Lower Duwamish Waterway
Survey of Potential PCB-Containing Building Material Sources

Summary Report

Prepared for

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List of Acronyms

2LAET	second lowest Apparent Effects Threshold
ARI	Analytical Resources, Inc.
CCA	copper chromate arsenate
CSA	composite sample area
CSO	combined sewer overflow
DW	dry weight
Ecology	Washington State Department of Ecology
EPA	U.S. Environmental Protection Agency
GIS	Geographic Information System
kg	kilogram
LAET	lowest Apparent Effects Threshold
LDW	Lower Duwamish Waterway
mg	milligram
NBF	North Boeing Field
NLPCB	non-liquid polychlorinated biphenyl
PCB	polychlorinated biphenyl
ppm	parts per million
PVC	polyvinyl chloride
QA	quality assurance
QAPP	Quality Assurance Project Plan
QC	quality control
RCRA	Resource Conservation and Recovery Act
RL	reporting limit
RPD	relative percent difference
SAIC	Science Applications International Corporation
SAP	sampling and analysis plan
SPU	Seattle Public Utilities
TSCA	Toxic Substances Control Act

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1.0 Introduction

The Lower Duwamish Waterway (LDW) is located south of Elliott Bay in Seattle, Washington (Figure 1). The LDW Site consists of 5.5 miles of the Duwamish Waterway as measured from the southern tip of Harbor Island to just south of the Norfolk Combined Sewer Overflow (CSO). As part of the cleanup of contaminated sediment at the Site, the Washington State Department of Ecology (Ecology) is leading efforts to control sources of pollution, including polychlorinated biphenyls (PCBs) and metals, into the LDW. Source control is the process of finding and stopping or reducing releases of pollution to the waterway. The goal of source control is to minimize contamination or recontamination of sediments by controlling the sources of pollutants to the maximum extent practicable.

1.1 Purpose and Objectives

Many sources of PCBs to LDW sediments have been identified (e.g., Boeing Plant 2, North Boeing Field, Georgetown Steam Plant, and Terminal 117). Ecology or the U.S. Environmental Protection Agency (EPA) will address these and other sites under Administrative Orders. Other sources of PCBs are not readily apparent.

According to the Draft Final Feasibility Study for the LDW (AECOM 2010), PCBs have been detected in 84 percent of storm drain solids samples collected in the LDW basin. Concentrations have exceeded the sediment lowest apparent effects threshold (LAET) value of 0.13 mg/kg dry weight (DW) in 67 percent of the samples and have exceeded the second lowest apparent effects threshold (2LAET) value of 1.0 mg/kg DW in 41 percent of the samples.

In many areas of the LDW, source tracing efforts and business inspections have not identified a specific source of PCBs. However, PCBs have been detected at high concentrations in paints and other building materials at some locations within the LDW drainage area. For example, paint samples at the former Rainier Brewery property contained up to 26,000 mg/kg total PCBs (Kissinger et al. 2010). Testing conducted at North Boeing Field (NBF) in 2010 found PCBs in 34 of 77 paint samples, with 15 samples containing over 10 mg/kg total PCBs. Of 13 building caulk samples collected during the 2010 NBF study, two contained total PCBs at concentrations over 10 mg/kg (Landau 2010a). Up to 2,300 mg/kg total PCBs were detected on the yellow-painted bollards at the facility (Landau 2010b).

Studies in other cities found that significant quantities of PCBs in building materials had migrated to surface water, sediments, and/or surrounding soils (e.g., Andersson et al. 2004 and Jartun et al. 2009, studies conducted in Bergen, Norway; Priha et al. 2005, study conducted in Finland; and Herrick et al. 2007, study conducted in the Greater Boston area).

The contribution of PCBs from building materials (primarily paints and caulks) to LDW sediments is not fully understood. Science Applications International Corporation (SAIC) was tasked to conduct a survey of PCBs in building paint and caulking materials in the LDW basin.

The primary objectives of this survey were to:

- Collect composite paint and building caulk samples to assess the prevalence of PCB-containing building materials in the LDW drainage basin (using data from a representative drainage basin), and
- If possible, evaluate the contribution of these PCB sources to LDW sediments.

As a secondary objective, this survey examined the potential contribution of selected metals (arsenic, cadmium, chromium, copper, lead, mercury, silver, and zinc) from building paints to LDW sediments.

1.2 Site Description

Based on King County Geographic Information System (GIS) shapefiles, the LDW separated storm drainage area was estimated to encompass approximately 9,000 acres and 27,003 buildings. According to data from the King County Recorder's Office, 7,594 of these buildings were constructed between 1950 and 1977. Upon consultation with Ecology, SAIC selected the Diagonal Avenue S stormwater drainage basin as representative of the entire LDW drainage basin. The Diagonal Avenue S storm drain basin (Figure 2) covers 2,620 acres, an area of approximately 4 miles by 1.5 miles, and contains a variety of industrial, commercial, and residential buildings. According to the County Recorder's Office data, a total of 2,286 buildings in the Diagonal Avenue S basin were constructed between 1950 and 1977; these are shown in Figure 3.

Initial building development in this area occurred in the 1880s, and this was a mixed-use area at that time. Land uses and industries located in the Diagonal Avenue S storm drain basin have included, among others: specialized metal products manufacturing, chemical distributors, warehouse and office space, metals electroplating, dry cleaners, heating oil sellers, auto repair shops, a landfill (now closed), a recycling transfer station, a steel foundry, and specialty plastics manufacturing.

The northern and southeastern portions of the drainage area are primarily residential, while the southwestern portion is primarily industrial. In addition, there are residential/commercial mixed use areas concentrated along major roads such as Rainier Avenue S, S Jackson Street, and Beacon Avenue S. The current zoning breakdown for the 2,620-acre drainage area is:

- Single Family – 37.75%
- Manufacturing/Industrial – 28.59%
- Multi-Family – 21.30%
- Neighborhood/Commercial – 10.82%
- Major Institutions – 0.90%
- Downtown – 0.65%

During April 2011, paint and caulk samples were collected from buildings in this area that were constructed between 1950 and 1977. The sampling focused primarily on industrial buildings because these types of structures were more likely to use expensive industrial-grade PCB additives in their paint and caulk. Samples from both commercial and residential buildings were collected to provide a more complete evaluation of the drainage area.

1.3 Document Organization

This Summary Report describes the activities conducted to collect building paint and caulk samples in the Diagonal Avenue S storm drain basin and includes the chemical analysis results for the collected samples. PCB and metals concentrations in building materials are compared to available data on PCB and metals concentrations in storm drain solids in the Diagonal Avenue S basin. In addition, the report includes an estimate of the mass of PCBs and metals in building materials within the Diagonal Avenue S drainage basin.

Section 2.0 of this document provides background information on the sources of PCBs and metals and their use in building materials, including information on the historical uses of PCBs in building materials after the 1979 ban on manufacturing, production, and use of PCBs. Section 3.0 describes how the samples were collected, as well as any deviations from the Sampling and Analysis Plan/Quality Assurance Project Plan (SAP/QAPP) (SAIC 2011). The analytical results are presented in Section 4.0.

Comparisons between the paint and building caulk data collected during this investigation to nearby storm drain solids data are presented in Section 5.0. Section 6.0 discusses the potential contribution of contaminants in building materials to LDW sediments. A summary and recommendations are provided in Section 7.0, and references are listed in Section 8.0. The appendices include visual survey results, sampling maps, field sampling forms, laboratory data reports, and the data validation report.

2.0 PCBs and Metals in Building Materials

The primary focus of this survey was on PCBs, with a secondary focus on metals that are addressed in Washington State's Sediment Management Standards: arsenic, cadmium, chromium, copper, lead, mercury, silver, and zinc.

2.1 Sources of PCBs

PCBs are a group of synthetic chemicals created by adding chlorine to biphenyl. PCBs were manufactured and sold as complex mixtures of various congeners, primarily from 1929 to the late 1970s. PCBs were used in hundreds of industrial and commercial applications because they do not burn easily, have a high heat capacity, do not explode, are chemically stable, have high boiling points, and have electrical insulating properties (EPA 1980; Fiedler 1997).

Manufacture of PCBs was banned in the United States in July 1979 (ATSDR 2000). Products, equipment, and materials manufactured before this date that may contain PCBs include (EIP Associates 1997; National Research Council 2001; Coghlan et al. 2002; EPA 2010a; Fiedler 1997; EPA 2009a):

- Oil-based paint (including exterior paint),
- Caulking and other sealants,
- Transformers and capacitors,
- Electrical equipment parts including voltage regulators, switches, reclosers, bushings, oil-filled electrical cable, and electromagnets,
- Automobiles and reusable automobile parts,
- Heat transfer equipment,
- Polyvinyl chloride (PVC) plastic,
- Recycled oil,
- Hydraulic equipment,
- Insulation (wool felt, foam rubber, and fiberglass),
- Water-proofing materials,
- Preserved wood,
- Asphalt roofing materials,
- Coatings for water pipes and storage tanks, and
- Sound-dampening materials.

2.2 Sources of Metals

Heavy metals have historically been, and are currently, used in the manufacture of various goods and materials. Selected metals, such as arsenic, cadmium, chromium, copper, lead, mercury, silver, and zinc, were analyzed in the paint samples collected during this survey. Exterior building paints are not likely to be the primary source of these metals in sediments, but may contribute to the overall sediment load. Typical anthropogenic sources of these metals are described below.

Arsenic

Currently, about 90 percent of arsenic produced is used as a wood preservative to make it resistant to rotting and decay (ATSDR 2007a). The preservative is copper chromated arsenate (CCA) and the treated wood is referred to as “pressure-treated.” In the past, inorganic arsenic compounds were predominantly used as pesticides, but inorganic arsenic compounds can no longer be used in agriculture. Small quantities of elemental arsenic are added to other metals to form metal mixtures or alloys with improved properties. The greatest use of arsenic in alloys is in lead-acid batteries for automobiles.

Cadmium

The major use of cadmium is in batteries, followed by pigments, coatings and plating, stabilizers for plastics, nonferrous alloys, and specialized uses such as photovoltaic devices (USGS 2008; USGS 2010b). Cadmium pigments are durable and withstand exposure to light, high temperatures, and harsh weathering conditions. Over 85 percent of the cadmium pigments produced is used to color plastics due to their ability to withstand high temperatures. Cadmium pigments are also used to color glass and ceramics. Glass traffic light lenses and hazard lights are colored with cadmium pigments (USGS 2008).

Chromium

Chromium is used in many applications including metal processing, tannery facilities, chromate production, stainless steel welding, and ferrochrome and chrome pigment production. Chromium is a component of zinc chromate paint primers (ATSDR 2008). Chromium is also a component of the wood preservative CCA.

Copper

Copper is widely used due to its durability, ductility, malleability, and electrical and thermal conductivity. The top industrial and commercial users of copper are in the construction industry, electrical and electrical products, transportation equipment, and industrial machinery and equipment. Some common uses of copper and copper alloys include plumbing, building wire, power utilities, air conditioning, business electronics, and valves and fittings (ATSDR 2004). Elemental copper is also a component of the wood preservative CCA.

Lead

Lead and its compounds are used in a wide variety of applications including batteries, caulk, plastic stabilizers, glass and ceramic products, pigments, electrical machinery and equipment, and vehicles and equipment (ATSDR 2007b). Lead was used in paint as a pigment and to extend the life of the paint until this use was banned for consumer products in 1978. Paint containing lead may continue to be used in industrial settings (CPSC 2001).

Mercury

Mercury is used in many electrical applications including batteries, wiring devices and switches, measuring and control instruments (e.g., thermostats), and lighting. Phenylmercuric acetate is used in inks, adhesives, and caulking compounds. The use of phenylmercuric acetate in interior paints was banned in 1990 (ATSDR 1999). Use of phenylmercuric acetate in exterior paints and fungicides was banned by 1991. Mercury is no longer used in paint in the United States (USGS 2010a).

Silver

In the past, silver was used for surgical prostheses and/or splints, fungicides (now obsolete), and coinage (discontinued from general circulation within the United States in 1970) (ATSDR 1990). Current uses include photographic materials; electrical and electronic products, such as electrical contacts, silver paints, and batteries; brazing alloys and solders; electroplated ware, sterling ware, jewelry, and mirrors; and as a component of ceramic potable water purification filters.

Zinc

Zinc is used in many applications, including protective coatings, dye-casting, electrical goods, and paint (ATSDR 2005). Major anthropogenic sources of zinc to the environment include electroplaters, domestic and industrial sewage, combustion of fossil fuels and solid wastes, road surface runoff, and corrosion of zinc alloys and galvanized surfaces (Eisler 2000).

The following sections describe historical and ongoing uses of PCBs and metals in building materials and summarize selected studies that examine the presence of PCBs in building materials as well as the contributions of PCB-containing paint/caulk to contamination of sediment and soils.

2.3 Uses of PCBs and Metals in Building Materials

Based on manufacturing data and other studies, PCB-containing paint and caulk were used in buildings constructed between 1950 and 1977. These materials were used primarily in industrial buildings rather than residential buildings, due to the high cost of PCB additives. These materials may contribute to the PCBs found in LDW storm drain solids.

2.3.1 Paint

PCBs, arsenic, cadmium, chromium, copper, lead, mercury, and zinc have historically been added to exterior paints and may be present in the exterior paints used on buildings in the LDW drainage basin. Silver was occasionally added to exterior paints as a fungicide. PCBs and lead were historically used to extend the life of the paint by increasing its durability. The use of lead-based paint was banned in 1977 for consumer products; however, it may continue to be used in industrial applications. Mercury was used as an anti-fungal agent and as pigment in exterior paints until this use was banned in 1991 (ATSDR 1999). Copper is currently used as an anti-fouling agent. Metals are typically used as pigments for paints. Exterior paint colors that may be found on buildings in the LDW drainage basin are listed below, with the contaminant that may be present in the paint.

Older paint can contain mercury, and may be a persistent source of PCBs and mercury even though the paint may be encapsulated by newer paint. As the paint chips, flakes, and peels, layers of older paint may be contained in the chips or become exposed to further weathering. Newer paint that is chipped, flaking, or peeling may be a source of contamination if metals were used in the paint formulation. Chips of paint may easily scour off from surfaces during heavy rainfall and wind, and subsequently, impervious surfaces will facilitate a particle-bound dispersion through the urban environment via the storm drain system. Therefore, PCBs and metals in peeling paint have the potential to enter the LDW storm drain system.

	Paint Color								
Metal	**Black**	**Blue**	**Green**	**Orange**	**Purple**	**Red**	**White**	**Yellow**	**Primer/ Coating/ Preservative**
Arsenic									●
Cadmium			●	●		●		●	
Chromium			●					●	●
Copper		●	●		●				
Lead	●					●	●	●	
Mercury						●			
Silver									●
Zinc			●				●		●

2.3.2 Building Caulk

Caulk is a flexible material used to seal gaps to make windows, door frames, masonry, and joints in buildings and other structures watertight or airtight. At one time, caulk was manufactured using PCBs because PCBs imparted flexibility, water and chemical resistance, and durability. Caulk containing PCBs was used in some buildings in the 1950s through 1978. This caulk may be found on door frames, window frames, window glazing, expansion joints, and around vents and other openings in buildings (EPA 2010a).

2.4 Sampling of PCB-Contaminated Building Materials

Sampling of PCB-contaminated building materials, including paint and caulk, has been conducted in the LDW basin and elsewhere. Selected studies are summarized briefly below.

2.4.1 Seattle-Area Studies

Former Rainier Brewery

The former Rainier Brewery (now Rainier Commons LLC), was originally constructed in 1884 on approximately 4.6 acres with 26 buildings (WDOH 2010). In October 2005, Seattle Public Utilities (SPU) found PCBs at 17.5 to 2,200 mg/kg DW in solids from the stormwater collection system around the old brewery. In May 2006, exterior paint sampled from one of the buildings was found to contain 2,300 mg/kg DW PCBs (Aroclor 1254). SPU resampled the stormwater collection system in January 2008 and found lower PCB concentrations. In February of that year, SPU removed contaminated sediments from the stormwater collection system.

In March 2009, an EPA Region 10 inspection team collected exterior paint chips from flaking paint on the old brewery building and from the gravel strip adjacent to the catch basin. Maximum PCB concentrations detected in the 2009 samples were 795 mg/kg in exterior wall paint chips, 10,491 mg/kg in paint chips taken from the ground, and 101 mg/kg DW in the storm drain sediment trap sample. In September of 2009, sampling conducted by EPA indicated widespread PCB contamination of exterior paints collected from multiple buildings, from paint chips on the ground, and in storm drain solids (Kissinger et al. 2010):

- 700 and 1,500 ppm[1] PCBs in exterior paint from Building 13
- 105 ppm PCBs in solids from the storm drain system located between Buildings 3 and 13
- 390 ppm PCBs in exterior paint from Building 12
- 10,200 ppm PCBs in exterior paint from Building 9-LR
- 12,400 ppm PCBs in exterior paint from Building 8
- 690 ppm PCBs in exterior paint from Building 5A
- 18,000 ppm PCBs in exterior paint from Building 6
- 5,500 and 26,000 ppm PCBs in paint chips gathered from unidentified ground surfaces
- 10,000 ppm PCBs in paint chips from a ground surface between Building 13 and a parking lot

Limited analytical data also show that PCBs are present within the buildings. At least one interior paint sample was found with PCBs at 3,600 mg/kg, and a dust sample from a tenant's vacuum cleaner contained over 3 mg/kg PCBs (Kissinger et al. 2010).

King County Youth Services Center

In spring 2010, a hazardous building materials survey was conducted prior to the proposed demolition of the Alder Wing and Alder Tower buildings of the King County Youth Services Center (Med-Tox and Herrera 2010). The Alder Wing was constructed in 1951 and the Alder Tower in 1971. The survey included sampling for PCBs in caulk, paints, and sealants on the

[1] Units are shown as presented in the referenced report; in general, mg/kg is equivalent to ppm.

interior and exterior of the two buildings. Total PCB concentrations ranged from non-detect to 39 mg/kg in paint, between non-detect and 150,000 mg/kg in two exterior window caulk samples, and from non-detect to 16 mg/kg in other miscellaneous samples (penetration caulk, caulk on drivet panel, caulk on white membrane, vent hatch sealant, concrete panel caulk). The window caulk sample with 150,000 mg/kg PCB was taken from the building that had been built in 1971.

North Boeing Field

A recent survey of PCBs and metals in paint chips sampled from various painted surfaces at the NBF facility yielded the following maximum concentrations (Landau 2010a):

- PCBs: up to 2,300 mg/kg (detected in 34 of 77 samples analyzed; seven of these were greater than 50 mg/kg DW)
- Arsenic: up to 140 mg/kg (detected in 9 of 65 samples analyzed)
- Cadmium: up to 439 mg/kg (detected in 59 of 65 samples analyzed)
- Chromium: up to 35,600 mg/kg (detected in 65 of 65 samples analyzed)
- Copper: up to 2,950 mg/kg (detected in 65 of 65 samples analyzed)
- Lead: up to 58,600 mg/kg (detected in 59 of 65 samples analyzed)
- Mercury: up to 130 mg/kg (detected in 59 of 65 samples analyzed)
- Silver: up to 12 mg/kg (detected in 16 of 65 samples analyzed)
- Zinc: up to 123,000 mg/kg (detected in 65 of 65 samples analyzed)

In the 2010 NBF study (Landau 2010a), 13 caulk samples from windows and door frames were analyzed for PCBs and metals. Only 2 samples tested positive for PCBs: one contained 11.6 mg/kg total PCBs (as Aroclors 1248, 1254, and 1260), and the other contained 14,000 mg/kg total PCBs (as Aroclor 1248).

2.4.2 Studies Outside of the Seattle Area

NEA (2007) reports results from sampling of window caulk in various East Coast school districts; PCB levels as high as 111,000 mg/kg (as Aroclor 1254) were detected in a sample from Public School 178 in the Bronx, New York.

Herrick et al. (2004) sampled caulking in a set of buildings in the Greater Boston Area including schools, churches, museums, elderly and subsidized housing, hospitals, a hotel, a museum, a police station, and office buildings. Of the 24 buildings, 13 were found to contain caulk with detectable concentrations of PCBs. Of these 13 buildings, eight contained caulk with PCB concentrations greater than or equal to 50 parts per million (ppm). Detected concentrations ranged from less than 1 to 35,600 ppm (by mass). PCBs were not detected in the elderly or subsidized housing, the hospitals, the hotel, or the police station.

Herrick et al. (2007) conducted a study in the greater Boston area to measure PCB levels in soil surrounding buildings where PCB-containing caulk was still in place, and to evaluate the mobility of the PCBs from caulk using the Toxicity Characteristic Leaching Procedure (EPA Method 1311). The authors found soil PCB contamination ranging from 3.3 to 34 mg/kg around buildings with undisturbed caulk that contained 10,000 to 36,200 mg/kg PCBs. The results of the Toxicity Characteristic Leaching Procedure (leachate concentrations of 76 to 288 mg/L of PCBs) suggest that PCBs in caulk can be mobilized, apparently as complexes with dissolved organic matter that also leach from the caulking material.

Coghlan et al. (2002) conducted a survey of PCBs in building materials in a university office building after PCBs were accidentally discovered during pesticide sampling of dust samples from the building. A total of 9 caulk samples were collected, with PCB concentrations ranging from non-detect to 33,000 ppm (Aroclor 1254). In addition to caulk, PCBs were also detected in gasket materials (1.1 to 4,300 ppm), insulation material (non-detect to 310 ppm [Aroclor 1221]), tile materials (0.2 ppm), unit ventilator components (3.7 to 63 ppm), vinyl material (0.8 to 14 ppm), and mastic material (non-detect to 3.9 ppm).

Zennegg et al. (2004) conducted a national survey in Switzerland that focused on concrete (masonry) buildings. The study found that almost half of all such buildings erected between 1955 and 1975 (of 1,348 buildings sampled) contained joint sealants (caulking) with PCB concentrations of 20 to 550,000 mg/kg (Zennegg et al. 2004). The research showed that joint sealants containing more than 100 mg/kg PCB were most likely to be encountered in buildings erected in Switzerland between 1966 and 1975.

Andersson et al. (2004) conducted a survey in Bergen, Norway, to determine if PCB concentrations varied according to building usage type and age, and the nature and extent of displacement of PCBs in surrounding soils. Structures built between 1952 and 1979 were chosen for the survey. Based on masonry and plaster samples, the residential buildings and schools demonstrated higher PCB concentrations in both soil and plaster than buildings designated for office use, storage, or for industrial purposes. Buildings erected in the 1950s and 1960s also showed a higher PCB concentration than buildings from a later date. Maximum PCB concentrations (measured as the congener PCB-7) were 1,940 mg/kg in paint, 290 mg/kg in plaster, and 320 mg/kg in surface soils. The high PCB concentration of the soil sample with the maximum concentration (320 mg/kg) may have been due to contamination from double-glazed windows, which had been stored in this location (this was not discovered until after the samples were collected). Overall, the soil samples tended to have a higher concentration than the corresponding plaster from the adjacent wall. The authors believe that the high soil organic matter content may retain PCBs.

Priha et al. (2005) conducted a survey in Finland (exact location not revealed in the publication) to determine PCB contamination in the surroundings of former PCB-containing buildings and to evaluate the risks to human health. The survey focused on 11 buildings that were built in the 1960s and had undergone sealant replacement within 1 to 3 years of the study. Samples from soil, and also from blood serum of residents, were collected to obtain data for the exposure assessment. The yards of the buildings were partly covered with asphalt, grass, or sand. The mean total PCB concentration was 6.83 mg/kg within 2 meters of the buildings and 0.52 mg/kg within 3 to 10 meters of the buildings. In previous surveys, the PCB content of polysulfide joint sealants used in Finland between 1960 and 1975 in prefabricated concrete buildings was typically between 10 and 20 percent (Priha et al. undated).

