	5	2	Arsenic	Excavation
10	--	--	--	Stoddard Solvent, VOCs	Soil Vapor Extraction/Bioventing
10a	5	5	2	Arsenic	Excavation
11	--	--	--	Stoddard Solvent, VOCs	Soil Vapor Extraction/Bioventing
12	5	5	2	Arsenic	Excavation
13	60	2	3	PCBs	Excavations (surface gravel and shallow soil)
14	10	2	3	PCBs	Excavation

Note: All dimensions are approximate

Approximate Scale in Feet

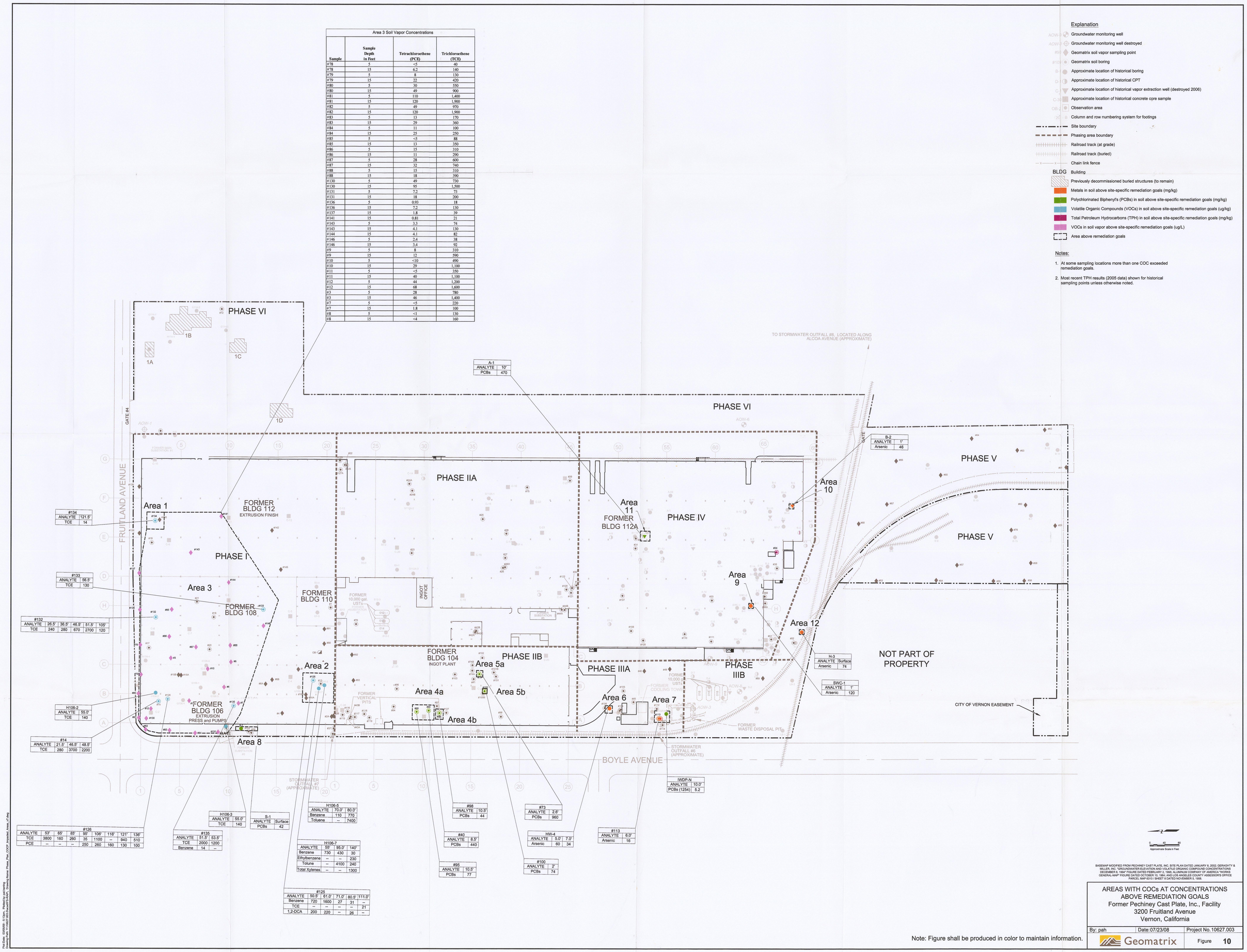
Basemap modified from Pechiney Cast Plate, Inc. Site Plan dated January 9, 2002; Geraghty & Miller, Inc. "Groundwater Elevation and Volatile Organic Compound Concentrations December 8, 1994" figure dated February 2, 1995; Aluminum Company of America "Works General-MPA" figure dated October 10, 1984; and Los Angeles County Assessor's Office Parcel Map 6910/Sheet 5 dated November 5, 1956.