Jartun et al. (2009) conducted a study of a large number of samples of flaking old paint from various buildings in Bergen, Norway. The authors' results suggest that paint may be the most important contemporary source of PCBs in this urban environment, with concentrations of PCB-7 up to 3,390 mg/kg. Twenty-three of the samples were collected from a single building, and the concentrations were found to vary over three orders of magnitude. In addition, 16 concrete samples from a large bridge previously coated with PCB-containing paint were collected and separated into outer and inner samples, indicating that PCBs are still present in high concentrations subsequent to renovation. PCBs were found in several categories of paint from wooden and concrete buildings, potentially introduced to the environment by natural weathering, renovation, and volatilization.

Diamond et al. (2010) estimated PCB stocks in Toronto, Canada, from data contained in Canada's national inventory of current PCBs in closed use and storage. This inventory was created as part of 1977 Canadian legislation and lists sites of PCB use or storage from voluntary reporting, supplemented by limited inspections by federal compliance officers. Of the inventory, approximately 97 percent is in closed sources (e.g., electrical transformers) and 3 percent in open sources (building sealants). To estimate PCB inventory in joint sealants in Toronto buildings, the authors sampled and analyzed sealants in 80 Toronto buildings constructed from 1945 to 1980. That survey found 14 percent of the buildings (10 of 70) had sealants that exceeded 50 mg/kg; the maximum concentration was 82,100 mg/kg and geometric mean concentration was 4,360 mg/kg. Using assumptions of 55g of sealant per cubic meter of building, and an average PCB concentration of 4,360 mg/kg, Diamond et al. estimated the total mass of PCBs in sealants in Toronto as 13 metric tons[2] (lower and upper bound estimates of 0.14 to 231 metric tons). They estimated that PCBs in sealants and caulking were geographically concentrated in residential areas within multi-unit residential infrastructure (i.e., apartment buildings) and commercial buildings constructed during the post World War II boom years from 1950 to 1970. The results were used to model PCB emissions and fate in the city, and to shed light on why PCB temporal trends appear to be nearly stable and on whether current policies will reduce concentrations and exposures.

2.5 Use of PCBs in Building Materials After 1978

The Toxic Substances Control Act of 1976 (TSCA) prohibited the manufacture, processing, or distribution of PCBs in other than a totally enclosed manner after January 1, 1978. However, the ban did not go into effect until July 2, 1979, after EPA implemented the PCB Final Rule, which was issued on May 31, 1979 (44 FR 31514-31558). Before the ban, PCBs were intentionally added to paints and caulks as a plasticizer, providing flexibility and durability to the final product, as well improving adhesion (Robson et al. 2010; Erickson and Kaley 2011). PCBs were used extensively in building sealants (e.g., caulks) in buildings constructed from the 1950s to the 1970s, and numerous studies have found PCBs in polysulfide sealants used between 1950 and 1980 in excess of 50 mg/kg (studies in the United States, Europe, and Canada reviewed in Robson et al. 2010).

[2] A metric ton is a unit of mass equal to 1,000 kilograms.

Monsanto, the only manufacturer of PCBs, ceased production in 1977, two years before EPA's ban on PCB manufacturing and use went into effect (Erickson and Kaley 2011). Further, the "open" uses that lead to direct disposal into environmental compartments were voluntarily curtailed by Monsanto at some time between 1970 (Erickson 1997) and 1972 (EPA 1983; Commission for Environmental Cooperation 1996). This would have included PCBs for use in paints and caulks. By 1972, capacitor and transformer manufacture accounted for all of the PCBs sold by Monsanto (Erickson 1997).

Based on this information, the range of building dates considered for the sampling survey was 1950 to 1977. However, Ecology was recently notified that a Seattle-area building constructed in approximately 1989 and slated for demolition tested positive for PCBs in interior and exterior caulk at concentrations greater than the 50 mg/kg allowed by regulation. This would have been over 10 years after the ban. Detected PCB concentrations were up to 1,000 mg/kg in wall seams and 630 mg/kg in door seams. Additional testing did not find any PCBs in concrete walls adjacent to contaminated caulk or in catch basin samples surrounding the building.

While this information was received too late to incorporate into the sampling plans for the current study, Ecology directed SAIC to collect additional information about the potential presence of PCB-containing materials in buildings constructed after the PCB ban.

Research into the potential for buildings constructed after 1977 to contain PCB-contaminated materials (paints and caulks specifically) entailed the following:

- Searching for Federal Register notices containing the proposed PCB regulations and comments on the proposed regulations (Note: SAIC was unable to locate the 1970s documents that included initial comments on TSCA and the eventual PCB ban);
- Contacting EPA employees listed on the Regional PCB Contacts webpage (http://www.epa.gov/epawaste/hazard/tsd/pcbs/pubs/coordin.htm);
- Keyword searches of the scientific literature using Google Scholar (http://scholar.google.com/);
- Keyword search of the archives for the Washington Post, New York Times, and Wall Street Journal;
- Keyword searches of major internet search engines (Yahoo! and Google); and
- Contacting researchers who have been studying PCBs in building materials.

The phone calls and e-mails are summarized in Table 1 while the research documents obtained are summarized in Table 2.

According to Erickson and Kaley (2011), over 114 million pounds (52,000 metric tons) of PCBs were sold by Monsanto in the United States between 1930 and 1975 to be used as plasticizer, and over 26.5 million pounds (12,000 metric tons) were sold for use in miscellaneous applications. Capacitor and transformer fluids accounted for 75 percent of all U.S. sales. The PCBs used for plasticizer applications (e.g., for use in paints and caulks) were often sold to independent distributors who resold them to the manufacturers of the ultimate product (Erickson and Kaley 2011).

Jim Haklar, EPA Region 2 PCB coordinator, has worked for the EPA for 26 years and in TSCA specifically for the last 5 years. His understanding of the use of PCBs in caulks, from discussions with a contractor who used to apply them in the northeast, is that the caulk and PCBs were separate and had to be mixed by the contractor prior to application. Mr. Haklar indicated that when working with EPA headquarters on the development of PCB guidance to define which buildings to assess for PCB contamination, an extra couple of years were added to the 1978 ban date in case there were supplies that were still being used up. He has not heard of any inventory or list of what might have happened to materials already in contractor's inventories after the ban. EPA has not focused on buildings constructed after 1980, and PCBs in post-1980 construction has not been an issue in EPA Region 2. Mr. Haklar was surprised to hear of a building built in 1989/1990 with PCBs in the caulk, although he thought the levels (~1,000 mg/kg max) were low for PCB-containing caulk. Members of the International Union of Bricklayers and Allied Craft Workers who reported the use of PCB caulk told an investigator in Boston that formulations changed during the late 1970s, possibly corresponding to the elimination of PCBs mandated by the EPA in 1977 (Herrick et al. 2004).

In addition to PCBs being intentionally added to paints and caulks, as described above, PCBs were also inadvertently created in the production process of certain pigments (44 FR 31527). In the PCB Final Rule, EPA acknowledged that pigment producers were creating pigments with PCB concentrations in excess of 50 mg/kg. The EPA stated that "within 2 years the industry will have made the changes necessary to reduce the PCB contamination levels to less than 50 ppm." The EPA believed that "these products [paints and inks made with the contaminated pigments] contain far less than 50 ppm PCB because of the dilution that takes place when the pigment is mixed with the medium it is coloring" (44 FR 31535, G. Pigments). The EPA extended the processing and distribution of PCB-containing pigments until January 1, 1982, in order to reduce the cost to the pigment industry in complying with the ban (44 FR 31536, G. Pigments). In 1984, the Washington Post and 11 other newspapers found that their yellow printing inks contained PCBs over the 50 mg/kg limit, and levels over 1,000 mg/kg at one paper (Feaver 1984). A California newspaper reported finding PCBs at levels up to 4,100 mg/kg in its ink (PR Newswire 1984). It is unknown how many other pigment producers may have continued to produce high PCB-level pigments after the ban.

Based on 40 CFR 761.80, PCBs are currently allowed at less than 25 mg/kg, with a 50 mg/kg maximum in commerce of diarylide pigments or phthalocyanine pigments when leaving a manufacturing site or when imported to the United States. Analysis of commercial paint pigments purchased in Chicago-area retail stores by Hu and Hornbuckle (2009) indicates that PCB congeners can still be found in azo and phthalocyanine pigments, although the PCB levels were all below the regulatory standard. More than 50 PCB congeners were detected in the pigment samples that they analyzed. In their research into these pigments, Hu and Hornbuckle concluded that "In spite of accelerated progress in the synthesis of organic pigments, commercially available pigments at present are chemically identical to those produced historically since the use of synthetic pigments." No information was found on excessive PCB (greater than 50 mg/kg) concentrations in paints that were the result of highly contaminated pigments. It is more likely that only the deliberate addition of PCBs to paints would cause such levels in the final paint product.

The EPA is aware of homeowners bringing paints with high PCB concentrations to municipal landfills for disposal (EPA 2009b). Unfortunately, the document in which this statement appears (the 2009 PCB Q&A Manual) does not provide additional details as to the dates when this might have happened or the PCB levels involved. The Q&A manual is a policy document that addresses use, cleanup, and disposal requirements of PCBs. Note that PCB-containing paints are not mentioned in the 1994 manual, suggesting that the agency may not have considered PCB paints as a PCB waste issue at that time (EPA 1994). This is supported by the statements in a 2008 conference paper presentation by Elizabeth Lowry of the Washington Savannah River Company, Environmental Services Section. In her conference presentation on PCB issues in the 21st century, Ms. Lowry contended that “during development of the early PCB regulations, apparently very little information was provided to EPA concerning most NLPCBs [non-liquid PCBs].” Some uses of [NLPCBs] were “apparently overlooked during regulatory development… for example, the notice includes no information to indicate that manufacturers sought any grandfathering provision or use authorization for NLPCBs as plasticizers or in paints” (Lowry 2008).

The specific articles and documents reviewed during the historical search are listed in Table 2 and are summarized below:

Richards, B. 1975, December 23. U.S. Curbs PCB Spread, Will Seek Eventual Ban. This article describes EPA’s announced crackdown and that it would eventually seek an eventual halt to all PCB production in the United States. EPA Administrator Russell Train was quoted in the article as saying that EPA directives to industry in 1972 cut PCB production by 50 percent and limited their use to closed systems to prevent leaks. Note that evidence of a 1972 directive limiting use outside of closed systems could not be located during preparation of this Summary Report.

EPA. 1983. The PCB regulations under TSCA: Over 100 questions and answers to help you meet these requirements. Monsanto voluntarily ceased all sales of PCBs for all uses except certain electrical transformer and capacitor uses.

Washington Post. 1984, July 2. EPA permitting limited PCBs. This article indicates that the EPA, acting on the advice of industry and environmental groups, announced it was making a series of limited exceptions to the national ban on production, distribution, and use of PCBs. The new rule allows some PCB-producing industrial processes to continue, despite the ban, if the PCBs are inadvertently generated and limited in most products to an annual average concentration of 25 ppm and a maximum of 50 ppm at any time.

PR Newswire. 1984, August 10. EPA Charges Magruder Color Co. in polychlorinated biphenyls case. EPA charged the Magruder Color Co. of Elizabeth, NJ, and its subsidiary company, Indol Color Company of Cataret, NJ, with 148 counts of unlawful manufacturing, processing, distribution in commerce, labeling, and disposal of PCBs. EPA claims failure to comply with EPA regulations led to PCB contamination of yellow ink used by a California newspaper with PCB levels up to 4,100 ppm.

Commission for Environmental Cooperation. 1996. Status of PCB management in North America. Monsanto voluntarily ceased marketing PCBs in dispersive uses in 1972.

Lippman, T.W. 1998. Russian PCBs Complicate Toxics Treaty. Washington Post article describes Russia's inability to comply with a treaty to restrict the production and use of toxic chemicals because they were still producing and using PCBs themselves. U.S. negotiators working on the treaty had not known that Russia was still making and using them in electrical transformers. Russia was granted a special exemption from the treaty allowing PCB production to continue until 2005 and postponing destruction of the last stocks until 2020.

Lowry, E. 2008. Polychlorinated biphenyl compliance issues in the 21st century: Poorly recognized and potentially devastating. This paper focused on PCB characterization and waste management issues associated with deactivation and decommissioning of U.S. Department of Energy nuclear facilities. It identified PCB materials that are likely to be present in such facilities, with emphasis on the non-liquid PCB (NLPCB) forms. In the preamble to the rule, EPA summarized the results of ten days of public hearings conducted in 1978 concerning the proposed regulation. The notice indicated that NLPCBs were thought to exist only in few and limited applications, primarily as dyes and pigments; the associated PCB concentrations were thought to be relatively low. The notice indicated that representatives of the dye and pigment industry had objected to an immediate PCB ban due to the lack of available substitute products; as a result, a 30-month grandfathering period was established for the dyes and pigments to allow continued use of the PCB-containing products while industry developed non-PCB alternatives. Other uses of NLPCBs apparently were overlooked during regulatory development; for example, the notice includes no information to indicate that manufacturers sought any grandfathering provision or use authorization for NLPCBs as plasticizers or in paints. In the post-TSCA era, NLPCBs were not generally recognized until the early 1990s, when the U.S. Navy discovered many NLPCB materials in its older submarines and surface ships. According to Lowry, successful removal of PCB paint from a porous surface has been extremely difficult, time-consuming, and expensive; disposal of these and other NLPCB materials is much more cost-effective than removal of the PCBs. PCBs, particularly in non-liquid forms, are far more prevalent than many waste management professionals have realized.

Robson et al. 2010. Continuing sources of PCBs: the significance of building sealants. To investigate the significance of building sealants as a remaining source of PCBs to the environment, a combined measurement campaign and GIS-based stock estimation were undertaken for Toronto, Canada. This showed that 14 percent of buildings measured had detectable quantities of PCBs present in sealants, with concentrations from 57 mg/kg to 82,000 mg/kg (n=95). There is an estimated 13 metric tons still present in the city; mass balance calculations showed that up to 9 percent had been lost via volatilization alone. Buildings were sampled in date ranges pre-1945 (control, N = 8, % detect = 0), 1945–1960 (N = 11, % detection = 27), 1960–1969 (N = 41, % detection = 17), 1970–1980 (N = 28, % detection = 4), and post 1980 (control, N = 21, % detection = 0). PCBs were detected in sealants in one single-detached house, which statistically translates to 10 percent of 1950s–1970s homes. This is the lowest proportion of detection in any building category, and may reflect either an increased frequency of renovation in homes as well as the lesser amount of sealant use in homes compared to larger concrete buildings; however, as only 14 homes were sampled it is difficult to draw any further firm conclusions. Note that the results of Robson et al. support the statements that Monsanto stopped selling PCBs for other than enclosed uses in the early 1970s. Canada did not produce PCBs.

Erickson & Kaley. 2011. Applications of polychlorinated biphenyls. This paper summarizes the uses of PCBs in the United States and includes some chemistry as well as regulatory discussion. The authors indicate that Monsanto voluntarily withdrew PCBs from "all markets that were considered likely to lead to environmental discharges. Sales were restricted to a limited number of manufactures of electrical equipment for uses in nominally closed systems, such as capacitors and transformers." This article was provided by Mr. Duncan, PCB coordinator for EPA Region 10.

3.0 Data Collection and Analytical Methods

This section describes the process used to identify buildings selected for sampling, and the procedures for sample collection, processing, identification, documentation. The SAP/QAPP was followed for all sample collection (SAIC 2011), with the exceptions noted in this section.

3.1 Selection of Building Material Sampling Locations

A visual survey of the buildings within the Diagonal Avenue S storm drain basin, shown in Figure 2, was conducted between January 31 and February 3, 2011. Buildings that were near existing storm drain solids sampling locations and that were constructed between 1950 and 1977 were preferentially selected for the survey.[3]

Of the 2,286 buildings in the Diagonal Avenue S drainage area that were constructed between 1950 and 1977, a total of 92 parcels were evaluated during the visual survey. The visual survey results for each of these parcels are summarized in Appendix A, which includes the Parcel Identification Number, building construction date, building address, taxpayer name and address, current building occupant, condition of paint, caulk types, and, if available, the maximum PCB solids concentration in a nearby storm drain manhole or catch basin. The properties evaluated during the visual survey included 56 industrial parcels, 31 commercial parcels, and 5 residential parcels.

SAIC's subcontractor (EnviroIssues) led the effort to obtain signed access agreements from the 92 property owners identified during the visual survey. The effort included letter writing, phone calls, e-mails, and site visits. As a result, a total of 32 signed property access agreements were obtained from the 92 property owners (approximately 35 percent) and included parcels spread throughout the drainage area.

These 32 properties were grouped into 16 composite sample areas (CSAs) based on their location, building type, and construction date. Each CSA consists of two properties ("a" and "b") and materials were analyzed as composite samples, meaning samples from two or more structures were tested together. As a result, the contaminant level associated with an individual building, if any exists, cannot be identified. This was done to avoid identifying a building with PCBs in paint or caulk above regulatory limits that would subsequently require removal under EPA oversight. Without anonymity, it is certain that no property owner would allow any sampling at all. The 19 building sampling maps showing the 16 CSA locations (both "a" and "b") are summarized in Table 3 and shown in Appendix B.

One of the properties at CSA 13 needed to be eliminated from the survey after interviewing the property owner. This residential property owner had conducted extensive remodeling and, as a result, did not have any potential PCB-containing paint or caulk remaining. Thus, only 31 properties were sampled during this survey. The original residential property designated as "CSA 13b" was eliminated and the property from "CSA 13a" was added to CSA 15 as "CSA 15c."

[3] One of the buildings at composite sample area 1b later turned out to be constructed in 1942, but this building was kept in the survey to determine if PCB additives may have been used prior to 1950.

3.2 Building Material Sampling

3.2.1 Pre-Sampling Evaluation Procedure

Each CSA consisted of two buildings located within ½-mile and constructed during the same time period (1950s, 1960s, or 1970s). The two buildings were located on separate parcels ("a" and "b") in order to ensure that no source was directly identifiable. As discussed in Section 2.1, an exception was CSA 15, which was composed of discrete samples from three buildings ("a," "b," and "c").

Upon arriving at the first "a" parcel in the composite area, the sampling team notified staff at the main office or the building resident of the planned activities and the approximate duration of sampling. If office staff or residents were present, the sampling team inquired as to the last time the building was painted or renovated. The team then examined each painted building to identify the specific paint and caulk sampling locations. This evaluation included visually inspecting the color and condition and then touching the paint and caulk to determine its elasticity and brittleness. Test cuts were made into the paint and caulk to determine the extent of paint and caulk layers present.

A similar evaluation of the paint and caulk on the building at the second "b" parcel was performed. Based on this evaluation, the Field Manager selected the locations of the sampling points for the paint and caulk composite samples. When possible, the Field Manager attempted to ensure that the discrete samples within each composite sample had similar color, condition, and/or brittleness. As shown in the Paint Field Sample Forms in Appendix C and the Caulk Field Sample Forms in Appendix D, a direct match of color and condition was not always possible.

Each composite sample consisted of four discrete samples, two from the first "a" building and two from the second "b" building. The exception was CSA 15, which was composed of six discrete samples, two from "a," two from "b," and two from "c."

Table 4 provides a summary of the paint and caulk collected at each CSA and includes the building construction date and type (industrial, commercial, or residential). The building construction dates from each discrete sample were averaged to determine if the CSA was in the 1940s, 1950s, 1960s, or 1970s era. A summary of the representative building types at each of the 16 CSAs is provided in Table 5.

3.2.2 Sample Collection and Handling Methods

A single-edged stainless steel razor blade in a utility knife was used to collect samples from the painted surfaces and caulk samples from the door frames, window frames, window glazing, and expansion joints. Discrete paint samples were collected in approximately 2-inch by 2-inch areas. Discrete caulk samples were collected at approximately 6-inch lengths. The discrete paint and caulk samples were cut or broken into smaller pieces of approximately 0.25 square inch size or smaller while in the sealed plastic bag or on the matte side of aluminum foil. Using disposable plastic spoons, approximately equal volumes of each discrete sample were combined into a 2-ounce wide-mouth glass jar to form each composite sample. The composite samples were homogenized in the jars and labeled with a unique sample identification number.

As discussed in Section 3.2.1, the pre-sampling evaluation identified the number of paint and caulk types at each building. If at least three different types of paint and caulk were identified on each building, then three paint and three caulk composite samples from each CSA were collected and analyzed for PCBs. However, not all CSAs had three different paint types and three different caulk types. Based on the pre-sampling evaluation of the paint on each building, 10 CSAs had at least three relevant paint types, 2 CSAs had two relevant paint types, 2 CSAs had one relevant paint type, and 2 CSAs had no relevant paint to collect. A "relevant" paint or caulk type is one that was applied between 1950 and 1978. Similarly for the caulk on each building, 4 CSAs had at least three relevant caulk types, 4 CSAs had one relevant caulk type, and 8 CSAs had no relevant caulk types. The number of paint and caulk samples at each CSA are shown in Table 4.

The total number of paint and caulk composite samples collected at each CSA are shown in Table 6. As described above, 14 CSAs had at least one paint composite sample and 8 CSAs had at least one caulk composite sample. Of the 14 CSAs with paint composite samples, one of the composite samples within each CSA was analyzed for metals if sufficient sample volume was present. A total of 13 out of the 14 CSAs were analyzed for metals.

Field duplicate and rinse blank samples were also collected as a Quality Assurance/Quality Control (QA/QC) check. Field duplicate samples were collected at a rate of one per twenty samples for each matrix and analysis as shown in Table 4. One rinse blank sample was collected and analyzed for PCBs and metals to confirm that no contamination was introduced into the samples during collection or processing. The rinse blank sample was collected by ARI prior to the start of sampling activities by pouring deionized water over the razor blades. The results of the QA/QC samples are discussed in Section 4.4.

Discrete sample areas and test areas were repaired by an Ecology subcontractor after sampling was completed. An example of a paint sample repair area is shown in Photograph 1 while an example of a caulk sample repair area is shown in Photograph 2. The composite samples were then delivered to ARI in Tukwila, WA, in sturdy coolers under ambient temperatures using proper chain-of-custody procedures.

Photograph 1. Example of Paint Repair Areas

3.2.3 Sample Identification, Containers, and Labels

Samples were identified by project, matrix, and composite sample number. All samples collected during the investigation were labeled clearly and legibly. The first and second buildings within a CSA were identified as "a" and "b," respectively.

Composite Samples

Each composite sample was labeled with a unique alphanumeric sample identification number that identifies characteristics of the sample as follows:

Project consists of characters describing the project ("DAS" for Diagonal Avenue S).

Composite area ID consists of alpha-numeric characters identifying the sample location ("CA01" to "CA17" for Composite Area 01 through 17).

Matrix consists of one or two characters indicating the sample type where "P" = paint chip composite and "C" = caulk composite.

Sample number consists of sequential numeric characters identifying the sample number within the composite area of that matrix (1 through 3).

Additionally, field duplicate samples are designated with "D."

<u>*For example:*</u>

DAS-CA01-C1 is the first caulk composite sample collected from CSA 01 within the Diagonal Avenue S drainage basin.

DAS-CA15-P3D is the field duplicate sample for the third paint chip composite sample collected from CSA 15 within the Diagonal Avenue S drainage basin.

Photograph 2. Example of Caulk Repair Area

Photograph 3. Example of Peeling Paint Near Storm Drain

Discrete Samples

Each discrete sample had the same sample ID described above for composite samples with the addition of sequential numbers from "-1" through "-4." The "a" buildings received the "-1" and "-2" while the "b" buildings received the "-3" and "-4."

For example:

DAS-CA01-C1-3 is the third discrete sample in the first caulk composite sample collected from CSA 01 within the Diagonal Avenue S drainage basin.

DAS-CA15-P3-2 is the second discrete paint sample for the third paint chip composite sample collected from CSA 15 within the Diagonal Avenue S drainage basin.

3.2.4 Field Deviations to the SAP/QAPP

All sample collection procedures were performed in accordance with the SAP/QAPP with the exceptions listed below. As stated in the sampling plan, three paint and three caulk composite samples would be collected from each composite sampling area, and each composite sample would consist of approximately equal volumes of four discrete samples, two from the first building "a" and two from the second building "b." However, based on the pre-sampling evaluation (discussed in Section 3.2.1), the numbers of samples were adjusted based on property owner interviews and close inspection of the paint and caulk. The specific field deviations were:

- Only one paint composite sample was collected in CSAs 6 and 7 because only one relevant paint type was identified.
- Only two paint composite samples were collected in CSAs 8 and 14 because only two relevant paint types were identified.
- No paint samples were collected at CSA 15 because no relevant paint types were identified.
- Only one caulk composite sample was collected in CSAs 1 and 4 because only one relevant caulk type was identified.
- No caulk samples were collected in CSAs 6, 7, 8, 14, and 16 because no relevant caulk types were identified.
- No caulk was found on the buildings in CSA 2b or 11a, so the caulk from CSA 2a was combined with the caulk from CSA 11b and the composite sample identified as DAS-CA17-C1.
- No caulk was found at the building at CSA 9a, so the caulk from CSA 9b was combined with the caulk from CSA 15. Consequently, the composite sample DAS-CA15-C1 was composed of 6 discrete caulk samples.
- During the examination of the building at CSA 13b, the residential property owner told the Field Manager that the building had been recently remodeled. Consequently, no samples were analyzed at CSA 13. The discrete paint samples collected from CSA 13a were composited with the discrete samples from building 9b and identified as samples DAS-CA09-P1, DAS-CA09-P2, and DAS-CA09-P3. The discrete caulk samples from building 13a were composited with the discrete caulk samples from CSA 15b and identified as DAS-CA15-C1.
- The paint composite sample collected from CSA 3 was not analyzed for metals because insufficient volume was collected for analysis.

- Insufficient sample volume was initially provided to the laboratory for a few composite paint samples. However, the remaining volume of the discrete samples was stored at SAIC in labeled, ziplock bags and was subsequently delivered to ARI. The extra discrete sample volumes were then added to the associated composite sample and the composite samples were re-homogenized by ARI staff prior to analysis.

3.3 Chemical Analysis

All analyses were performed by ARI in accordance with Ecology guidelines as outlined in the SAP/QAPP (SAIC 2011). The analytical methods, target reporting limits (RLs), accuracy limits, and precision limits are provided in Table 7.

3.3.1 Analytical Deviations from the SAP/QAPP

The target reporting limit (RL) of 0.8 mg/kg for total PCBs was not achieved for several samples because of chromatographic interferences caused by the sample matrix. The laboratory performed extra cleanup steps on the sample extracts and modified analytical procedures as best as reasonably achievable to obtain the lowest RLs possible. The actual RLs are shown in Table 8.

4.0 Summary of Results

This section presents a summary of the analytical results and compares the results to the representative building types.

4.1 Paint Composite PCB Samples

As shown in Table 6, a total of 38 paint composite samples were analyzed at 14 CSAs for PCBs. The results of the paint composite PCB samples for each Aroclor are presented in Table 8.

PCBs were detected in 15 out of the 38 composite samples (approximately 39 percent). Aroclor 1254 was detected up to 61 mg/kg while Aroclor 1260 was detected up to 46 mg/kg. Only one composite sample (DAS-CA09-P2) was detected above the Toxic Substances Control Act (TSCA) regulatory level for PCB-contaminated building materials of 50 mg/kg as defined in 40 CFR 761. At these concentrations, the building materials must be disposed of in a TSCA-permitted landfill as “PCB Bulk Product Wastes” (as defined in 40 CFR 761.3 and 761.62) when removed. Based on the composite results at DAS-CA05-P2 (29 mg/kg), DAS-CA05-P3 (32 mg/kg), DAS-CA07-P1 (34 mg/kg), and DAS-CA11-P3 (46 mg/kg), it is likely that one or more discrete paint samples from these locations also exceed 50 mg/kg. As shown in Table 4, these five composite samples are from 1950s industrial buildings, 1950s commercial buildings, and 1960s industrial buildings at CSAs 5, 7, 9, and 11.

Paint sampling results were evaluated to assess whether there is a relationship between the PCB concentration, the paint color, and the condition of the paint. Table 9 shows the PCB concentration of each composite sample compared to its paint color(s) and the condition of the paint (i.e., good, moderate, or poor). The color and condition of each individual discrete paint sample is listed in Appendix C. As shown in Table 9, it is difficult to correlate the PCB concentration with paint color and condition due to the use of a composite sampling methodology, and the limited number of samples. The composite paint sample with the highest PCB concentration (61 mg/kg at DAS-CA09-P2) contains both blue and beige discrete samples. However, other blue and beige paint samples did not contain detectable concentrations of PCBs. Similarly, most of the composite samples contained discrete samples in both moderate and good condition. Only one sample (DAS-CA12-P1 with 2.1 mg/kg of PCBs) contained discrete samples in all “poor” condition. However, other paint samples with better paint condition (i.e., moderate/good) contained higher concentrations of PCBs. In general, all composite samples composed of only “good” discrete samples (i.e., DAS-CA01-P2, DAS-CA01-P3, DAS-CA03-P1, DAS-CA03-P2, DAS-CA03-P3, DAS-CA04-P3, and DAS-CA05-P1) did not contain detectable concentrations of PCBs; this may indicate that the buildings were repainted after 1978.

Based on the composite sample results, the average PCB concentration in paint for each building type within the Diagonal Avenue S storm drain basin was estimated. For non-detects, one-half of the RL was used in the calculation. The estimated PCB concentration in paint for the 1940s, 1950s, 1960s, and 1970s buildings are shown in Table 10. As shown in this table, the 1950s industrial buildings have the highest average PCB concentration of 20.7 mg/kg. The lowest estimated PCB concentration is from the 1940s industrial buildings (no PCBs detected), which is consistent with the fact that PCBs did not enter wide commercial use until 1950. As expected, the use of PCBs as paint additives decreased during the 1970s as the public became more aware of the PCB health hazards. Also, the use of PCB-containing paints in commercial and residential buildings was less than in industrial buildings from the same decade, which is as expected due to the more expensive PCB additives used in the paints.

4.2 Caulk Composite PCB Samples

As shown in Table 6, a total of 17 caulk composite samples were analyzed at 8 CSAs. The results of the caulk composite samples are presented in Table 11.

PCBs were detected in 8 out of the 17 samples (approximately 47 percent). Aroclor 1248 was detected up to 2.4 mg/kg, Aroclor 1254 was detected up to 920 mg/kg, and Aroclor 1260 was detected up to 1.1 mg/kg. Only one composite sample (DAS-CA15-C1 at 920 mg/kg) was detected over the TSCA regulatory level of 50 mg/kg. At this concentration, the surrounding porous concrete is most likely contaminated at greater than 50 mg/kg In addition, based on the composite results at DAS-CA03-C3 (20 mg/kg), it is likely that one or more caulk samples from CSA 3 also exceed 50 mg/kg. As shown in Table 4, these two composite caulk samples are from the 1960s and 1970s industrial buildings at CSA 3 and CSA 15.

Table 12 shows the total PCB concentration in each composite sample compared to its caulk color, the condition of the caulk, and the caulk location. The color and condition of each individual discrete caulk sample is listed in Appendix D. As shown in Table 12, it is difficult to correlate the PCB concentration with caulk color and condition due to the use of a composite sampling methodology, and the limited number of samples. Of the eight caulk samples with detected PCBs, five are from expansion joints, two are from door frames, and one is from a window frame. No PCBs were detected at the window glazing or the vent glazing.

Based on the composite sample results, the average PCB concentration in caulk for each building type within the Diagonal Avenue S storm drain basin was estimated. The estimated PCB concentrations in caulk for the 1940s, 1950s, 1960s, and 1970s buildings are shown in Table 13. As shown in this table, the 1960s industrial buildings have the highest average PCB caulk concentration of 78.5 mg/kg. The lowest estimated PCB concentration is from the 1940s industrial buildings (no PCBs detected), which is consistent with the fact that PCBs did not enter wide commercial use until 1950. As expected, the use of PCB-containing caulk peaked in the 1960s.

4.3 Paint Composite Metals Samples

As shown in Table 6, a total of 14 paint composite samples were analyzed at 13 CSAs. The results of the paint composite samples are presented in Table 14.

Typical for paint from this era, high concentrations of zinc (up to 56,200 mg/kg), lead (up to 14,200 mg/kg), and chromium (up to 3,570 mg/kg) were detected. Moderate amounts of copper (up to 1,380 mg/kg) and mercury (up to 50 mg/kg) were detected. Concentrations of cadmium (up to 21.7 mg/kg), arsenic (up to 9 mg/kg), and silver (up to 3.8 mg/kg) were detected. The concentrations of lead, chromium, and mercury at 6 of the 13 CSAs (i.e., CSAs 2, 4, 7, 9, 11, and 12) were high enough that the paint-coated building materials may require disposal in a Resource Conservation and Recovery Act (RCRA)-permitted landfill when they are removed. In comparison, modern water-based exterior paint contains an average of 9.14 mg/kg of copper, 1,660 mg/kg of zinc, and non-detectable concentrations of cadmium, chromium, mercury, and silver (Huang et al. 2009).

Based on the composite sample results, the average metals concentrations in paint for each building type within the Diagonal Avenue S storm drain basin were estimated. The estimated metals concentrations in paint for the 1940s, 1950s, 1960s, and 1970s buildings are shown in Table 15. As shown in this table, the 1960s industrial buildings had the highest concentrations of copper, mercury, and zinc while the 1950s commercial buildings had the highest concentrations of chromium, lead, and silver. In addition, the 1950s industrial buildings had the highest concentrations of arsenic while the 1970s industrial buildings had the highest concentration of cadmium. This wide diversity of metals would be expected due to the variety of paint formulations used over this 40-year period.

4.4 QA/QC Samples

Duplicate paint PCB samples were collected at DAS-CA05-P3D and DAS-CA10-P1D, and duplicate caulk PCB samples were collected at DAS-CA10-C1D. In addition, duplicate paint metals sample were collected at DAS-CA10-P1D. All field duplicate results were within the project acceptance limit of 50% relative percent difference (RPD) for PCBs. The RPD for all metals was within the project acceptance limits of 35 percent with the exception of cadmium, chromium, and zinc.

No PCBs or metals were detected in the rinse blank sample. This shows that the sampling equipment used did not introduce any outside contaminants to the paint and caulk samples.

4.5 Data Validation

A Stage 2A data validation was performed by SAIC on all analytical results in accordance with U.S. Environmental Protection Agency (EPA) guidelines (EPA 1994, 2008, 2009, 2010b). No data were rejected or qualified as a result of the data validation. The data validation report is presented in Appendix G.

5.0 Comparison to Storm Drain Solids Data

One objective of this study was to compare the PCB and metals concentrations measured in paint and caulk to concentrations in nearby storm drain structures, as listed in *Seattle Public Utilities Source Control Program for the Lower Duwamish Waterway, December 2010 Progress Report* (SPU 2010), to determine if a direct correlation could be made between the concentrations in the paint and/or caulk and the storm drains. Storm drain sampling locations in the Diagonal Avenue S storm drain basin are shown in Figure 5. The locations of the storm drains near paint and caulk sampling locations, and PCB analytical results, are shown on the Sampling Maps in Appendix B.

Several factors made it impossible to achieve this objective:

- The sample size was limited; access agreements were obtained for 31 properties, which were combined into a total of 15 composite sample areas.
- Samples that made up each composite area were selected to represent similar building age, paint and caulk condition, and paint color.

Because of the limited sample size, and because of the need to collect representative composite samples, the individual sampling locations that made up each composite area were not necessarily in close proximity. Individual samples in a composite area were from several thousand feet to up to 2 miles apart. Therefore, comparison of PCB concentrations in these composite sample results to nearby storm drain data would not provide meaningful information to assess a potential correlation.

For the reasons described above for PCBs, metals data in building paint could not be directly compared to storm drain solids concentrations. In addition, other sources of toxic metals (e.g., from brake wear, tire wear, oil leaks, and vehicle exhaust) that discharge into the storm drains make evaluation of the contribution from building materials difficult.

6.0 Estimated Total Mass of PCBs and Metals in Building Paint

Based on the results of a limited number of composite paint samples, as described in Section 5.0, a rough, order-of-magnitude calculation of the total mass of PCBs and metals in building paint in the Diagonal Avenue storm drain basin was developed. This is analogous to the calculations performed by Diamond et al. 2010 for caulk sealant materials in Toronto.

The total area of painted surfaces on buildings constructed between 1950 and 1978 was estimated based on the following estimates and assumptions:

- 2,286 buildings within the Diagonal Avenue S storm drain basin were built between 1950 and 1978, based on data from the King County Recorder's Office.
- Approximately 28.6 percent of buildings in the Diagonal Avenue S basin are classified as "industrial."
- The average PCB paint concentration in the industrial buildings is 20.7 mg/kg (based on the average measured total PCB concentration in 1950s industrial buildings from Table 10).
- The average exterior painted surface area on each industrial building (based on SAIC's pre-sampling visual survey) is approximately 8,000 square feet.
- One gallon of PCB-containing paint was used to coat every 250 square feet of painted surface (on average).
- Each gallon of paint weighed approximately 10 pounds and was composed of approximately 5.67 pounds of volatile organics and 4.33 pounds of solids (including the PCB additives).
- The number of industrial buildings in the Diagonal Avenue S drainage basin = 2,286 buildings x 28.6% = 654 industrial buildings.
- The total painted surface with PCB-containing paint = 654 buildings x 8,000 square feet/building = 5,232,000 square feet of painted surface.
- The number of gallons of PCB-additive paint used = 5,232,000 square feet / 250 square feet = 20,928 gallons of PCB additive paint.
- Mass of solids in paint used = 20,928 gallons x 4.33 lb/gallon = 90,618 pounds of PCB-containing paint = 41,104 kg of PCB-containing paint.
- Mass of PCBs on the industrial buildings in the Diagonal Avenue S storm drain basin = 41,104 kg x 20.65 mg/kg = 850,853 mg = 850 g PCBs.

Similar calculations were performed for metals in building paint, using the concentrations highlighted in Table 15; results are shown below.

Contaminant	Estimated Mass of Chemical in Building Paint in the Diagonal Avenue S Storm Drain Basin (kg)
PCBs	0.85
Arsenic	0.39
Cadmium	0.53
Chromium	48.5
Copper	15.1
Lead	295
Mercury	1.3
Silver	0.095
Zinc	677

The mass of caulk on the buildings is relatively small compared to the paint coverage. The typical building will have 95 percent of the relevant surface area coated with PCB-containing paint compared to 5 percent with PCB-containing caulks. In addition, the condition of the caulk observed by the sampling team was generally better than the paint. For these reasons, no further calculations were performed for caulk.

7.0 Summary and Recommendations

Paint and caulk samples were collected at 31 properties within the Diagonal Avenue S storm drain basin to evaluate the potential contribution of building materials to the PCBs and heavy metals found in the LDW sediments. The study concluded that the paints in the 1950s industrial, 1950s commercial, 1960s industrial, and 1970s industrial buildings contain relatively high concentrations of PCBs and metals.

Letters requesting permission for property access were sent to 92 property owners; of these, approximately 35 percent agreed to provide access to Ecology sampling teams for this study. Samples were collected from buildings at 31 properties, divided into 15 composite sample areas. From one to three composite samples of paint and/or caulk were collected from each composite area.

PCBs were detected in 15 of 38 (39 percent) of building paint composite samples, with detected concentrations from 0.85 to 61 mg/kg. PCBs were detected in 8 of 17 (47 percent) of building caulk samples, with detected concentrations from 3.0 to 920 mg/kg. High concentrations of chromium (up to 3,870 mg/kg), copper (up to 1,380 mg/kg), lead (up to 14,200 mg/kg), mercury (up to 50 mg/kg), and zinc (up to 56,200 mg/kg) were also detected in building paint.

Composite samples were collected at multiple buildings in order to protect the identity of the property owners. However, the composite samples limited the study in that the discrete samples could not be correlated directly to nearby storm drain solids concentrations, and direct comparisons between paint color/condition and PCB and metals concentrations could not be made.

Therefore, in order to improve the data collected during this study, the following recommendations are provided:

- Due to the difficulty in gaining access agreements with property owners, only 15 composite areas were sampled. Additional samples are needed to increase confidence in the results.
- If property access can be obtained, discrete paint, building caulk, and corresponding onsite or downstream storm drain solids samples would allow evaluation of the correlation between building material and storm drain concentrations, if any.
- Collection of samples from buildings constructed between 1978 and 1988 would allow assessment of the potential use of PCBs in building materials after the PCB ban. At least 11 different properties will provide a 90 percent confidence level in the data.
- Collection of building material samples from outside the Diagonal Avenue S storm drain basin is needed to determine whether the results and conclusions from this study may be applied to all of the buildings in the LDW basin.

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Figures

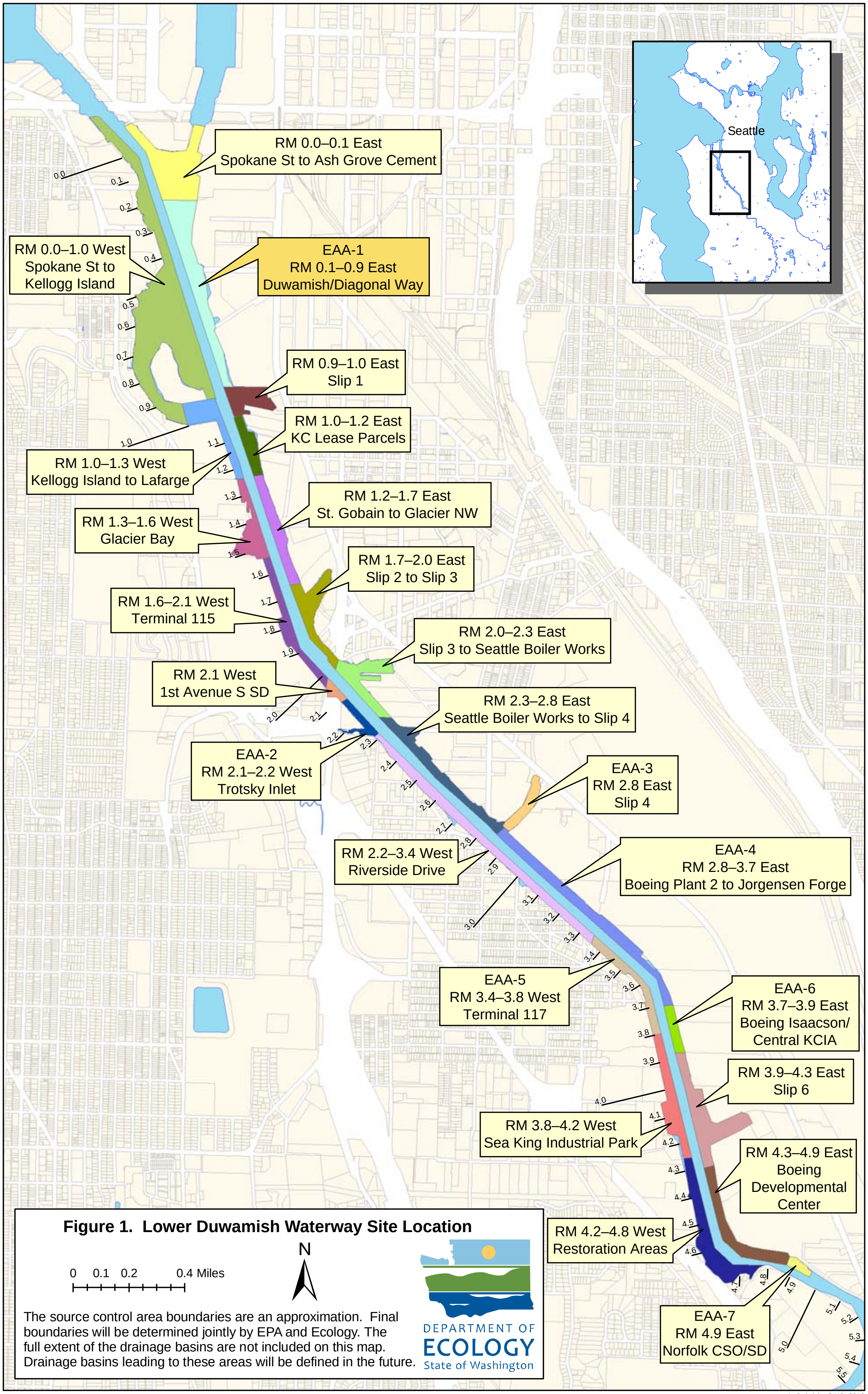

Figure 1. Lower Duwamish Waterway Site Location

The source control area boundaries are an approximation. Final boundaries will be determined jointly by EPA and Ecology. The full extent of the drainage basins are not included on this map. Drainage basins leading to these areas will be defined in the future.