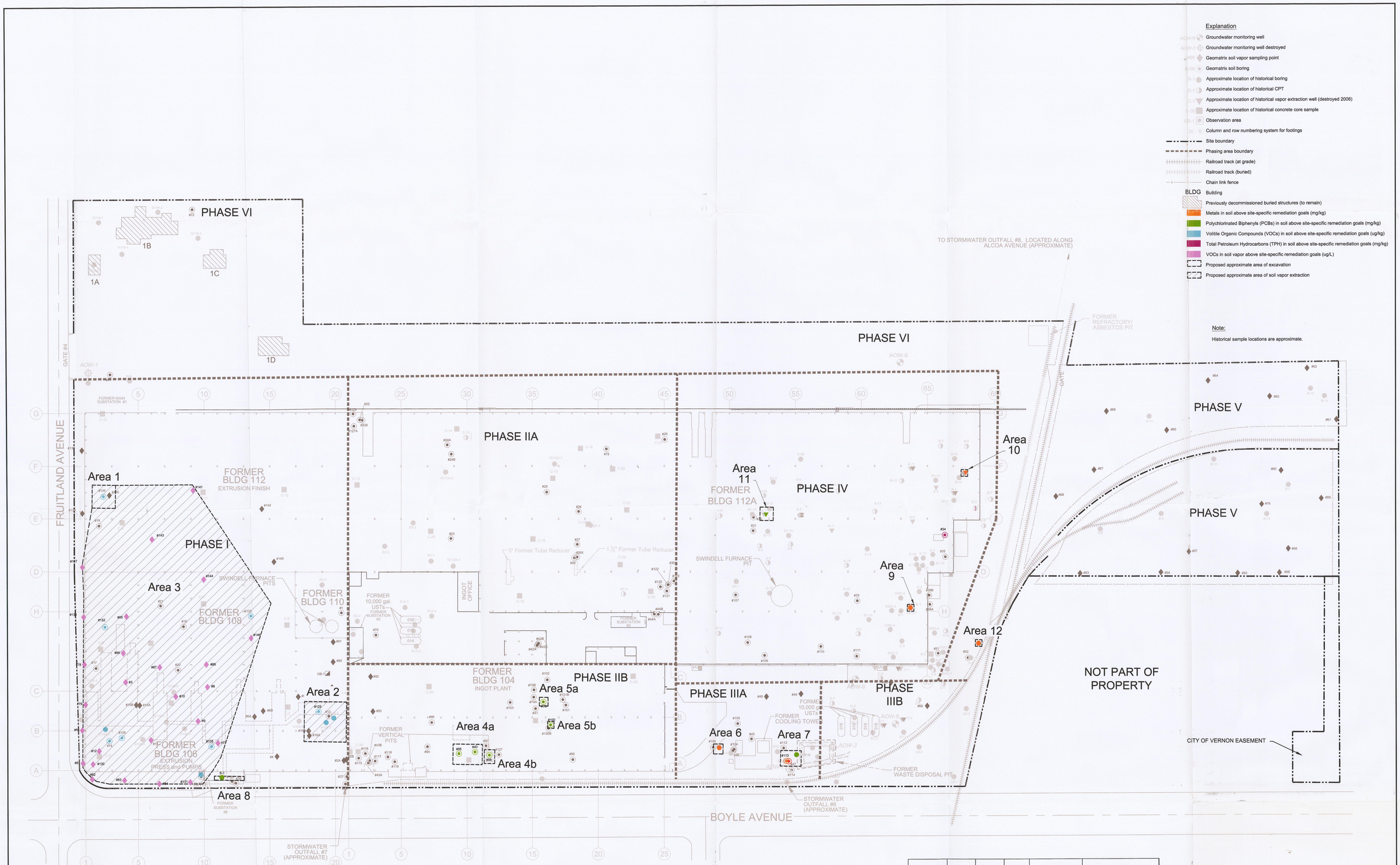
PCB SOIL REMEDIATION AREAS
Former Pechiney Cast Plate, Inc., Facility
3200 Fruitland Avenue
Vernon, California