L. Delwiche SAIC, 2010

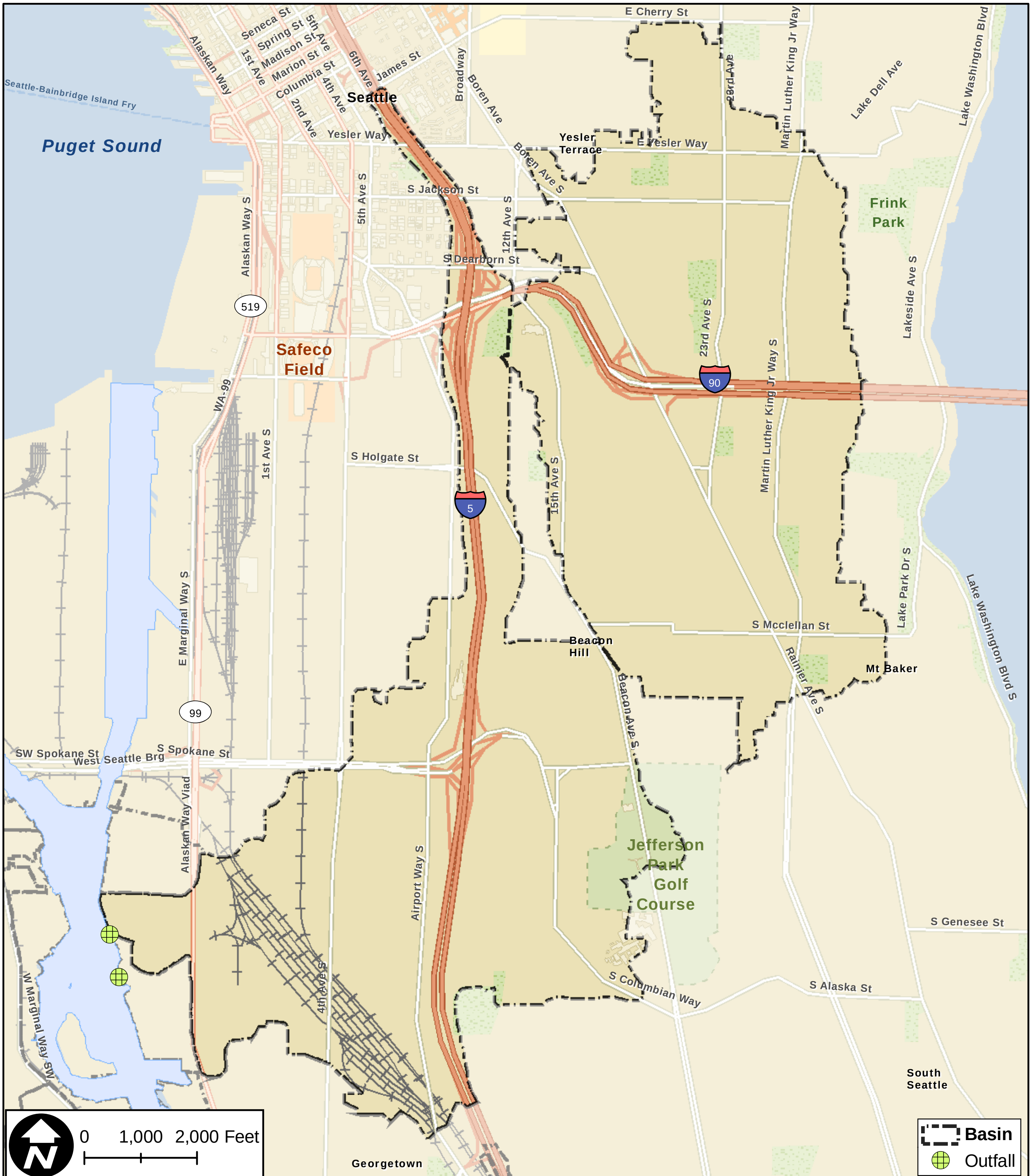

Figure 2. Diagonal Avenue S Storm Drain Basin

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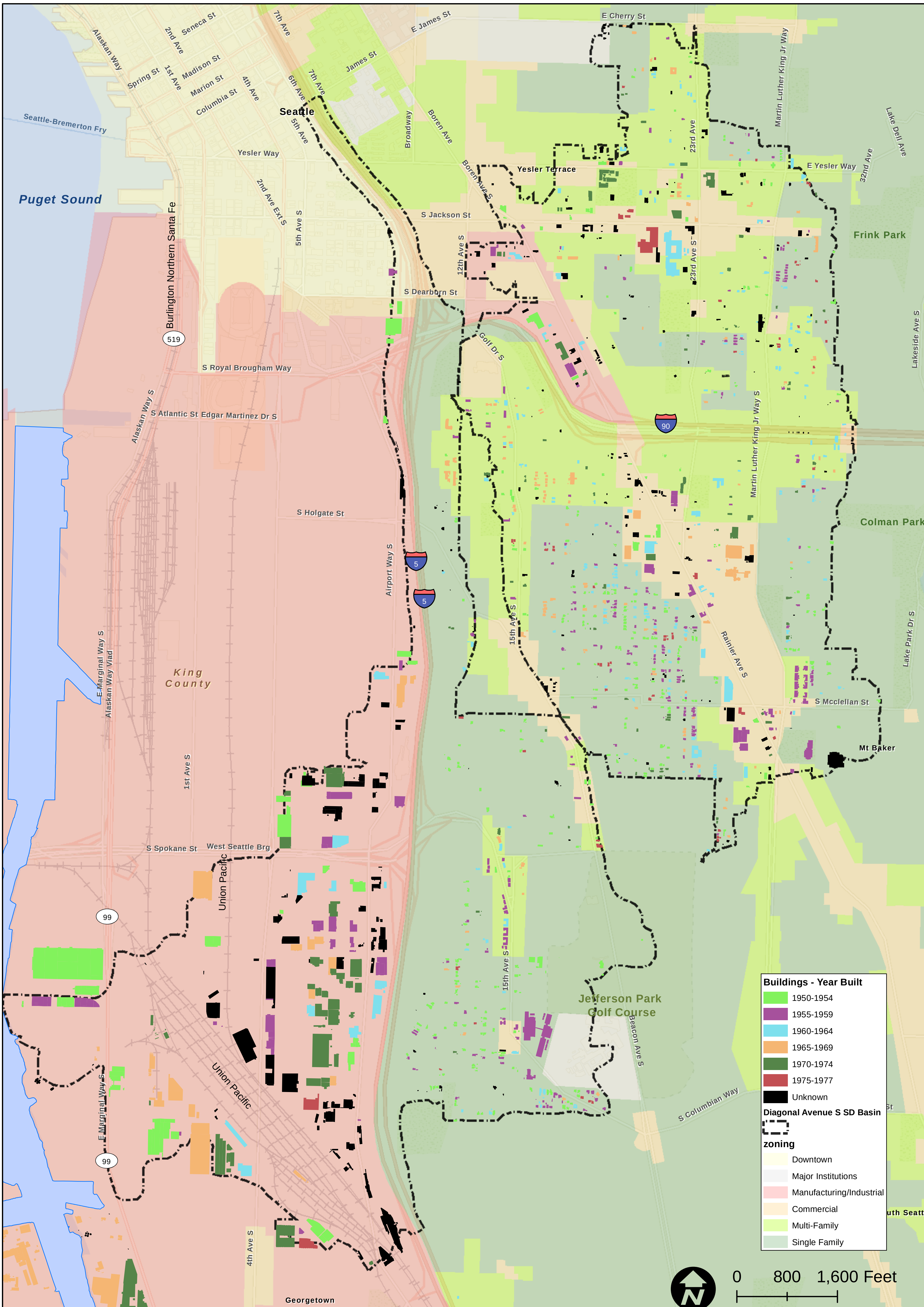

Figure 3. Buildings Constructed Between 1950 and 1977, Diagonal Avenue S Storm Drain Basin

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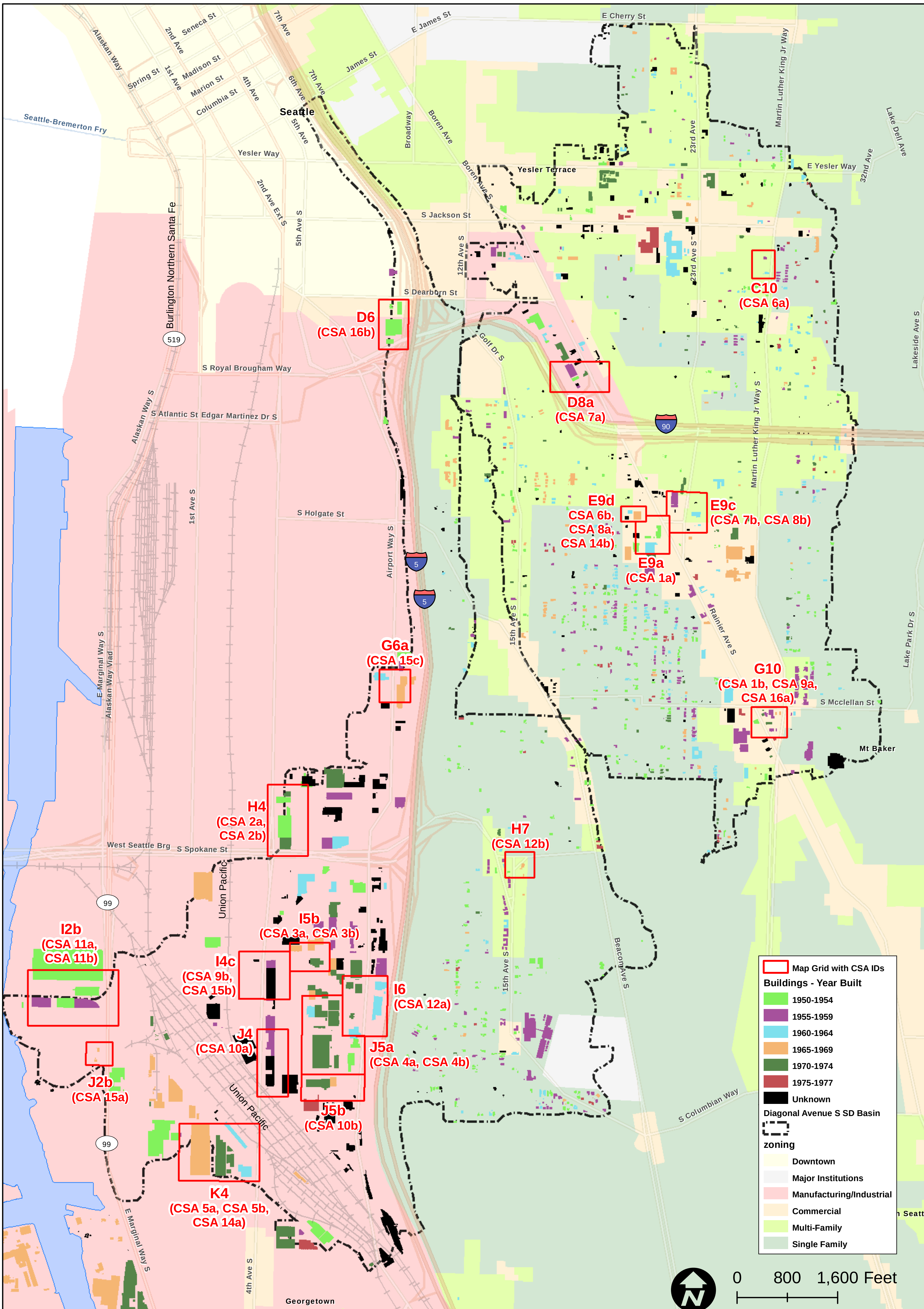

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Figure 4. Sample Map and Composite Sample Area Locations

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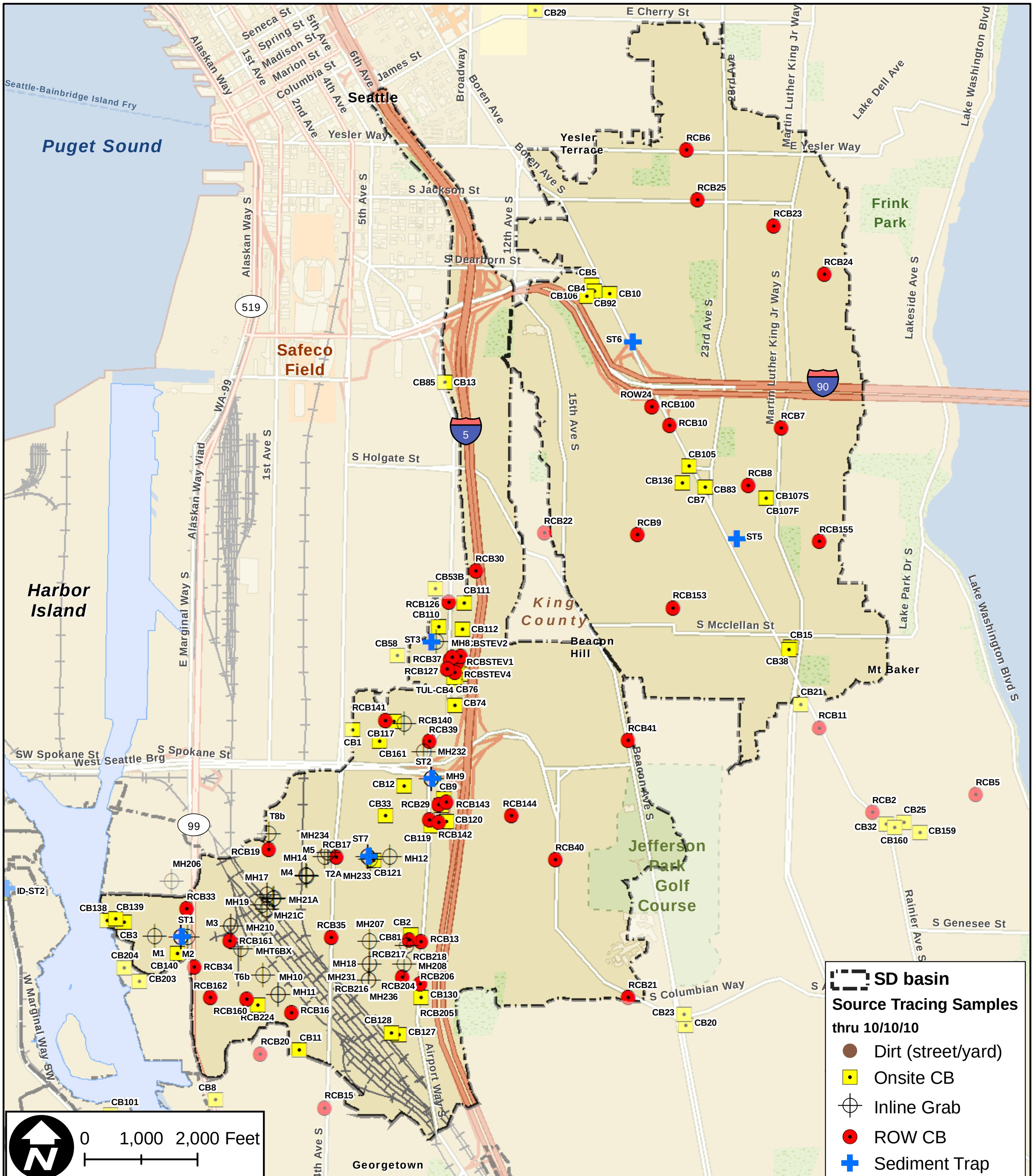

Figure 5. Source Tracing Sample Locations in the Diagonal Avenue S Storm Drain Basin

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Tables

Table 1. Contacts for PCB Historical Research

Name	Association	Date	Notes
John Herrick	Harvard University	3/9/11	Researcher who has written on the PCBs in schools issue; No response.
Marianne Milette	EPA Region 1, Enforcement	3/22/11	Sent follow up on 4/12/11; Ms. Milette responded indicating she was forwarding my message to Ms. Tisa, the expert on caulk in the region.
Kimberly Tisa	EPA Region 1, Regional PCB Coordinator	3/22/11	Sent follow up on 4/12/11. Ms. Tisa emailed on 4/13/11 and stated “I have heard that caulks or PCB supplies that may have already been produced before the ban may have been used in post-1979 construction. I haven’t seen anything in this region yet to support that.” She directed me to contact John Smith at EPA-HQ (202-566-0512). [Due to lateness of reply, Mr. Smith was not contacted.]
Daniel Kraft	EPA Region 2, PCB Use	3/22/11	Email bounced back undeliverable; by phone Mr. Haklar indicated that Mr. Kraft is no longer in that position.
Ann Finnegan	EPA Region 2, Enforcement	3/22/11	Ms. Finnegan spoke to Mr. Haklar, who indicated he would contact me.
Daniel Duncan	EPA Region 10, Regional PCB Coordinator	3/10/11, 3/11/11	Mr. Duncan sent a PCB fact sheet plus the Erickson & Kaley 2011 paper; he did not respond to request for clarification of PCB uses in paints/caulks after the ban.
Russell Lagueux	EnviroSense Inc.	3/9/11	Mr. Lagueux wrote an article about the potential for older condominium buildings to contain PCB materials; he was surprised to hear of a building from 1989 with PCBs in caulk and is unaware of documentation or tracking of PCB materials already stocked in inventories at the time of the ban. He suspects documentation may not exist due to impossibility of tracking all PCB-containing products already in distribution – this could be why the ban only addressed continued manufacture of PCB products (SAIC Note - distribution was also banned). Mr. Lagueux’s “rule of thumb” he had heard was that construction or renovations after the early 1980s would not likely be suspect.
Miriam Diamond	University of Toronto, professor	3/10/11	Discussed Ms. Diamond’s research in Toronto; she suggested contacting the graduate student working on her study, Lisa Melymuk. She was surprised to hear of a building from 1989 with PCBs in caulk; indicated the Canadian ban in the late 1970s was for new production and did not specify destruction of existing PCB materials.
Lisa Melymuk	University of Toronto, graduate student	3/10/11	Phone number did not work, email not returned.

Table 1. Contacts for PCB Historical Research (continued)

Name	Association	Date	Notes
James Haklar	EPA Region 2, Regional PCB Coordinator	3/22/11	Talked to Mr. Haklar on 3/24/11. He is the EPA Region 2 PCB coordinator and has been with EPA for 26 years and TSCA for 5; he is unaware of any inventory or list of what happened to the PCB paints/caulks after the ban. In his discussions with a contractor who used to apply PCB-caulk in the northeast, he learned that the contractors received the PCBs and caulk separately and had to mix them before application; his understanding is that the two materials would be mixed before application. Mr. Haklar was surprised by the PCBs found in caulk from a 1989/1990 building and asked if it is possible the building was just renovated at that time or if an addition was added at that time; I informed him that when Ecology asked the same thing they were told the building was constructed around 1989/1990. Mr. Haklar also noted that the PCB levels (max ~1,000 ppm) were actually low for PCB amended caulk. Regarding the 1950–1980 date that EPA says buildings should be checked for PCB materials, Mr. Haklar said that when he worked with Headquarters on the development of PCB guidance, they added a couple of years post-ban in case someone had an inventory and was still using up their supply. EPA has not focused on buildings constructed post 1980 and PCBs in post 1980 construction has not been an issue in EPA Region 2.

Table 2. Documents Reviewed for Historical PCB Usage

Document Source	Year Published	Document Title
Commission for Environmental Cooperation	1996	Status of PCB management in North America
U.S. Environmental Protection Agency	1983	The PCB regulations under TSCA: Over 100 questions and answers to help you meet these requirements
U.S. Environmental Protection Agency	1994	PCB Q & A Manual. 1994 edition
U.S. Environmental Protection Agency	2009	Revisions to the PCB Q&A Manual
Erickson, MD	1997	Analytical Chemistry of PCBs, Second Edition
Erickson, MD and RG Kaley	1997	Applications of polychlorinated biphenyls. *Environmental Science and Pollution Research.* 18(2): 135-151
Erickson, M.D., and R.G. Kaley. Herrick, R.F., M.D. McClean, J.D. Meeker, L.K. Baxter, and G.A. Weymouth	2004	An Unrecognized Source of PCB Contamination in Schools and Other Buildings. *Environmental Health Perspectives.* 112: 1051-1053
Hu, D., and K.C. Hornbuckle	2009	Inadvertent polychlorinated biphenyls in commercial paint pigments. *Environmental Science & Technology (Articles ASAP) published online December 3, 2009.* (In print version 2010, Vol 44(8):2822-2827)
Lippman, TW	1998	Russian PCBs complicate toxics treaty. *The Washington Post*, May 26, 1998 (Accessed March 17, 2011)
Lowry, NJ	2008	Polychlorinated biphenyl compliance issues in the 21st century: Poorly recognized and potentially devastating. Presented at Waste Management Conference and Exhibition. WM Symposia, Inc.: February 24-28, 2008, Phoenix, AZ
PR Newswire	1984	EPA charges Magruder Color Co. in polychlorinated biphenyls case
Robson, M., M.L. Diamond, L. Melymuk, S.A. Csiszar, A. Giang, and P.A. Helm	1984	Continuing sources of PCBs: The significance of building sealants. *Environment International.* 36(6): 506-513

Table 3. List of Sample Maps and Composite Sample Areas

Sample Map Number	Composite Sample Area
C10	CSA 6a
D6	CSA 16b
D8a	CSA 7a
E9a	CSA 1a
E9c	CSA 7b, CSA 8b
E9d	CSA 6b, CSA 8a, CSA 14b
G6a	CSA 15c
G10	CSA 1b, CSA 9a, CSA 16a
H4	CSA 2a, CSA 2b
H7	CSA 12b
I2b	CSA 11a, CSA 11b
I4c	CSA 9b, CSA 15b
I5b	CSA 3a, CSA 3b
I6	CSA 12a
J2b	CSA 15a
J4	CSA 10a
J5a	CSA 4a, CSA 4b
J5b	CSA 10b
K4	CSA 5a, CSA 5b, CSA 14a

Note: Individual sample maps are provided in Appendix B.

Table 4. Paint and Caulk Samples Collected at Each Composite Sample Area

Composite Sample Area	Composite Sample Area Subnumber	Paint Samples	Caulk Samples	Map ID	Year	Representative Building Type
1	1a	P1, P2, P3	C1	E9a	1950	1940s industrial
	1b			G10	1942	
2	2a	P1, P2, P3	No caulk was found at CSA2b, so the caulk from CSA2a was combined with the caulk from CSA11b and sampled as DAS-CA17-C1	H4	1974	1970s industrial
	2b			H4	1972	
3	3a	P1, P2, P3	C1, C2, C3	I5b	1969	1970s industrial
	3b			I5b	1970	
4	4a	P1, P2, P3	C1	J5a	1961	1960s industrial
	4b			J5a	1970	
5	5a	P1, P2, P3, P3D	C1, C2, C3	K4	1960	1960s industrial
	5b			K4	1964	
6	6a	P1	No caulk	C10	1960	1960s residential
	6b			E9d	1961	
7	7a	P1	No caulk	D8a	1955	1950s industrial
	7b			E9c	1956	
8	8a	P1, P2	No caulk	E9d	1969	1960s commercial
	8b			E9c	1963	
9	9a	P1, P2, P3	No caulk	G10	1965	1950s commercial
	9b			I4c	1956	
10	10a	P1, P1D, P2, P3	C1, C1D, C2, C3	J4	1967	1960s industrial
	10b			J5b	1969	
11	11a	P1, P2, P3	No caulk was found at CSA11a, so the caulk from CSA11b was combined with the caulk from CSA2a and sampled as DAS-CA17-C1	I2b	1952	1950s industrial
	11b			I2b	1953	

Table 4. Paint and Caulk Samples Collected at Each Composite Sample Area (continued)

Composite Sample Area	Composite Sample Area Subnumber	Paint Samples	Caulk Samples	Map ID	Year	Representative Building Type
12	12a	P1, P2, P3	C1, C2, C3, C3D	I6	1962	1960s industrial
	12b			H7	1965	
13	CSA 13 deleted (CSA 13b was eliminated and CSA 13a was sampled as CSA 15c)	NA	NA	I7	1950	1950s residential
14	14a	P1, P2	No caulk	K4	1973	1970s industrial
	14b			E9d	1978	
15	15a	No paint	C1	J2b	1969	1960s industrial
	15b			I4c	1956	
	15c			G6a	1966	
16	16a	P1, P2, P3	No caulk	G10	1955	1950s commercial
	16b			D6	1950	

Table 5. Representative Building Types for Each Composite Sample Area

Decade	Type	Composite Sample Areas
1940s	Industrial	CSA 1
1950s	Industrial	CSA7, CSA 11
	Commercial	CSA 9, CSA 16
	Residential	CSA 13
1960s	Industrial	CSA 4, CSA 5, CSA 10, CSA 12, CSA 15
	Commercial	CSA 8
	Residential	CSA 6
1970s	Industrial	CSA 2, CSA 3, CSA 14

Table 6. Number of Paint and Caulk Composite Samples Collected and Analyzed

Matrix - Analysis	# of Composite Sampling Areas	# of Composite Samples	# of Field Duplicate Samples	Total # of Composite Samples
Paint – PCBs	14	36	2	38
Paint – Metals	13	13	1	14
Caulk – PCB	8	16	1	17

Table 7. Parameter, Preparation Method, Analytical Method, and Target RL for Analytes

Analyte	Prep Method[1]	Analytical Method[1]	Target RL mg/kg[2]	Accuracy Limits	Precision Limits
Metals					
Arsenic	EPA 3050B	EPA 6010B	5.0	80-120%	35%
Cadmium	EPA 3050B	EPA 6010B	0.2	80-120%	35%
Chromium	EPA 3050B	EPA 6010B	0.5	80-120%	35%
Copper	EPA 3050B	EPA 6010B	0.2	80-120%	35%
Lead	EPA 3050B	EPA 6010B	2.0	80-120%	35%
Mercury	EPA 7471A	EPA 7471A	0.5	80-120%	35%
Silver	EPA 3050B	EPA 6010B	0.3	80-120%	35%
Zinc	EPA 3050B	EPA 6010B	1.0	80-120%	35%
PCB Aroclors					
Total PCBs	EPA 3580A/3550B	EPA 8082	0.8 – 10	laboratory control limits[3]	50%

Notes:
1. Sample preparation and analytical methods are from SW-846 (EPA 1986 and updates).
2. Actual reporting limits shown in Section 3 varied based on the sample volumes used for analysis, dilution factors, and matrix interferences. Paint and caulk results were reported “as received” assuming 100% solids.
3. The QC limits used to evaluate the accuracy of the PCB analyses were provided by the laboratory using performance-based control charted results.

Table 8. PCB Results for Paint Composite Samples (mg/kg)

Sample	Aroclor 1016	Aroclor 1221	Aroclor 1232	Aroclor 1242	Aroclor 1248	Aroclor 1254	Aroclor 1260	Total PCBs
DAS-CA01-P1	0.75 U	0.75 U	0.75 U	0.75 U	0.75 U	0.75 U	0.75 U	0.75 U
DAS-CA01-P2	0.76 U	0.76 U	0.76 U	0.76 U	0.76 U	0.76 U	0.76 U	0.76 U
DAS-CA01-P3	0.76 U	0.76 U	0.76 U	0.76 U	0.76 U	0.76 U	0.76 U	0.76 U
DAS-CA02-P1	0.76 U	0.76 U	0.76 U	0.76 U	16 U	36 U	0.76 U	36 U
DAS-CA02-P2	1.8 U	1.8 U	1.8 U	1.8 U	1.8 U	1.8 U	1.8 U	1.8 U
DAS-CA02-P3	0.77 U	0.77 U	0.77 U	0.77 U	0.77 U	0.77 U	0.77 U	0.77 U
DAS-CA03-P1	0.95 U	0.95 U	0.95 U	0.95 U	0.95 U	0.95 U	3 U	3 U
DAS-CA03-P2	0.89 U	0.89 U	0.89 U	0.89 U	0.89 U	0.89 U	0.89 U	0.89 U
DAS-CA03-P3	1.8 U	1.8 U	1.8 U	1.8 U	1.8 U	1.8 U	1.8 U	1.8 U
DAS-CA04-P1	0.76 U	0.76 U	0.76 U	0.76 U	2.5 U	0.76 U	0.76 U	2.5 U
DAS-CA04-P2	0.77 U	0.77 U	0.77 U	0.77 U	0.77 U	0.77 U	0.77 U	0.77 U
DAS-CA04-P3	0.72 U	0.72 U	0.72 U	0.72 U	0.72 U	0.72 U	0.72 U	0.72 U
DAS-CA05-P1	0.93 U	0.93 U	0.93 U	0.93 U	0.93 U	0.93 U	0.93 U	0.93 U
DAS-CA05-P2	0.76 U	0.76 U	0.76 U	0.76 U	0.76 U	2.1 U	**29**	**29**
DAS-CA05-P3	0.77 U	0.77 U	0.77 U	0.77 U	0.77 U	1.8 U	**32**	**32**
DAS-CA05-P3D	0.75 U	0.75 U	0.75 U	0.75 U	0.75 U	1.7 U	**32**	**32**
DAS-CA06-P1	0.77 U	0.77 U	0.77 U	0.77 U	0.77 U	0.77 U	0.77 U	0.77 U
DAS-CA07-P1	1.5 U	1.5 U	1.5 U	1.5 U	3.1 U	**27**	**7**	**34**
DAS-CA08-P1	1.2 U	1.2 U	1.2 U	1.2 U	1.2 U	1.2 U	1.2 U	1.2 U
DAS-CA08-P2	0.8 U	0.8 U	0.8 U	0.8 U	0.8 U	0.8 U	0.8 U	0.8 U
DAS-CA09-P1	0.74 U	0.74 U	0.74 U	0.74 U	0.74 U	**3.1**	0.74 U	**3.1**
DAS-CA09-P2	1.5 U	1.5 U	1.5 U	1.5 U	1.5 U	**61**	15 U	**61**
DAS-CA09-P3	0.75 U	0.75 U	0.75 U	0.75 U	0.75 U	**2.9**	2 U	**2.9**
DAS-CA10-P1	1.3 U	1.3 U	1.3 U	1.3 U	1.3 U	**2.6**	1.3 U	**2.6**
DAS-CA10-P1D	0.8 U	0.8 U	0.8 U	0.8 U	0.8 U	**1.9**	0.8 U	**1.9**
DAS-CA10-P2	1.3 U	1.3 U	1.3 U	1.3 U	1.3 U	1.3 U	1.3 U	1.3 U
DAS-CA10-P3	0.93 U	0.93 U	0.93 U	0.93 U	0.93 U	0.93 U	**3.9**	**3.9**
DAS-CA11-P1	0.75 U	0.75 U	0.75 U	0.75 U	0.75 U	**1.1**	0.75 U	**1.1**
DAS-CA11-P2	0.77 U	0.77 U	0.77 U	0.77 U	0.77 U	**1.5**	0.77 U	**1.5**
DAS-CA11-P3	15 U	15 U	20 U	15 U	15 U	15 U	**46**	**46**

Table 8. PCB Results for Paint Composite Samples (mg/kg) (continued)

Sample	Aroclor 1016		Aroclor 1221		Aroclor 1232		Aroclor 1242		Aroclor 1248		Aroclor 1254		Aroclor 1260		Total PCBs	
DAS-CA12-P1	0.76	U	0.76	U	0.76	U	0.76	U	0.76	U	**2.1**		0.76	U	**2.1**	
DAS-CA12-P2	0.72	U	0.72	U	0.72	U	0.72	U	0.72	U	0.72	U	0.72	U	0.72	U
DAS-CA12-P3	0.77	U	0.77	U	0.77	U	0.77	U	0.77	U	**0.85**		0.77	U	**0.85**	
DAS-CA14-P1	0.74	U	0.74	U	0.74	U	0.74	U	0.74	U	0.74	U	0.74	U	0.74	U
DAS-CA14-P2	0.76	U	0.76	U	0.76	U	0.76	U	0.76	U	0.76	U	0.76	U	0.76	U
DAS-CA16-P1	0.76	U	0.76	U	0.76	U	0.76	U	0.76	U	0.76	U	0.76	U	0.76	U
DAS-CA16-P2	1.2	U	1.2	U	1.2	U	1.2	U	1.2	U	1.2	U	1.2	U	1.2	U
DAS-CA16-P3	0.74	U	0.74	U	0.74	U	0.74	U	0.74	U	0.74	U	0.74	U	0.74	U

U = not detected
PCB = polychlorinated biphenyl
Detections are shown in **bold**

Table 9. Comparison of PCB Results to Paint Color and Condition

Sample	Total PCBs (mg/kg)		Composite Paint Colors	Composite Paint Conditions	Representative Building Type
DAS-CA01-P1	0.75	U	light gray	good, some peeling	1940s industrial
DAS-CA01-P2	0.76	U	red	good	
DAS-CA01-P3	0.76	U	blue	good	
DAS-CA02-P1	36	U	dark beige and blue	good/moderate/poor	1970s industrial
DAS-CA02-P2	1.8	U	dark red and yellow	poor/moderate, some chipping	
DAS-CA02-P3	0.77	U	dark beige and dark green	good/poor	
DAS-CA03-P1	3	U	light gray and dark green	good	1970s industrial
DAS-CA03-P2	0.89	U	light gray and light beige	good	
DAS-CA03-P3	1.8	U	light gray and beige/green	good	
DAS-CA04-P1	2.5	U	dark olive and dark green	good/moderate/poor, some peeling	1960s industrial
DAS-CA04-P2	0.77	U	light beige and light gray	moderate	
DAS-CA04-P3	0.72	U	bright yellow	good	
DAS-CA05-P1	0.93	U	bright yellow and bright red	good, some chipping	1960s industrial
DAS-CA05-P2	**29**		dark brown	moderate, some peeling	
DAS-CA05-P3	**32**		light beige	moderate, some peeling	
DAS-CA05-P3D	**32**				
DAS-CA06-P1	0.77	U	purple and white	good/moderate	1960s residential
DAS-CA07-P1	**34**		dark beige and light gray	good/moderate	1950s industrial
DAS-CA08-P1	1.2	U	light beige and dark beige	good/moderate/poor	1960s commercial
DAS-CA08-P2	0.8	U	white and blue	good/moderate, some peeling	
DAS-CA09-P1	**3.1**		light beige and white	good/moderate	1950s commercial
DAS-CA09-P2	**61**		blue and beige	good/moderate, some chipping	
DAS-CA09-P3	**2.9**		dark brown and gray	good/moderate, some chipping	
DAS-CA10-P1	**2.6**		light beige and light blue	good/moderate, some chipping	1960s industrial
DAS-CA10-P1D	**1.9**				
DAS-CA10-P2	1.3	U	black and light red	good/moderate, some chipping	
DAS-CA10-P3	**3.9**		yellow and light blue	moderate/poor, some chipping	
DAS-CA11-P1	**1.1**		blue	good/moderate, some chipping	1950s industrial
DAS-CA11-P2	**1.5**		light beige and white	moderate/poor, some chipping	
DAS-CA11-P3	**46**		bright yellow	moderate/poor, some chipping	

Table 9. Comparison of PCB Results to Paint Color and Condition (continued)

Sample	Total PCBs		Composite Paint Colors	Composite Paint Conditions	Representative Building Type
DAS-CA12-P1	**2.1**		dark red and blue	poor, peeling	1960s industrial
DAS-CA12-P2	0.72	U	dark brown and green	moderate/good, some chipping	
DAS-CA12-P3	**0.85**		dark brown and green	good/poor, some chipping	
DAS-CA14-P1	0.74	U	bright red and light beige	moderate/poor, some peeling	1970s industrial
DAS-CA14-P2	0.76	U	light yellow and white	moderate/poor, some chipping	
DAS-CA16-P1	0.76	U	light tan and gray	moderate/good, some chipping	1950s commercial
DAS-CA16-P2	1.2	U	beige and yellow	good/moderate, some chipping	
DAS-CA16-P3	0.74	U	light beige/gray and white	moderate, some chipping	

U = not detected
PCB = polychlorinated biphenyl
Detections are shown in **bold**

Table 10. Summary of Paint PCB Results by Building Age and Type

Decade	Type	Composite Sample Areas	Average Estimated Paint PCB Conc'n for These Buildings
1940s	Industrial	CSA 1	0.38 mg/kg
1950s	Industrial	CSA7, CSA 11	20.7 mg/kg
	Commercial	CSA 9, CSA 16	11.4 mg/kg
1960s	Industrial	CSA 4, CSA 5, CSA 10, CSA 12	7.7 mg/kg
	Commercial	CSA 8	0.50 mg/kg
	Residential	CSA 6	0.39 mg/kg
1970s	Industrial	CSA 2, CSA 3, CSA 14	3.2 mg/kg

Table 11. PCB Results for Caulk Composite Samples (mg/kg)

Sample	Aroclor 1016		Aroclor 1221		Aroclor 1232		Aroclor 1242		Aroclor 1248		Aroclor 1254		Aroclor 1260		Total PCBs	
DAS-CA01-C1	0.74	U	0.74	U	0.74	U	0.74	U	0.74	U	0.74	U	0.74	U	0.74	U
DAS-CA03-C1	15	U	15	U	15	U	15	U	15	U	19	U	19	U	19	U
DAS-CA03-C2	15	U	15	U	15	U	15	U	23	U	31	U	19	U	31	U
DAS-CA03-C3	0.8	U	0.8	U	0.8	U	0.8	U	19	U	**20**		12	U	**20**	
DAS-CA04-C1	0.76	U	0.76	U	0.76	U	0.76	U	0.76	U	0.76	U	0.76	U	0.76	U
DAS-CA05-C1	0.76	U	0.76	U	0.76	U	0.76	U	1.3	U	**3.6**		0.76	U	**3.6**	
DAS-CA05-C2	0.76	U	0.76	U	0.76	U	0.76	U	0.76	U	**0.77**		0.76	U	**0.77**	
DAS-CA05-C3	0.77	U	0.77	U	0.77	U	0.77	U	1.9	U	**4.7**		**1.1**		**5.8**	
DAS-CA10-C1	0.74	U	0.74	U	0.74	U	0.74	U	**2.0**		**1.0**		0.74	U	**3.0**	
DAS-CA10-C1-D	0.76	U	0.76	U	0.76	U	0.76	U	**2.4**		**1.0**		0.76	U	**3.4**	
DAS-CA10-C2	0.76	U	0.76	U	0.76	U	1.7	U	0.76	U	0.76	U	0.76	U	1.7	U
DAS-CA10-C3	0.75	U	0.75	U	0.75	U	0.75	U	0.75	U	0.75	U	0.75	U	0.75	U
DAS-CA12-C1	0.72	U	0.72	U	0.72	U	0.72	U	1.2	U	0.72	U	0.72	U	1.2	U
DAS-CA12-C2	0.76	U	0.76	U	0.76	U	0.76	U	5.5	U	6.1	U	0.76	U	6.1	U
DAS-CA12-C3	0.75	U	0.75	U	0.75	U	0.75	U	0.75	U	0.75	U	0.75	U	0.75	U
DAS-CA15-C1	1.5	U	1.5	U	1.5	U	1.5	U	1.5	U	**920**		98	U	**920**	
DAS-CA17-C1	1.5	U	1.5	U	1.5	U	1.5	U	1.5	U	**3.0**		1.5	U	**3.0**	

U = not detected PCB = polychlorinated biphenyl Detections are shown in **bold**

Table 12. Comparison of PCB Results to Caulk Color, Condition, and Location

Sample	Total PCBs (mg/kg)		Composite Caulk Colors	Composite Caulk Conditions	Caulk Location	Representative Building Type
DAS-CA01-C1	0.74	U	tan and clear	moderate	door frame and expansion joint	1940s industrial
DAS-CA03-C1	19	U	gray and white	good, some peeling	expansion joint	1970s industrial
DAS-CA03-C2	31	U	gray and tan	good	window frame	1970s industrial
DAS-CA03-C3	**20**		gray and tan	moderate/good	door frame	1970s industrial
DAS-CA04-C1	0.76	U	gray and white	moderate/good	door frame	1960s industrial
DAS-CA05-C1	**3.6**		gray	moderate/good, some peeling	door frame	1960s industrial
DAS-CA05-C2	**0.77**		gray and tan	good	window frame	1960s industrial
DAS-CA05-C3	**5.8**		gray and tan	moderate/good	expansion joint	1960s industrial
DAS-CA10-C1	**3.0**		beige and tan	moderate/good	expansion joint	1960s industrial
DAS-CA10-C1-D	**3.4**		beige and tan	moderate/good	expansion joint	1960s industrial
DAS-CA10-C2	1.7	U	black and tan/blue	moderate/good	door frame	1960s industrial
DAS-CA10-C3	0.75	U	black and green/blue	good	window frame	1960s industrial
DAS-CA12-C1	1.2	U	white and gray/black	good	door frame	1960s industrial
DAS-CA12-C2	6.1	U	light brown and gray	moderate/good	vent	1960s industrial
DAS-CA12-C3	0.75	U	gray and white	good/poor, some chipping	window glazing	1960s industrial
DAS-CA15-C1	**920**		gray and white/green	moderate/good	expansion joint	1960s industrial
DAS-CA17-C1	**3.0**		gray	moderate	expansion joint	1950s industrial/1970s industrial

U = not detected
PCB = polychlorinated biphenyl
Detections are shown in **bold**

Table 13. Summary of Caulk PCB Results by Building Age and Type

Decade	Type	Composite Sample Areas	Average Estimated Caulk PCB Conc'n for These Buildings
1940s	Industrial	CSA 1	0.37 mg/kg
1950s	Industrial	CSA 11 (sampled as "DAS-CA17-C1")	1.5 mg/kg
1960s	Industrial	CSA 4, CSA 5, CSA 10, CSA 12, CSA 15	78.5 mg/kg
1970s	Industrial	CSA 3, CSA 2 (sampled as "DAS-CA17-C1")	12 mg/kg

Note: The commercial and residential buildings did not contain relevant caulk types.

Table 14. Metals Results for Paint Composite Samples (mg/kg)

Sample	Arsenic	Cadmium	Chromium	Copper	Lead	Mercury	Silver	Zinc
DAS-CA01-P1	5 U	**1.2**	**11.6**	**14.2**	**54**	**26.1**	**1.1**	**5310**
DAS-CA02-P1	9 U	**4.0**	**115**	**86.7**	**14200**	**3.4**	**0.6**	**5620**
DAS-CA04-P1	9 U	**1.1**	**3870**	**265**	**261**	**50**	0.5 U	**6720**
DAS-CA05-P2	50 U	**6.0**	**418**	**49**	**740**	**28**	3 U	**56200**
DAS-CA06-P1	5 U	**5.3**	**21.3**	**34.8**	**219**	**9.7**	0.3 U	**387**
DAS-CA07-P1	**9.0**	**1.2**	**45**	**19.2**	**1300**	**5.6**	**0.7**	**7000**
DAS-CA08-P1	10 U	**1.3**	**14**	**24.5**	**78**	**0.03**	0.6 U	**3560**
DAS-CA09-P1	9 U	**1.3**	**2140**	**41.8**	**13400**	**7.2**	**3.8**	**6450**
DAS-CA10-P1	10 U	**1.3**	**115**	**68.6**	**433**	**17.8**	0.6 U	**10800**
DAS-CA10-P1D	10 U	**0.9**	**167**	**76.3**	**575**	**18.2**	0.6 U	**5060**
DAS-CA11-P1	20 U	**2.0**	**257**	**218**	**11800**	**50**	1 U	**6900**
DAS-CA12-P1	**5.0**	**3.8**	**37.6**	**1380**	**324**	**44**	0.3 U	**3540**
DAS-CA14-P1	20 U	**21.7**	**31**	**63.4**	**98**	**4.02**	**3.0**	**2930**
DAS-CA16-P1	5 U	**1.4**	**217**	**19.8**	**944**	**33**	**0.8**	**5540**

U = not detected
Detections are shown in **bold**

Table 15. Summary of Paint Metals Results by Building Age and Type (mg/kg)

Decade	Type	Composite Sample Areas	Arsenic	Cadmium	Chromium	Copper	Lead	Mercury	Silver	Zinc
1940s	Industrial	CSA 1	0.25	1.2	11.6	14.2	54	26.1	1.1	5,310
1950s	Industrial	CSA7, CSA 11	9.5	1.6	151	119	6,550	27.8	0.60	6,950
	Commercial	CSA 9, CSA 16	3.5	1.4	1,179	30.7	7,172	20.1	2.3	5,995
1960s	Industrial	CSA 4, CSA 5, CSA 10, CSA 12	8.9	2.6	922	368	467	31.6	0.50	16,464
	Commercial	CSA 8	5.0	1.3	14	24.5	78	0.030	0.30	3.6
	Residential	CSA 6	2.5	5.3	21.3	34.8	219	9.7	0.15	387
1970s	Industrial	CSA 2, CSA 3, CSA 14	7.3	12.9	73	75.1	7,149	3.71	1.8	4,275

Note: Table shows average concentrations for each building age/type. The highest building age/type concentration for each analyte is highlighted.

Appendix A

Visual Building Survey Summary
February 9, 2011

Lower Duwamish Waterway

Survey of Potential PCB-Containing Building Material Sources

Visual Building Survey Summary

Prepared for

Toxics Cleanup Program
Northwest Regional Office
Washington State Department of Ecology
Bellevue, Washington

Prepared by

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Bothell, WA 98011

February 9, 2011

1.0 Introduction

The Lower Duwamish Waterway (LDW) is located south of Elliott Bay in Seattle, Washington. The LDW Superfund Site consists of 5.5 miles of the Duwamish Waterway as measured from the southern tip of Harbor Island to just south of the Norfolk Combined Sewer Overflow (CSO). As part of the Superfund cleanup, the Washington State Department of Ecology (Ecology) is leading efforts to control sources of sediment pollution, including polychlorinated biphenyls (PCBs), into the LDW. Source control is the process of finding and stopping or reducing releases of pollution to waterway sediments. The goal of source control is to stop ongoing sources and prevent sediments from becoming polluted again after clean up.

In many areas of the LDW, source tracing efforts and business inspections have not identified a specific source of PCBs. Although PCBs have been detected at high concentrations in paints and other building materials in the LDW drainage area, the contribution of PCBs from building materials (primarily paints and caulks) to the LDW sediments is not fully understood. Therefore, Science Applications International Corporation (SAIC) has been tasked to conduct a survey of PCBs in building paint and caulking materials in the LDW basin.

2.0 Technical Approach for Visual Survey

2.1 Drainage Area

Based on GIS shapefiles from King County, the LDW separated storm drainage area was estimated to encompass approximately 9,000 acres and 27,003 buildings. According to data from the King County Recorder's Office, 7,594 of these buildings were constructed between 1950 and 1977. Upon consultation with Ecology, SAIC selected the Diagonal Avenue S drainage basin as "representative" for the entire LDW drainage basin. The Diagonal Avenue S drainage basin covers 2,620 acres (approximately 4 miles by 1.5 miles) and contains a variety of industrial, commercial, and residential buildings. According to the County Recorder's Office data, a total of 2,286 buildings in the Diagonal Avenue S basin were constructed between 1950 and 1977.

Land uses and industries located in the Diagonal Avenue S drainage basin have included, among others: specialized metal products manufacturing, chemical distributors, warehouse and office space, metals electroplating, dry cleaners, heating oil sellers, auto repair shops, a landfill (now closed), a recycling transfer station, a steel foundry, and specialty plastics manufacturing.

The northern and southeastern portions of the drainage area are primarily residential, while the southwestern portion is primarily industrial. In addition, there are residential/commercial mixed use areas concentrated along major roads such as Rainier Avenue, Jackson Street, and Beacon Avenue. The current zoning breakdown for the 2,620-acre drainage area is:

- Single Family – 37.75%
- Manufacturing/Industrial – 28.59%
- Multi-Family – 21.30%
- Neighborhood/Commercial – 10.82%

- Major Institutions – 0.90%
- Downtown – 0.65%

2.2 Building Materials

The building materials observed during the visual survey included exterior paints and caulks. Although contaminants are likely present in other building materials, paints and caulks are believed to represent the major building material sources of PCBs.

2.3 Building Types

The visual survey was conducted on buildings constructed between 1950 and 1977 with a primary focus on industrial/manufacturing buildings because these buildings used the more expensive PCB additives in their paint and caulk. The secondary focus was on commercial buildings, which (for the purposes of the visual survey) include schools, churches, apartment buildings, and park buildings. The tertiary focus was on residential buildings.

3.0 Visual Building Survey Results

The visual survey was conducted between January 31 and February 3, 2011 by two SAIC employees (John Whelpley and Julie Wartes). Of the 2,286 buildings in the Diagonal Avenue S drainage area that were constructed between 1950 and 1977, a total of 100 parcels were initially selected for the visual survey based on their proximity to a nearby stormwater solids sampling point with >100 µg/kg of PCBs. Due to the locations of the stormwater solids sampling points, most of the parcels were located within the industrial and commercial zones with very few in the residential zone. Information on the owners of these parcels was obtained from the King County Tax Assessment database at:

http://www5.kingcounty.gov/parcelviewer/viewer/kingcounty/viewer.asp

Based on the visual observations, 20 of these parcels were eliminated from the survey due to the absence of visible painted surfaces (e.g., unpainted masonry or steel siding construction). This left 80 parcels with painted surfaces in proximity to a storm drain containing PCBs. Each parcel contains up to nine buildings, although most parcels only contain one or two buildings.

In order to expand the breadth of the survey beyond the industrial zone, an additional 12 parcels (primarily government buildings) were selected for survey. Because these parcels are not located near a storm drain solids sampling point, correlating paint and caulk results with storm drain concentrations would require future collection of storm drain solids samples.

Thus, a total of 92 parcels were observed and evaluated during the visual survey. The visual survey results for each of these parcels are summarized in the attached table, which includes the Parcel Identification Number, building construction date, building address, taxpayer name and address, current building occupant, condition of paint, condition of caulk, and the maximum PCB solids concentration in the nearby stormwater drain. As shown in this table, the visual survey evaluated 56 industrial parcels, 31 commercial parcels, and 5 residential parcels.

After receiving approval from Ecology, the SAIC subcontractor (EnviroIssues) will mail out Property Access Agreement letters and Fact Sheets to the 92 property owners listed in the table. It is anticipated that an approval rate of at least 44% will be received, which will allow the formation of 40 homogeneous sampling areas. However, if an approval rate of less than 44% is received, then some of the larger parcels with multiple buildings might be split into two or more homogeneous sampling areas, or additional buildings/property owners will be selected.