By: BRP	Date: 07/01/09	Project No. 10627.003
AMEC Geomatrix		Figure 9

Plot Date: 07/13/09 - 3:50pm, Plotted by: paul.koenig
Drawing Path: V:\10627.003\Model\08_SITE\RT_Plot\Plot1, Drawing Name: Remediation_Areas_9b.dwg

Area 3 Soil Vapor Concentrations			
Sample	Sample Depth in Feet	Tetrachloroethene (PCE)	Trichloroethene (TCE)
#78	5	<5	40
#78	15	6.2	140
#79	5	8	130
#79	15	22	420
#80	5	30	550
#80	15	49	900
#81	5	110	1,400
#81	15	120	1,900
#82	5	49	970
#82	15	120	1,900
#83	5	13	170
#83	15	29	360
#84	5	11	100
#84	15	25	250
#85	5	<5	88
#85	15	13	350
#86	5	15	310
#86	15	11	290
#87	5	28	600
#87	15	32	740
#88	5	15	310
#88	15	18	390
#130	5	49	730
#130	15	95	1,500
#131	5	7.2	73
#131	15	18	200
#136	5	0.93	18
#136	15	7.2	130
#137	15	1.8	39
#141	15	0.81	21
#143	5	3.3	74
#143	15	4.1	130
#144	15	4.1	82
#146	5	2.4	38
#146	15	3.4	92
#9	5	8	310
#9	15	12	590
#10	5	<10	490
#10	15	29	1,100
#11	5	<5	350
#11	15	40	1,100
#12	5	44	1,200
#12	15	68	1,600
#3	5	28	780
#3	15	46	1,400
#7	5	<5	220
#7	15	1.8	100
#8	5	<1	130
#8	15	<4	160





Area Designation	Length (ft)	Width (ft)	Depth (ft)	COPC(s)	Notes
1	--	--	--	VOCs	Soil Vapor Extraction
2	--	--	--	VOCs	Soil Vapor Extraction
3	--	--	--	VOCs	Soil Vapor Extraction
4a	50	40	12	PCBs	Excavation
4b	15	18	11	PCBs	Excavation (removal of material within former vertical pit)
5a	10	10	4	PCBs	Excavation
5b	10	10	4	PCBs	Excavation
6	15	15	9	Arsenic	Excavation
7	40	25	12	PCBs, Arsenic	Excavation
8	60	2	2	PCBs	Excavation (surface gravel)
9	5	5	2	Arsenic	Excavation
10	5	5	2	Arsenic	Excavation
11	20	20	12	PCBs	Excavation
12	5	5	2	Arsenic	Excavation

All dimensions are approximate

0 25 50
Approximate Scale in Feet

BASEMAP MODIFIED FROM PECHINEY CAST PLATE, INC. SITE PLAN DATED JANUARY 8, 2002; GERAGHTY & MILLER, INC. "GROUNDWATER ELEVATION AND VOLATILE ORGANIC COMPOUND CONCENTRATIONS DECEMBER 8, 1994" FIGURE DATED FEBRUARY 2, 1995; ALUMINUM COMPANY OF AMERICA "WORKS GENERAL-MAP" FIGURE DATED OCTOBER 10, 1984; AND LOS ANGELES COUNTY ASSESSOR'S OFFICE PARCEL MAP 8310 / SHEET 8 DATED NOVEMBER 5, 1958.

PROPOSED REMEDIATION AREAS
Former Pechiney Cast Plate, Inc., Facility
3200 Fruitland Avenue
Vernon, California

By: pah | Date:07/23/08 | Project No. 10627.003

Geomatrix | Figure 11

Note: Figure shall be produced in color to maintain information.

Plot Date: 07/23/08 - 5:10pm, Plotted by pah (kerry)
Drawing file: J:\10627.003\Deliverables\FS\RAP_Drawing Items\ Remediation Areas v6.dwg