Other observations from the visual building survey included the following:

1) **Condition of Paint—**The painted surfaces (as observed from inside the vehicle) were better than expected. As shown in the attached table, approximately 27% of the painted surfaces are "good", 60% are "moderate", and 13% are "poor". We attribute this to the fact that the industrial zone has a strong commercial aspect with many visiting consumers. This forces the building owners to conduct upkeep of the buildings on a more frequent basis, rather than allowing them to deteriorate rapidly.

2) **Condition of Caulk—**It was difficult to evaluate the caulk on the doors and windows because we needed to stay inside the vehicle or on the sidewalk. However, many of the aluminum frame windows and steel door frames in the industrial area did not appear to have caulk. This may limit the scope of the caulk sampling survey.

3) **Fact Sheet Distribution—**Although the survey team did receive many quizzical looks at first, nobody approached the team to ask what we were doing. Thus, we did not distribute any Fact Sheets to the public. We attribute this to the fact that we had a well-marked vehicle with an "SAIC" sign, personnel wore bright yellow traffic safety vests, and carried clipboards and identification as shown below.

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Parcel Information				Property Owner Information				Current Occupant/Tenant	Paint - Condition/Type	Potential Caulk Locations	Maximum PCB Concentration in Nearby
Parcel Number	Year Built	Parcel Address	Zipcode	Taxpayer Name	Taxpayer Address	Taxpayer City/State	Zipcode				Storm Drain solids (ug/kg)
0003600010	1959	2910 RAINIER AVE S	98144	U S BANK CORPORATE PROPS	2800 E LAKE ST	MINNEAPOLIS MN	55406	US Bank	beige paint on brick and teal paint on metal siding (good)	Lots of windows with thick glazing	3,100
0003600026	1959	2800 Rainier Ave S	98144	Seattle Public Schools	P.O. Box 34165	Seattle, WA	98124	Franklin High School	Some painted masonry (moderate)	lots of doors and windows	
0003600062	1974	2824 RAINIER AVE S	98144	CPSTRA R/E DIV	401 S JACKSON ST	SEATTLE WA	98104	Sound Transit Bus Shelters	Black paint on metal shelter areas (very good)	possible around windows	3,100
0003600063	1955	2815 Martin Luther King Jr. Way S	98144	CPSTRA R/E DIV	401 S JACKSON ST	SEATTLE WA	98104	Commercial Building (with barber shop)	beige painted masonry (moderate)	few doors and windows with caulk	3,100
0272000915	1970	1730 Bradner Place S	98144	City of Seattle Parks Department	800 Maynard Ave S, 3rd Floor	Seattle, WA	98134	Park Building	Some painted masonry (moderate)	None visible	
0424049067	1957	800 Martin Luther King Jr Way S	98144	Seattle Housing Authority	P.O. Box 19028	Seattle, WA	98109	Maintenance Building	white painted masonry (moderate)	some windows and a door	
0567000535	1973	819 YAKIMA AVE S	98144	TAIANI MARK G	819 YAKIMA AVE S	SEATTLE WA	98144	Residence (1-story)	yellow and dark brown painted wood siding (good)	windows and door caulk	250
0567000585	1963	818 29TH AVE S	98144	CLARKE D	812 29TH AVE S APT 3	SEATTLE WA	98144	Apartment building (3-story), copy of 0567000590	white painted concrete with green painted wood trim (moderate)	windows and door caulk	250
0567000590	1963	812 29TH AVE S	98144	CLARKE D	812 29TH AVE S APT 3	SEATTLE WA	98144	Apartment building (3-story), copy of 0567000585	white painted concrete with green painted wood trim (moderate)	windows and door caulk	250
1250200771	1955	2615 S KING ST	98144	LONDON WILLIE JR	5307 55TH AVE S	SEATTLE WA	98118	Residence (2-story)	tan painted wood siding (good)	windows and doors	45
1327300006	1972	423 S HORTON ST	98134	PARAMOUNT SERVICES	PO BOX 34560	SEATTLE WA	98124	Paratex (pesticide contractor)	gray and red painted metal siding and wood (poor)	doors and windows	1,600
1327300010	1952	3314 4TH AVE S	98134	MVS PARTNERS LLC c/o Fawn Stefanoff	12117 24TH PL SW	SEATTLE WA	98146	Bexel Corp (ECO Corp on the east side of property with as street address of 420 S. Hinds is actually in the drainage area)	ECO Corp has green painted metal siding (moderate/poor) with peeling green paint on wood trim (poor)	few doors and windows with caulk	1,600
1327300012	1955	3300 6TH AVE S	98134	ALCO INVESTMENTS CO	3200 6TH AVE S	SEATTLE WA	98134	Alaskan Copper Works	white and blue painted concrete (moderate/poor)	window and door caulk	2,350
1498302345	1954	1911 22ND AVE S	98144	KUSAK NEVA L	6314 SE 22ND ST	MERCER ISLAND WA	98040	Kusak's Fine Crystal and Cut Glass Works	green and brown painted wood siding (moderate)	doors and windows	2,100
1498303190	1969	2100 25TH AVE S	98144	SEATTLE HOUSING AUTHORITY	120 6TH AVE N	SEATTLE WA	98109	Center Park (6-story apartment building)	mostly unpainted brick on east side, some brown painted wood on west side (moderate/good)	lots of windows and doors	200
1498303240	1966	2501 S PLUM ST	98144	LIGHTHOUSE FOR THE BLIND	2501 S PLUM ST	SEATTLE WA	98144	The Lighthouse for the Blind Incorporated (3 buildings with 2-story warehouse)	white painted concrete with dark green trim (moderate/good)	lots of windows on north side	200
1499302300	1950	2104 S Plum Street	98144	Skeeters Auto Rebuild	2104 S Plum St, c/o Sharon Keene	Seattle, WA	98144	Skeeter's Auto Rebuild	white concrete block with blue and red trim (good)	doors and windows	1,390
1594600030	1964	2202 RAINIER AVE S	98144	2200 RAINIER LLC	2411 S WALKER ST	SEATTLE WA	98144	Parent Trust for Washington Children (two buildings)	beige/brown painted wood and brick (moderate)	lots of windows and doors	8,000
1594600070	1962	2464 S COLLEGE ST	98144	WONG SUZANNE S	PO BOX 28677	SEATTLE WA	98118	Residence (2-story)	green and white paint on wood trim (moderate/poor)	windows and doors	8,000
1594600105	1959	2300 RAINIER AVE S	98144	RCT LLC	2300 RAINIER AVE S	SEATTLE WA	98144	Thompson-Buchanan Building with Rainer Dental Care	Lavender/brown painted wood (moderate)	big windows with caulk	8,000
1624049080	1950	4101 Beacon Ave S	98108	City of Seattle Parks Department	800 Maynard Ave S, 3rd Floor	Seattle, WA	98134	Jefferson Park Golf Course Clubhouse	white painted masonry (good)	windows and doors	
1624049214	1957	1600 S Columbian Way	98108	Seattle Public Schools	P.O. Box 34165	Seattle, WA	98124	Mercer Middle School	white painted masonry (moderate/good)	big windows with caulk	
1824049012	1955	20 S IDAHO ST	98134	MCNIVEN C FBO MIRIAM TA/I	PO BOX 13495	ARLINGTON TX	76094	Fiberlay Composite Materials	beige and blue paint (good)	doors and windows	530
1824049070	1952	14 S IDAHO ST	98134	R 2 R INVESTMENTS L L C	7979 S 180TH ST	KENT WA	98032	Unmarked warehouse-type operation	red painted wood doors, beige painted concrete (moderate); peeling black paint on trim (poor)	doors and windows	530
1824049072	1953	12 S IDAHO ST	98134	S & B BUILDING L L C	2545 12TH AVE W	SEATTLE WA	98119	RH Brown Company	Dark brown paint (new/good)	doors and windows	530
1824049074	1953	21 S Nevada Street	98134	NEVADA St LLC	15439 53rd Ave S #B	Tukwila, WA	98188	Habitat for Humanity	white, blue, and green paint (moderate/poor)	doors and windows	2,010
1824049113	1954	13 S Nevada Street	98134	JJD LAND DEVELOPMENT L L C	6400 Corson Ave S	Seattle, WA	98108	Habitat for Humanity	white, blue, and green paint (moderate/poor)	doors and windows	2,010

Parcel Information				Property Owner Information				Current Occupant/Tenant	Paint - Condition/Type	Potential Caulk Locations	Maximum PCB Concentration in Nearby
Parcel Number	Year Built	Parcel Address	Zipcode	Taxpayer Name	Taxpayer Address	Taxpayer City/State	Zipcode				Storm Drain solids (ug/kg)
2024049035	1975	615 S ALASKA ST	98108	615 SOUTH ALASKA LLC	5603 11TH AVE NE	SEATTLE WA	98105	Vacant Office	painted concrete (good)	caulk around doors and windows	3,000
3573200005	1969	4727 DENVER AVE S	98134	LOROLIVE LLC	3414 NE 55TH ST	SEATTLE WA	98105	Bartell Drugs and Pacific Shipping Company	some beige painted concrete (moderate); mostly unpainted pebbled siding	very little potential caulk	4,800
3573200050	1967	4580 COLORADO AVE S	98134	M BLOCH & CO INC	P O BOX 24063	SEATTLE WA	98124	Bloch Steel Warehouses (11 buildings in industrial complex with massive scrap metal pile)	Mostly unpainted metal siding buildings, one building with peeling paint on wood (poor)	few doors and windows with caulk	9,000
3573200120	1974	4580 COLORADO AVE S (same address as Parcel 3573200050)	98134	M.BLOCH & CO INC, c/o Joel Richards, President	P O BOX 24063	SEATTLE WA	98124	Bloch Steel Administration Building	painted aluminum siding (good)	None visible	2,060
3573200250	1953	4634 EAST MARGINAL WAY S	98134	GOODMAN SSBP LLC	3131 S VAUGHN WAY #301	AURORA CO	80014	Multiple renters including: Cascade Machinery, Grand Central Bakery, Titan 360, and Arena Sports	Dark red painted brick and wood (good); some unpainted brick; some peeling paint near roof trim (poor)	very little potential caulk	1,140
3573700006	1967	4786 1ST AVE S	98134	SEARS MERCHANDISE GROUP	3333 BEVERLY RD	HOFFMAN ESTATES IL	60179	Sears Parts and Repair Center (three buildings)	Lots of painted concrete block and painted wood doors with painted-over windows (poor); two buildings are unpainted metal siding	caulk around door and window frames	2,930
3573700130	1973	210 S HUDSON ST	98134	HUDSON ST LLC	PO BOX 84941	SEATTLE WA	98124	McKistry (metal manufacturing - 2 buildings	very little paint on metal building and concrete block building (moderate); some red paint on McKistry sign (good)	very little potential caulk	255
3573700195	1964	4930 3RD AVE S	98134	WWGRAINGER INC	100 GRAINGER PKWY	LAKE FOREST IL	60045	Grainger (2 buildings)	mostly unpainted pebble siding with some red painted metal siding (good) and yellow and red painted safety rails (good)	very little window caulk; some around doors and windows	255
3646100540	1963	2101 S Jackson Street	98144	Seattle Public Schools	P.O. Box 34165	Seattle, WA	98124	Washington Middle School	few painted surfaces (moderate/good)	lots of windows and doors	
3679400155	1965	1509 S Spokane Street	98144	City of Seattle, SPU/Real Prop - WTR	P.O. Box 34018	Seattle, WA	98124	Public Utility Buildings	few painted surfaces (moderate/good)	doors and windows	
3881900570	1963	1801 24th Ave South	98144	Japanese Presbyterian Church	1801 24th Ave South	Seattle, WA	98144	Japanese Presbyterian Church	brown painted wood (moderate)	doors and windows	2,100
3957900098	1960	4800 DENVER AVE S	98134	HRIC I LLC	PO BOX 700	MERCER ISLAND WA	98040	Puget Sound Pipe & Supply	painted concerete and metal doors (moderate)	very little potential caulk	2,930
3958900065	1962	4200 Airport Way South	98108	City of Seattle	P.O. Box 94689	Seattle, WA	98124	City of Seattle Signs and Signals	white painted masonry (moderate)	doors and windows	
3958900320	1962	4413 Airport Way S	98108	AIRGAS NOR PAC INC	3591 N COLUMBIA BLVD	PORTLAND OR	97217	Airgas NORPAC	painted concrete block and concrete (moderate)	caulk around doors and windows	430
3958900340	1950	4429 AIRPORT WAY S	98108	PUGET SOUND INDUSTRY SERVIC	PO BOX 80366	SEATTLE WA	98108	Western Waterproofing Company	beige painted concrete block (good); some white painted wood window frames (moderate)	very little potential caulk	1,610
3958900545	1973	636 S ALASKA ST	98108	JENSEN CARLYLE B	8275 166TH AVE NE #201	REDMOND WA	98052	Pacific Publishing Company	peeling grey and white paint, especially near roof (poor)	doors and windows	3,000
3958900565	1971	4601 6th Ave S	98108	ADCO Properties	4601 6th Ave S	Seattle, WA	98108	ADCO	white painted concrete (moderate)	doors and windows	4,600
3958900601	1967	4604 4th Ave S	98108	Frank Ricchiazzi	330 Cajon Terrace	Laguna Beach, CA	92651	Pedersen's Event Rentals	beige painted concrete and wood (good)	caulk around doors and windows	1,420
3958900645	1962	4500 4TH AVE S	98108	Pedersens Estates	4500 4th Ave S	Seattle, WA	98104	Pedersen's Event Rentals	beige painted concrete and wood (good)	caulk around doors and windows	1,420
3958900650	1956	4500 4TH AVE S	98108	RICCHIAZZI F, c/o Richard Matthews ESQ	700 5TH AVE #5800	SEATTLE WA	98104	Pedersen's Event Rentals	beige painted concrete and wood (good)	caulk around doors and windows	1,420
3958900786	1956	4400 4TH AVE S	98108	4400 BUILDING LLC	5603 11TH AVE NE	SEATTLE WA	98105	Multiple tenants including: LeDuc Packaging, Inc., Trane Parts Center, and Carpet Liquidators	beige painted concrete and metal doors and brick (moderate)	caulk around doors and windows	1,420
3958900851	1956	4100 4TH AVE S	98108	BIESOLD 4100 LLC	PO BOX 1230	FALL CITY WA	98024	Multiple tenants in warehouse including Merlino Foods and Bamboo Hardwoods	Peeling yellow paint on bollards (poor); beige and dark brown painted concrete, wood, and concrete block (good)	caulk around doors and windows	240

Parcel Information				Property Owner Information				Current Occupant/Tenant	Paint - Condition/Type	Potential Caulk Locations	Maximum PCB Concentration in Nearby
Parcel Number	Year Built	Parcel Address	Zipcode	Taxpayer Name	Taxpayer Address	Taxpayer City/State	Zipcode				Storm Drain solids (ug/kg)
42944800175	1951	720 30th Ave South	98144	Grace United Methodist Church	722 30th Ave S	Seattle, WA	98144	Grace United Methodist Church	Mostly unpainted brick, some painted surfaces (good)	doors and windows with potential caulk	
5680000380	1950	3811 13TH AVE S	98108	HENDRICKS ROBERT D	3811 13TH AVE S	SEATTLE WA	98108	Residence (1-story)	mostly unpainted red brick, some painted surfaces (good)	potential caulk at doors and windows	4,800
6172900005	1968	3800 1ST AVE S	98134	MUSREF SPOKANE STREET L P	700 5TH AVE STE 6175	SEATTLE WA	98104	Old Sea-Pac Building; now used by MSR trucks and Parr Cabinet Outlet	mostly unpainted brick with blue painted trim and some white painted concrete (moderate); red peeling paint in loading dock (poor)	few doors and windows with caulk	530
6172900220	1950	130 S DAKOTA ST	98134	CASCADE DESIGNS INC	4000 1ST AVE S	SEATTLE WA	98134	Cascade Designs	yellow painted concrete wall and wood door; red painted metal in loading dock (moderate)	few doors, no windows	640
6834700175	1950	801 S. Dearborn St.	98134	City of Seattle	P.O. Box 94689	Seattle, WA	98124	City of Seattle Administration and Warehouse	grey painted masonry (moderate)	some large windows	
7132300230	1966	828 RAINIER AVE S	98144	HAN YOUNGIL+DA MI	806 NE 117TH	SEATTLE WA	98125	Rice n Roll	green and brown paint on wood (good); appears to be newly renovated	large windows	255
7133800065	1971	1121 RAINIER AVE S	98144	OLEARY ELECTRIC BUILDING L	1121 RAINIER AVE S	SEATTLE WA	98144	Trig Electric	white and brown paint on wood (moderate/poor)	few windows and doors	1,400
7133800100	1955	1138 POPLAR PL S	98144	WESTROAD INVESTMENT LLC	PO BOX 2222	TACOMA WA	98401	Sprague Pest Solutions	brown paint on wood, block and metal (good); unpainted stone exterior portion	lots of windows	1,400
7133800110	1951	1128 POPLAR PL S	98144	LUCAS BUILDING L L C	1128 POPLAR PL S	SEATTLE WA	98144	Unnamed Tenant	white paint on block and brick (good); blue paint on metal railing (good)	windows and doors	1,400
7134300390	1952	1421 S DEAN ST	98144	SIERRA NEVADA INVESTMENT GR	150 N MYERS ST	LOS ANGELS CA	90033	Color Graphics	tan paint on concrete (moderate/poor); blue paint on metal door (moderate); blue painted trim on roof (moderate)	few windows and doors	490
7134300435	1960	861 POPLAR PL S	98144	KENNEDY CURT J	5061 BEACH DR SW	SEATTLE WA	98136	Summit Radiology	tan paint on block and concrete (moderate); north side has white painted metal siding (moderate)	windows and doors	490
7134300440	1952	851 POPLAR PL S	98144	KENNEDY CURT J	5061 BEACH DR SW	SEATTLE WA	98136	Summit Radiology	tan paint on block and concrete (moderate)	windows and doors	490
7138300090	1953	2825 RAINIER AVE S	98144	KEY BANK NA-TRST REAL ESTAT	127 PUBLIC SQUARE 18TH FLOOR	CLEVELAND OH	44114	Pawn Shop	beige paint on concrete with some chipping (moderate/poor)	few windows and doors	3,100
7376600360	1962	4400 7TH AVE S	98108	AIRGAS NOR PAC INC	3591 N COLUMBIA BLVD	PORTLAND OR	97217	Airgas	painted concrete block and concrete (moderate)	caulk around doors and windows	430
7376600390	1970	4455 7TH AVE S	98108	BT-OH LLC	PO BOX 28606	ATLANTA GA	30358	UPS Warehouse (five buildings including car wash, warehouse, administration building, truck wash, and fuel station)	painted concrete (moderate)	caulk around windows and doors	2,530
7376600690	1970	4500 7th Ave S	98108	Poultry Plymouth	4500 7th Ave S	Seattle, WA	98108	Plymouth Poultry Company	Green/white painted concrete (good), peeling green paint on metal stairs (poor)	caulk around doors and windows	1,610
7376600711	1953	4520 7TH AVE S	98108	SANFT LOUIE	6120 52ND AVE S	SEATTLE WA	98118	Plymouth Poultry Company	Green/white painted concrete (good), peeling green paint on metal stairs (poor)	caulk around doors and windows	1,110
7376600737	1969	4623 7TH AVE S	98108	KING COUNTY	500 4TH AVE - RM 500	SEATTLE WA	98104	Sheriff Department Maintenance	Bright blue & aquamarine paint (moderate)	caulk around doors and windows	6,700
7376600753	1970	633 S SNOQUALMIE ST	98108	PAULICH LIMITED PARTNERSHIP	1111 3RD AVE SUITE 1800	SEATTLE WA	98101	Magnum Laser	Painted concrete and metal doors (moderate)	caulk around doors and windows	4,600
7376600765	1971	601 S SNOQUALMIE ST	98108	PARK MANOR APARTMENTS LLC	14900 INTERURBAN AVE S #210	SEATTLE WA	98168	Siemens	Painted wood and concrete with some peeling (moderate/poor), bright green paint (moderate)	caulk around doors	3,000
7548300985	1953	1706 RAINIER AVE S	98144	WANG CHI YUK+YOKO	7802 NE 10TH ST	BELLEVUE WA	98004	Toshio's Teriyaki	brown and red painted concrete (very good)	large windows	540

Parcel Information				Property Owner Information				Current Occupant/Tenant	Paint - Condition/Type	Potential Caulk Locations	Maximum PCB Concentration in Nearby
Parcel Number	Year Built	Parcel Address	Zipcode	Taxpayer Name	Taxpayer Address	Taxpayer City/State	Zipcode				Storm Drain solids (ug/kg)
7548800025	1971	1311 S Massachusetts Street	98144	Seattle Housing Authority	120 6th Ave North	Seattle, WA	98109	Beacon Tower	mostly unpainted masonry, the portion of the building in the drainage area does have some painted surfaces (moderate)	doors and windows	
7666203000	1950	2520 Airport Way S	98134	2960 4TH AVENUE SOUTH LP+PR	2520 Airport Way S	Seattle, WA	98134	Old AC/Delco Building	white painted concrete block with blue and red stripes (moderate/poor)	large windows	470
7666203010	1966	918 S LANDER ST	98134	SEATTLE CITY OF	PO BOX 34018	SEATTLE WA	98124	Seattle Public Utilities (two buildings)	mostly unpainted pebble siding and unpainted concrete columns; some blue painted metal sheeting at roof (good)	Big windows with caulk	2,500
7666203011	1955	2548 AIRPORT WAY S	98134	Young RE Investments c/o STAKKESTAD SHARON	5627 BEACH DR SW	SEATTLE WA	98136	Sanderson	beige painted concrete and metal siding and concrete block (moderate/poor)	Big windows with caulk	470
7666203135	1960	2709 AIRPORT WAY S	98134	MOTTER A G LLC	2709 AIRPORT WAY S	SEATTLE WA	98134	MacDonald Meat	white painted concrete with red trim and red sign (moderate)	few doors, no windows	181
7666203150	1958	2755 Airport Way	98134	RD Associates LLC	2755 Airport Way S	Seattle, WA	98134	High Rise Cabinets	grey/blue painted concrete (moderate/good)	doors and windows	200
7666203825	1955	600 S SPOKANE ST	98134	C/O CONSOLIDATED PRESS	600 S SPOKANE ST	SEATTLE WA	98134	Consolidated Press	red painted accent and trim, white and brown painted concrete (moderate)	caulk around windows and doors	6,200
7666203827	1960	640 S SPOKANE ST	98134	SETAY L L C	PO BOX 24886	SEATTLE WA	98124	Multiple tenants including: DelcoRemy International; Blanchard Auto Electric; ISI Auto Plus; and AC Delco	beige painted concrete (moderate)	possible caulk on doors and windows	6,200
7666204121	1958	3412 4th Ave S	98134	3412 FOURTH LLC	PO Box 24687	Seattle, WA	98124	Western Bridge	Grey paint (moderate)	windowns and doors	1,600
7666204125	1952	3414 4TH AVE S	98134	3414 FOURTH LLC	PO BOX 24687	SEATTLE WA	98124	Commercial Plastics	beige painted concrete, yellow painted bollards (moderate)	windows and doors	1,600
7666204130	1952	3434 4TH AVE S	98134	Bottleworks III LLC	3434 4th Ave S	Seattle, WA	98134	Specialty Bottle	beige painted concrete, yellow painted bollards (moderate)	windows and doors	1,600
7666204140	1974	3454 4TH AVE S	98134	WALLACE ENTERPRISES	11225 SE 6TH ST	BELLEVUE WA	98004	Interior Environments	beige painted concrete, yellow painted bollards (moderate)	windows and doors	1,600
7666207525	1974	4300 COLORADO AVE S	98134	UNION PACIFIC RAILROAD CO	1400 DOUGLAS STOP 1640	OMAHA NE	68179	Union Pacific Railroad Yard (multiple buildings)	painted yellow siding (poor)	possible caulk on doors and windows	460
7666700390	1952	44 S Nevada Street	98134	Washington State Liquor Control Board	PO Box 1209	Seattle, WA	98111	Washington State Liquor Control Board	painted masonry (moderate)	some windows and a door	2,010
7666700465	1969	4501 EAST MARGINAL WAY S	98134	KING COUNTY	500 4TH AVE	SEATTLE WA	98104	King County Waste Management (three small buildings)	some yellow paint on metal siding (moderate), but mostly unpainted siding	No caulk observed	3,930
7886100045	1969	4021 6TH AVE S	98108	DAVIS NANCY L, TR	4568 E MERCER WAY	MERCER ISLAND WA	98040-3830	Applied Industrial Bearing Technologies	Freshly painted concrete walls (good)	caulk around windows and doors	1,030
7886100115	1970	620 S INDUSTRIAL WAY	98108	5621 LLC	15682 PT MONROE DR NE	BAINBRIDGE ISLAND WA	98110	Moeller	unpainted pebble siding with painting metal siding and concrete (moderate)	No caulk observed	83,000
7886100290	1973	3801 7TH AVE S	98108	TEAM B LLC	3801 7TH AVE S	SEATTLE WA	98108	International Truck Leasing and Rental	wood siding with painted red wood trim; beige painted concrete (moderate)	possible caulk on doors and windows	580
7886100730	1954	3707 AIRPORT WAY S	98134	R C PATRNERSHIP, c/o Wester Peterbilt Inc	PO BOX 24065	SEATTLE WA	98124	Exxon/Mobil Quick Lube and Peterbilt Display Area	white painted concrete block (moderate/poor); red painted wood trim on steel siding building in back (moderate)	caulk around windows and doors	1,100
7886101010	1963	820 S CHARLESTOWN ST	98134	PUGET SOUND FREIGHT LINES	PO BOX 24526	SEATTLE WA	98124	Washington State Department of Transportation	gray/white/green painted steel siding (moderate/poor); peeling white paint in back (poor)	No windows, little caulk	1,280
8850000730	1953	1529 RAINIER AVE S	98144	GRIBBLE VANCE R+JUDY	1529 RAINIER AVE S	SEATTLE WA	98144	Residence (1-story)	peach-painted wood (poor)	some windows and a door	230
8111100170	1971	2600 S Holgate St	98144	Holgate Church of Christ	P.O. Box 18318	Seattle, Wa	98118	Holgate Church of Christ	brown painted wood (good)	some windows and a door	

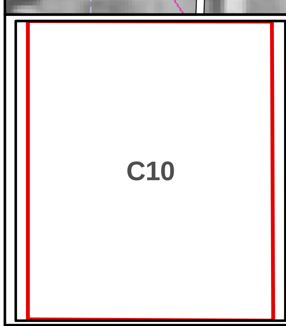
Parcel Information				Property Owner Information				Current Occupant/Tenant	Paint - Condition/Type	Potential Caulk Locations	Maximum PCB Concentration in Nearby
Parcel Number	Year Built	Parcel Address	Zipcode	Taxpayer Name	Taxpayer Address	Taxpayer City/State	Zipcode				Storm Drain solids (ug/kg)

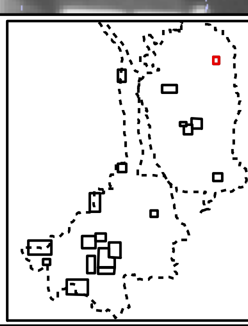
	residental buildings
	commercial buildings (including schools, churches, apartment buildings, and park buildings)
	industrial buildings
	Need solids sample at downgradient storm drain

Appendix B

Composite Sampling Area Maps

Map C10 – CSA 6a
Map D6 – CSA 16b
Map D8a – CSA 7a
Map E9a – CSA 1a and 14b
Map E9c – CSA 7b and 8b
Map E9d – CSA 6b, 8a, and 14b
Map G6a – CSA 15c
Map G10 – CSA 1b, 9a, and 16a
Map H4 – CSA 2a and 2b
Map H7 – CSA 12b
Map I2b – CSA 11a and 11b
Map I4c – CSA 9b and 15b
Map I5b – CSA 3a and 3b
Map I6 – CSA 12a
Map J2b – CSA 15a
Map J4 – CSA 10a
Map J5a – CSA 4a, 4b, and 10b
Map J5b – CSA 4b and 10b
Map K4 – CSA 5a, 5b, and 14a





Source Tracing Samples thru 10/10/10 - Total PCBs

- Dirt (street/yard)
- Onsite CB
- Inline Grab
- ROW CB
- Sediment Trap
- Diagonal SD Basin
- Facility with Ecology FSID
- Parcels of interest

- Drainage
- Sanitary sewer
- Combined
- King County
- Drainage Lateral
- Side Sewer
- Drainage Lateral (not inspected)
- Side Sewer (not inspected)

Sampling Locations

- C Caulk
- P Paint

Note: Total PCB concentration (tPCB) in storm drains shown in µg/kg

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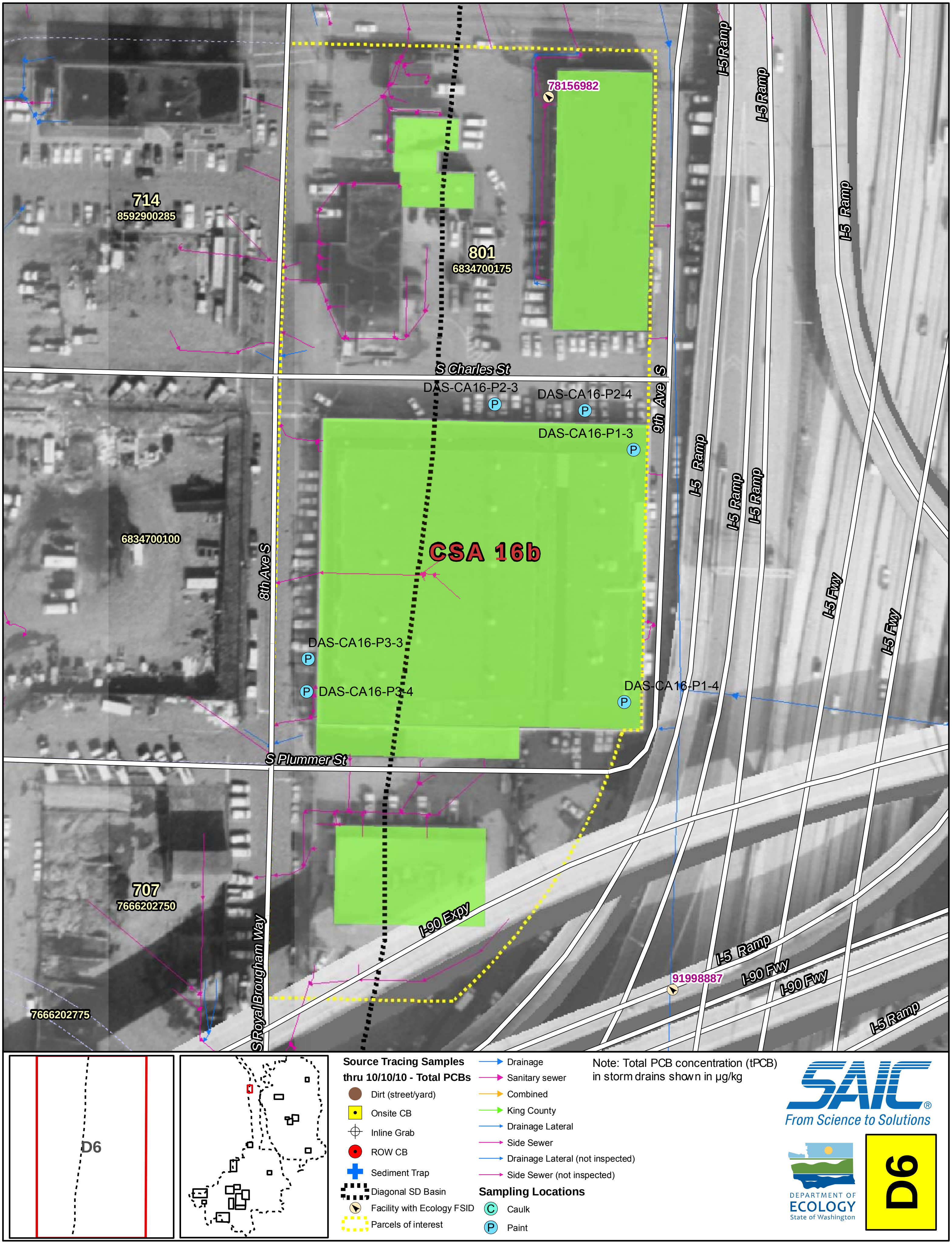
C10



714
8592900285
801
6834700175
78156982
6834700100
707
7666202750
7666202775
91998887
S Charles St
S Plummer St
8th Ave S
9th Ave S
S Royal Brougham Way
I-90 Expy
I-5 Ramp
I-5 Fwy
I-90 Fwy
CSA 16b
DAS-CA16-P2-3
DAS-CA16-P2-4
DAS-CA16-P1-3
DAS-CA16-P3-3
DAS-CA16-P3-4
DAS-CA16-P1-4
D6
Source Tracing Samples
thru 10/10/10 - Total PCBs
Dirt (street/yard)
Onsite CB
Inline Grab
ROW CB
Sediment Trap
Diagonal SD Basin
Facility with Ecology FSID
Parcels of interest
Drainage
Sanitary sewer
Combined
King County
Drainage Lateral
Side Sewer
Drainage Lateral (not inspected)
Side Sewer (not inspected)
Sampling Locations
Caulk
Paint
Note: Total PCB concentration (tPCB)
in storm drains shown in µg/kg
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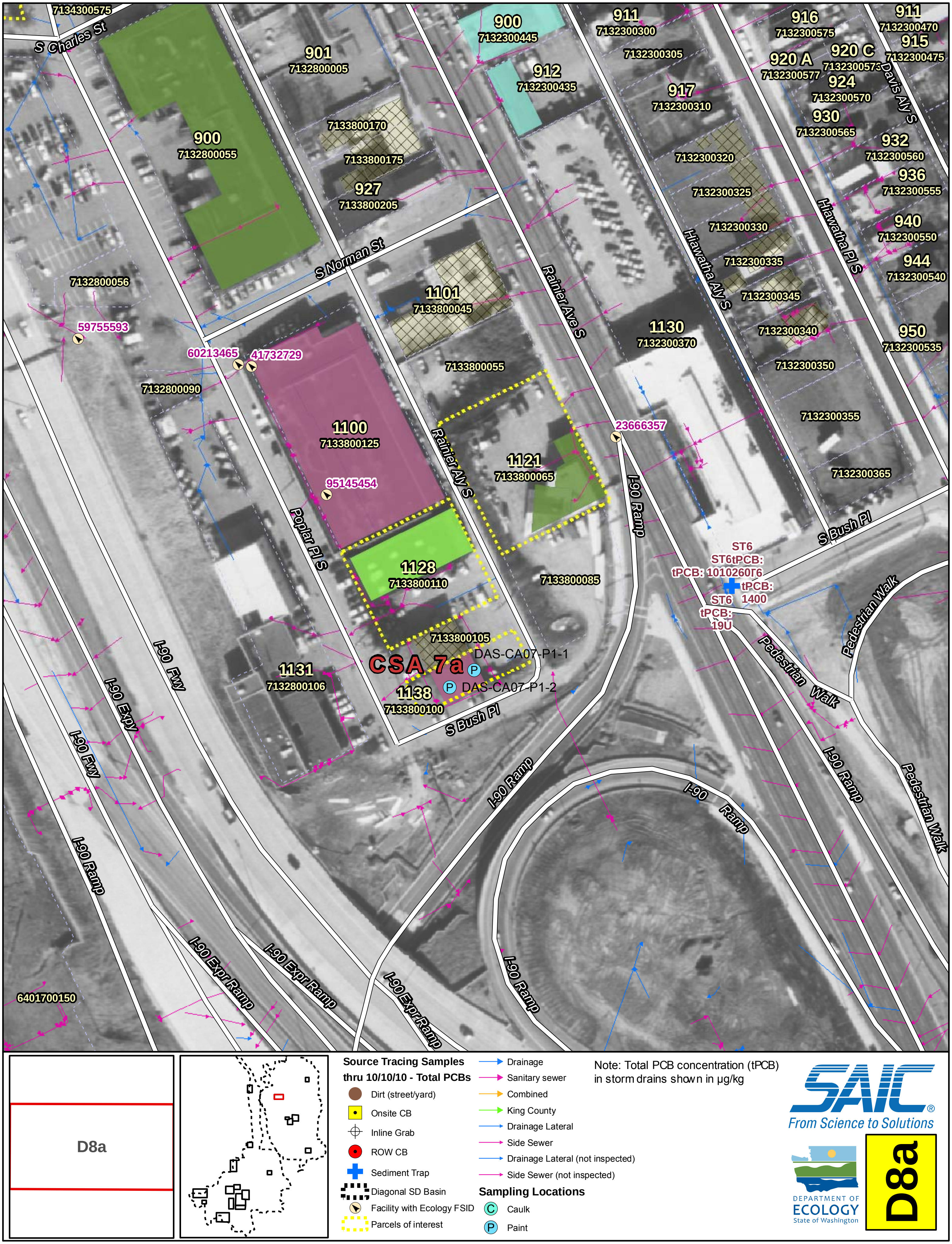
D6



7134300575
S Charles St
900
7132800055
901
7132800005
7133800170
7133800175
927
7133800205
900
7132300445
912
7132300435
911
7132300300
7132300305
917
7132300310
916
7132300575
920 A
7132300577
920 C
7132300573
924
7132300570
930
7132300565
911
7132300470
915
7132300475
Davis Aly S
932
7132300560
936
7132300555
940
7132300550
944
7132300540
950
7132300535
7132300320
7132300325
7132300330
7132300335
7132300345
7132300340
7132300350
7132300355
7132300365
Hiawatha Aly S
Hiawatha Pl S
S Norman St
1101
7133800045
7133800055
1130
7132300370
Rainier Ave S
7132800056
59755593
60213465
41732729
7132800090
1100
7133800125
95145454
Rainier Aly S
1121
7133800065
23666357
I-90 Ramp
Poplar Pl S
1128
7133800110
7133800085
7133800105
CSA 7a
DAS-CA07-P1-1
DAS-CA07-P1-2
1131
7132800106
1138
7133800100
S Bush Pl
S Bush Pl
ST6
ST6tPCB:
tPCB: 1010260Г6
tPCB:
1400
ST6
tPCB:
19U
Pedestrian Walk
Pedestrian Walk
Pedestrian Walk
I-90 Ramp
I-90 Fwy
I-90 Expy
I-90 Fwy
I-90 Ramp
I-90 Ramp
I-90 Ramp
I-90 Ramp
I-90 Expr Ramp
I-90 Expr Ramp
I-90 Expr Ramp
I-90 Ramp
6401700150
D8a
Source Tracing Samples
thru 10/10/10 - Total PCBs
Dirt (street/yard)
Onsite CB
Inline Grab
ROW CB
Sediment Trap
Diagonal SD Basin
Facility with Ecology FSID
Parcels of interest
Drainage
Sanitary sewer
Combined
King County
Drainage Lateral
Side Sewer
Drainage Lateral (not inspected)
Side Sewer (not inspected)
Sampling Locations
Caulk
Paint
Note: Total PCB concentration (tPCB)
in storm drains shown in µg/kg
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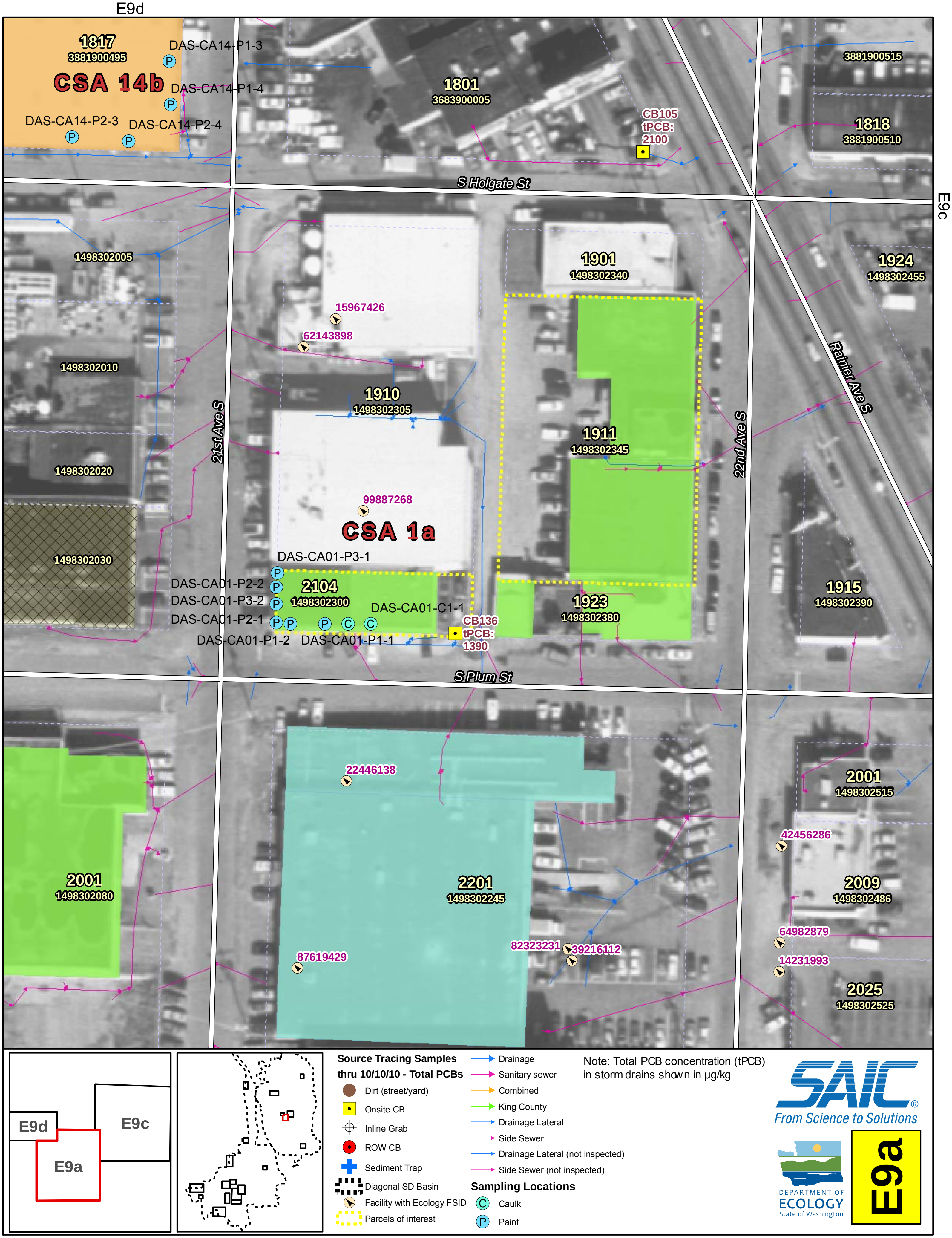
D8a


E9d
E9c
1817
3881900495
CSA 14b
DAS-CA14-P1-3
DAS-CA14-P1-4
DAS-CA14-P2-3
DAS-CA14-P2-4
1801
3683900005
CB105
tPCB:
2100
3881900515
1818
3881900510
S Holgate St
1498302005
1901
1498302340
1924
1498302455
15967426
62143898
1498302010
1910
1498302305
1911
1498302345
Rainier Ave S
21st Ave S
22nd Ave S
1498302020
99887268
CSA 1a
1498302030
DAS-CA01-P3-1
DAS-CA01-P2-2
DAS-CA01-P3-2
DAS-CA01-P2-1
DAS-CA01-P1-2
DAS-CA01-P1-1
DAS-CA01-C1-1
2104
1498302300
CB136
tPCB:
1390
1923
1498302380
1915
1498302390
S Plum St
22446138
2001
1498302515
42456286
2001
1498302080
2201
1498302245
2009
1498302486
64982879
82323231
39216112
14231993
87619429
2025
1498302525
E9d
E9c
E9a
Source Tracing Samples
thru 10/10/10 - Total PCBs
Dirt (street/yard)
Onsite CB
Inline Grab
ROW CB
Sediment Trap
Diagonal SD Basin
Facility with Ecology FSID
Parcels of interest
Drainage
Sanitary sewer
Combined
King County
Drainage Lateral
Side Sewer
Drainage Lateral (not inspected)
Side Sewer (not inspected)
Sampling Locations
Caulk
Paint
Note: Total PCB concentration (tPCB)
in storm drains shown in µg/kg
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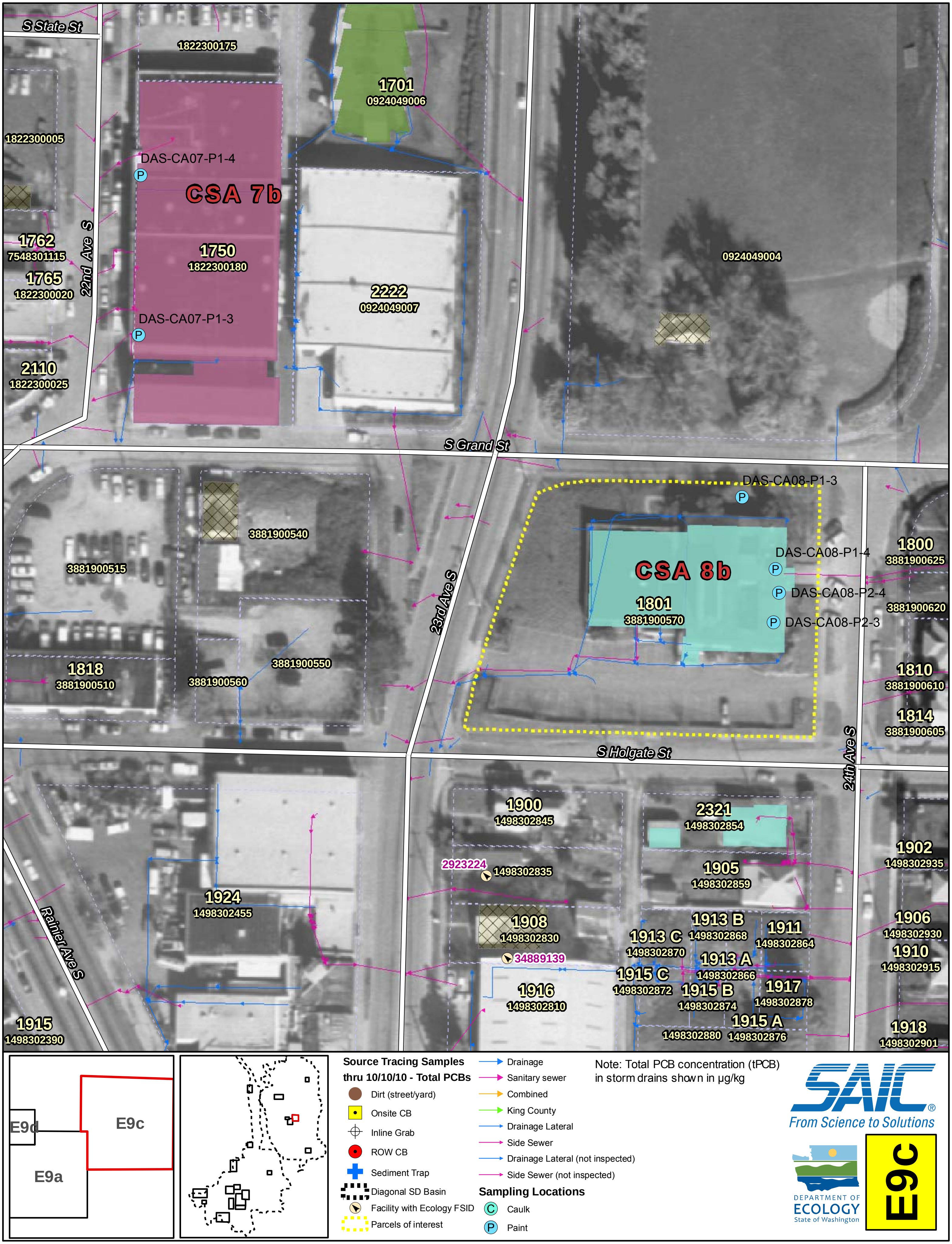
E9a


S State St
1822300175
1701
0924049006
1822300005
DAS-CA07-P1-4
CSA 7b
1762
7548301115
22nd Ave S
1750
1822300180
1765
1822300020
2222
0924049007
0924049004
DAS-CA07-P1-3
2110
1822300025
S Grand St
DAS-CA08-P1-3
3881900540
3881900515
1800
3881900625
DAS-CA08-P1-4
CSA 8b
DAS-CA08-P2-4
E9a
1801
3881900570
3881900620
DAS-CA08-P2-3
23rd Ave S
3881900550
1818
3881900510
3881900560
1810
3881900610
1814
3881900605
S Holgate St
24th Ave S
1900
1498302845
2321
1498302854
1902
1498302935
2923224
1498302835
1905
1498302859
1924
1498302455
Rainier Ave S
1908
1498302830
1913 B
1498302868
1913 C
1498302870
1911
1498302864
1906
1498302930
1910
1498302915
34889139
1913 A
1498302866
1915 C
1498302872
1915 B
1498302874
1917
1498302878
1916
1498302810
1915
1498302390
1915 A
1498302880
1498302876
1918
1498302901
E9d
E9c
E9a
Source Tracing Samples
thru 10/10/10 - Total PCBs
Dirt (street/yard)
Onsite CB
Inline Grab
ROW CB
Sediment Trap
Diagonal SD Basin
Facility with Ecology FSID
Parcels of interest
Drainage
Sanitary sewer
Combined
King County
Drainage Lateral
Side Sewer
Drainage Lateral (not inspected)
Side Sewer (not inspected)
Sampling Locations
C Caulk
P Paint
Note: Total PCB concentration (tPCB)
in storm drains shown in µg/kg
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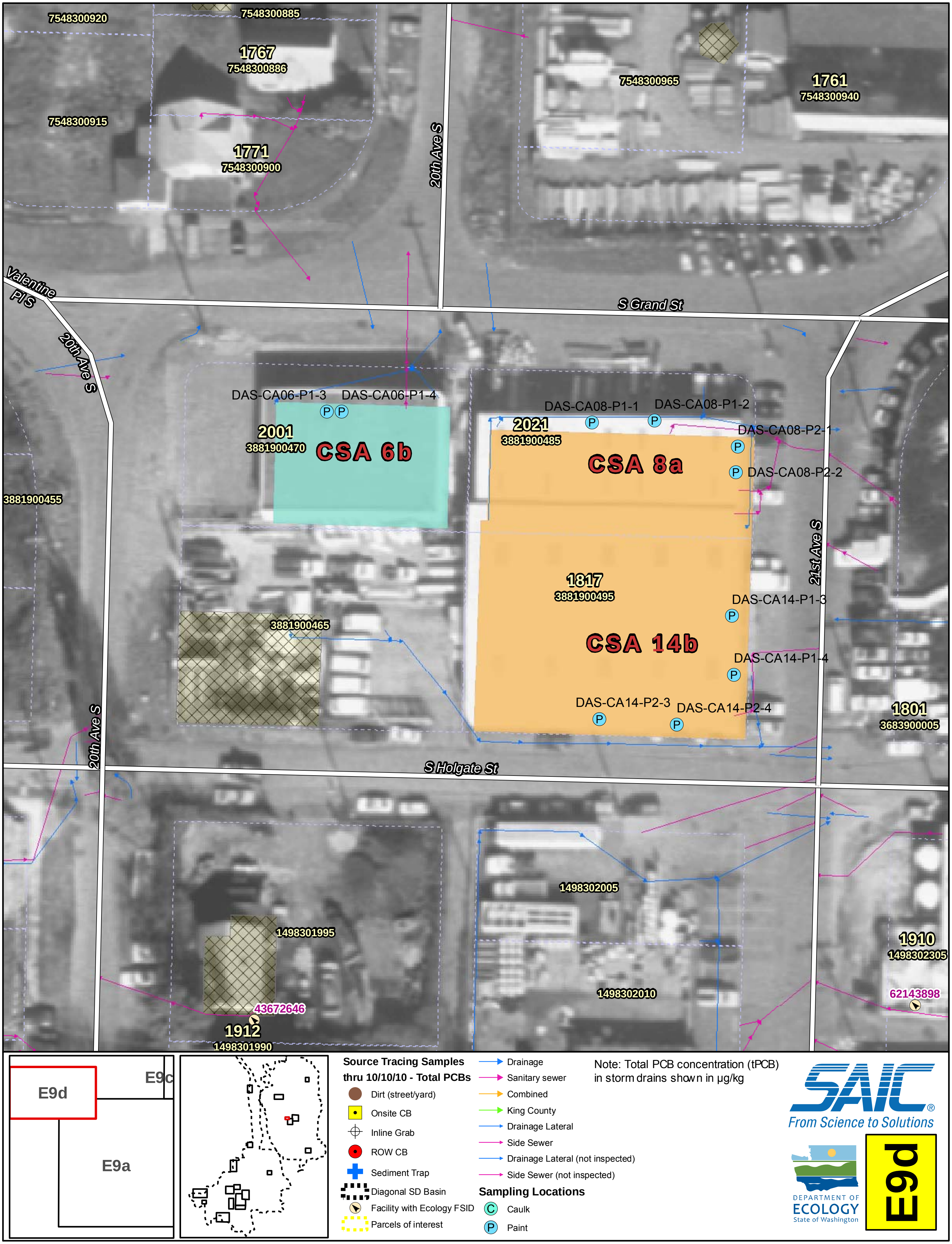
State of Washington
E9c


7548300920
7548300885
1767
7548300886
7548300965
1761
7548300940
7548300915
1771
7548300900
20th Ave S
Valentine Pl S
S Grand St
20th Ave S
DAS-CA06-P1-3
DAS-CA06-P1-4
2001
3881900470
CSA 6b
DAS-CA08-P1-1
DAS-CA08-P1-2
2021
3881900485
DAS-CA08-P2-1
CSA 8a
DAS-CA08-P2-2
3881900455
21st Ave S
1817
3881900495
DAS-CA14-P1-3
3881900465
CSA 14b
DAS-CA14-P1-4
DAS-CA14-P2-3
DAS-CA14-P2-4
1801
3683900005
20th Ave S
S Holgate St
E9a
1498302005
1910
1498302305
1498301995
1498302010
62143898
43672646
1912
1498301990
E9d
E9c
E9a
Source Tracing Samples
thru 10/10/10 - Total PCBs
Dirt (street/yard)
Onsite CB
Inline Grab
ROW CB
Sediment Trap
Diagonal SD Basin
Facility with Ecology FSID
Parcels of interest
Drainage
Sanitary sewer
Combined
King County
Drainage Lateral
Side Sewer
Drainage Lateral (not inspected)
Side Sewer (not inspected)
Sampling Locations
Caulk
Paint
Note: Total PCB concentration (tPCB)
in storm drains shown in µg/kg
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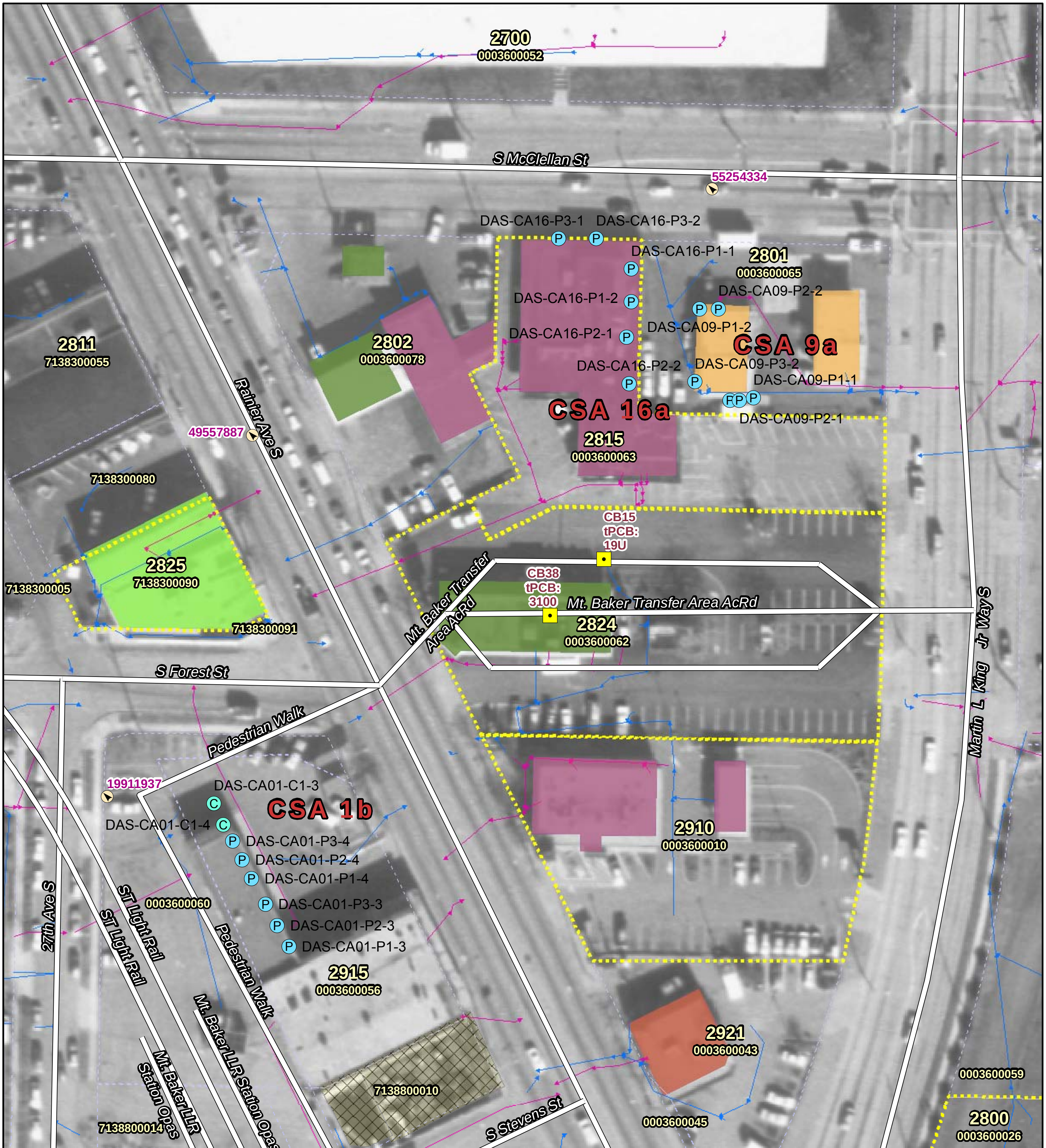
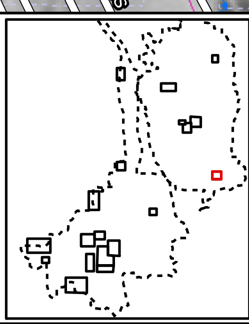
E9d



G10



Source Tracing Samples thru 10/10/10 - Total PCBs

- Dirt (street/yard)
- Onsite CB
- Inline Grab
- ROW CB
- Sediment Trap
- Diagonal SD Basin
- Facility with Ecology FSID
- Parcels of interest

- Drainage
- Sanitary sewer
- Combined
- King County
- Drainage Lateral
- Side Sewer
- Drainage Lateral (not inspected)
- Side Sewer (not inspected)

Sampling Locations

- C Caulk
- P Paint

Note: Total PCB concentration (tPCB) in storm drains shown in µg/kg

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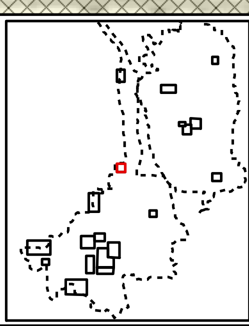
G10

G6a



Source Tracing Samples thru 10/10/10 - Total PCBs

- Dirt (street/yard)
- Onsite CB
- Inline Grab
- ROW CB
- Sediment Trap
- Diagonal SD Basin
- Facility with Ecology FSID
- Parcels of interest

- Drainage
- Sanitary sewer
- Combined
- King County
- Drainage Lateral
- Side Sewer
- Drainage Lateral (not inspected)
- Side Sewer (not inspected)

Sampling Locations

- Caulk
- Paint

Note: Total PCB concentration (tPCB) in storm drains shown in µg/kg

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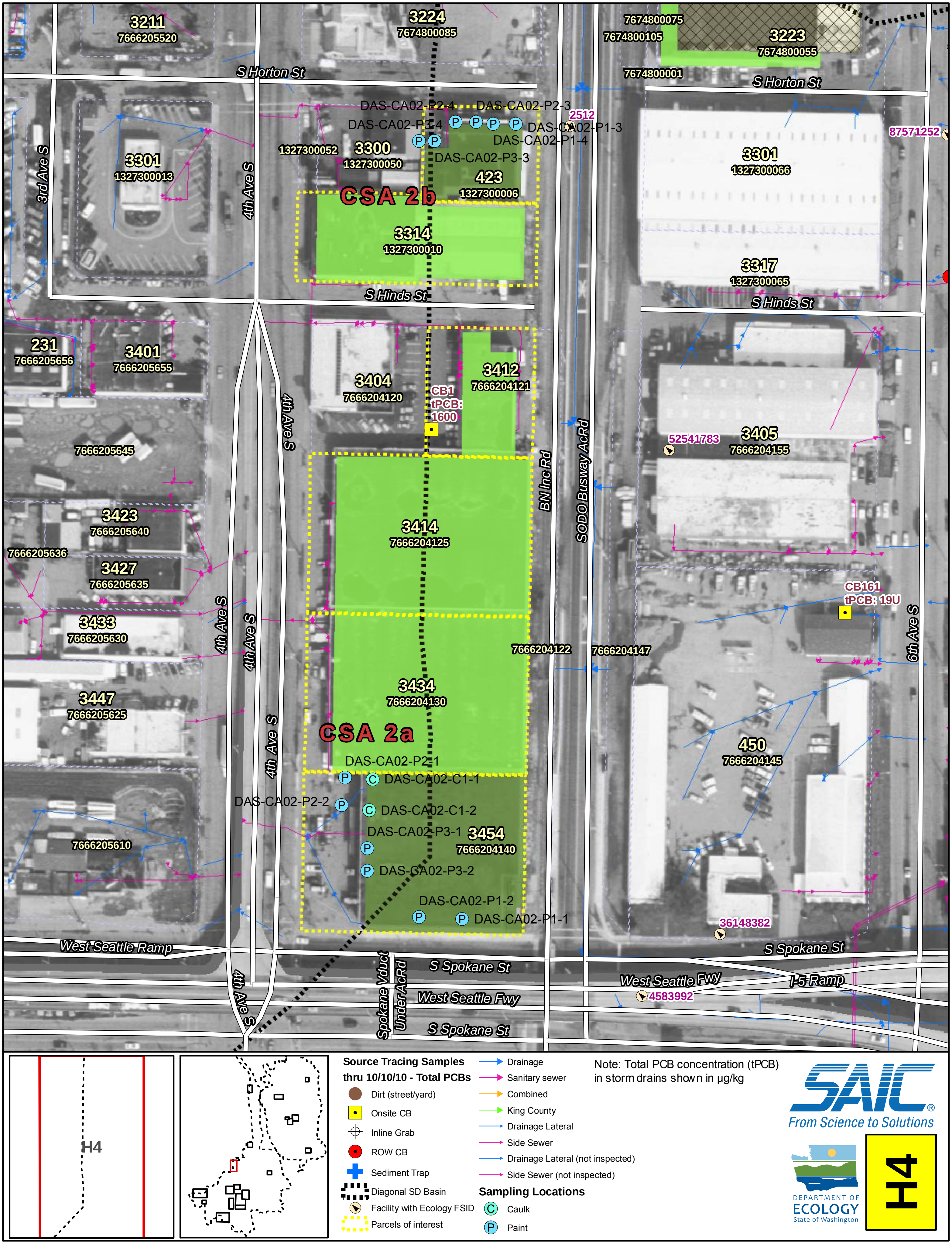
G6a



3211
7666205520
3224
7674800085
7674800075
7674800105
3223
7674800055
7674800001
S Horton St
S Horton St
DAS-CA02-P2-4
DAS-CA02-P2-3
2512
DAS-CA02-P3-4
DAS-CA02-P1-3
DAS-CA02-P1-4
87571252
1327300052
3300
1327300050
DAS-CA02-P3-3
3301
1327300066
3301
1327300013
423
1327300006
3rd Ave S
4th Ave S
CSA 2b
3314
1327300010
3317
1327300065
S Hinds St
S Hinds St
231
7666205656
3401
7666205655
3404
7666204120
CB1
tPCB:
1600
3412
7666204121
4th Ave S
52541783
3405
7666204155
7666205645
BN Inc Rd
SODO Busway AcRd
3423
7666205640
3414
7666204125
7666205636
3427
7666205635
CB161
tPCB: 19U
3433
7666205630
4th Ave S
4th Ave S
7666204122
7666204147
6th Ave S
3447
7666205625
3434
7666204130
CSA 2a
4th Ave S
450
7666204145
DAS-CA02-P2-1
DAS-CA02-C1-1
DAS-CA02-P2-2
DAS-CA02-C1-2
DAS-CA02-P3-1
3454
7666204140
7666205610
DAS-CA02-P3-2
DAS-CA02-P1-2
DAS-CA02-P1-1
36148382
West Seattle Ramp
S Spokane St
S Spokane St
Spokane Vduct UnderAcRd
West Seattle Fwy
4583992
I-5 Ramp
West Seattle Fwy
4th Ave S
S Spokane St
H4
Source Tracing Samples
thru 10/10/10 - Total PCBs
Dirt (street/yard)
Onsite CB
Inline Grab
ROW CB
Sediment Trap
Diagonal SD Basin
Facility with Ecology FSID
Parcels of interest
Drainage
Sanitary sewer
Combined
King County
Drainage Lateral
Side Sewer
Drainage Lateral (not inspected)
Side Sewer (not inspected)
Sampling Locations
Caulk
Paint
Note: Total PCB concentration (tPCB)
in storm drains shown in µg/kg
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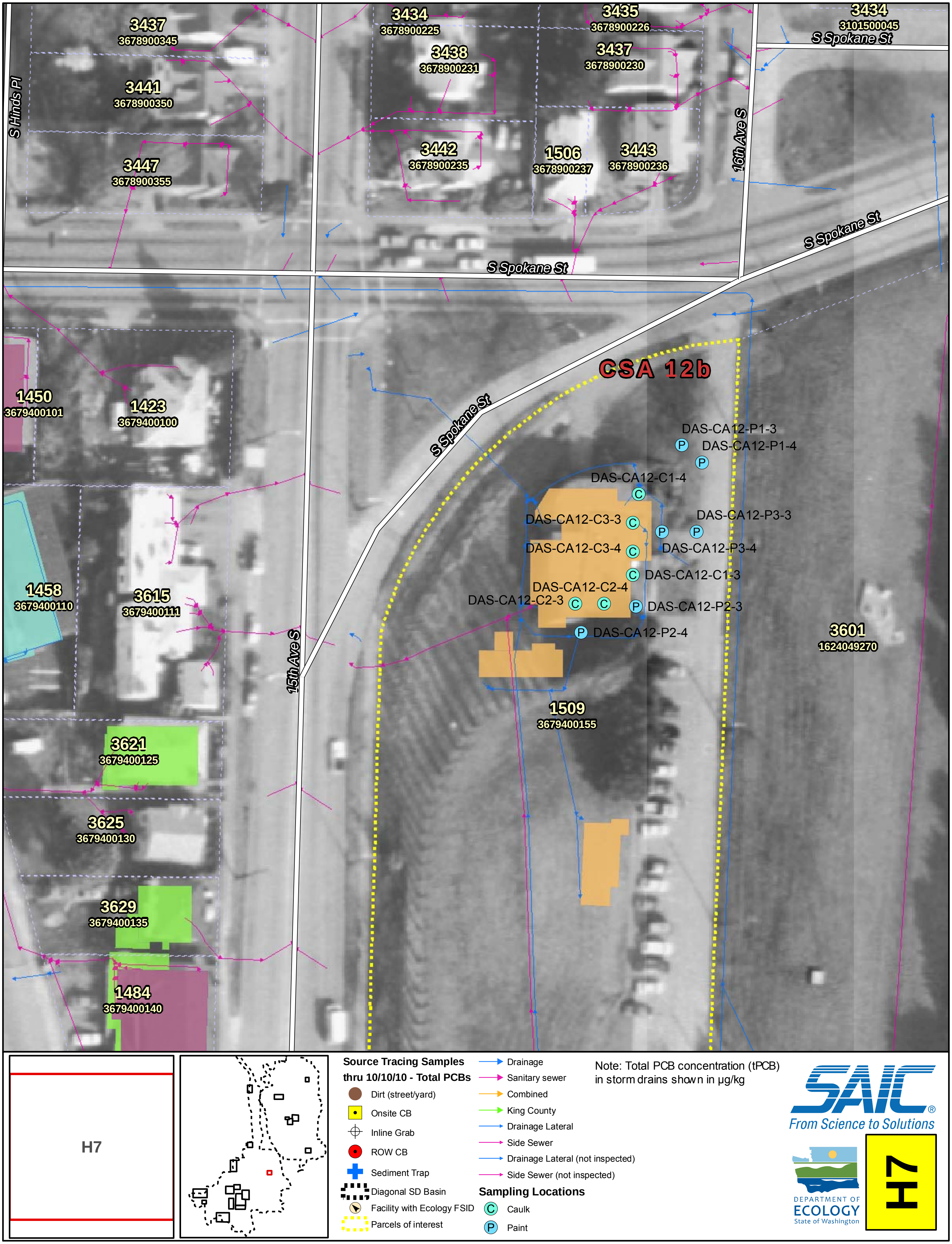
H4



S Hinds Pl
3437
3678900345
3441
3678900350
3447
3678900355
3434
3678900225
3438
3678900231
3442
3678900235
3435
3678900226
3437
3678900230
1506
3678900237
3443
3678900236
16th Ave S
3434
3101500045
S Spokane St
S Spokane St
S Spokane St
S Spokane St
CSA 12b
1450
3679400101
1423
3679400100
1458
3679400110
3615
3679400111
15th Ave S
3621
3679400125
3625
3679400130
3629
3679400135
1484
3679400140
DAS-CA12-P1-3
DAS-CA12-P1-4
DAS-CA12-C1-4
DAS-CA12-C3-3
DAS-CA12-P3-3
DAS-CA12-C3-4
DAS-CA12-P3-4
DAS-CA12-C1-3
DAS-CA12-C2-4
DAS-CA12-C2-3
DAS-CA12-P2-3
DAS-CA12-P2-4
3601
1624049270
1509
3679400155
H7
Source Tracing Samples
thru 10/10/10 - Total PCBs
Dirt (street/yard)
Onsite CB
Inline Grab
ROW CB
Sediment Trap
Diagonal SD Basin
Facility with Ecology FSID
Parcels of interest
Drainage
Sanitary sewer
Combined
King County
Drainage Lateral
Side Sewer
Drainage Lateral (not inspected)
Side Sewer (not inspected)
Sampling Locations
Caulk
Paint
Note: Total PCB concentration (tPCB)
in storm drains shown in µg/kg
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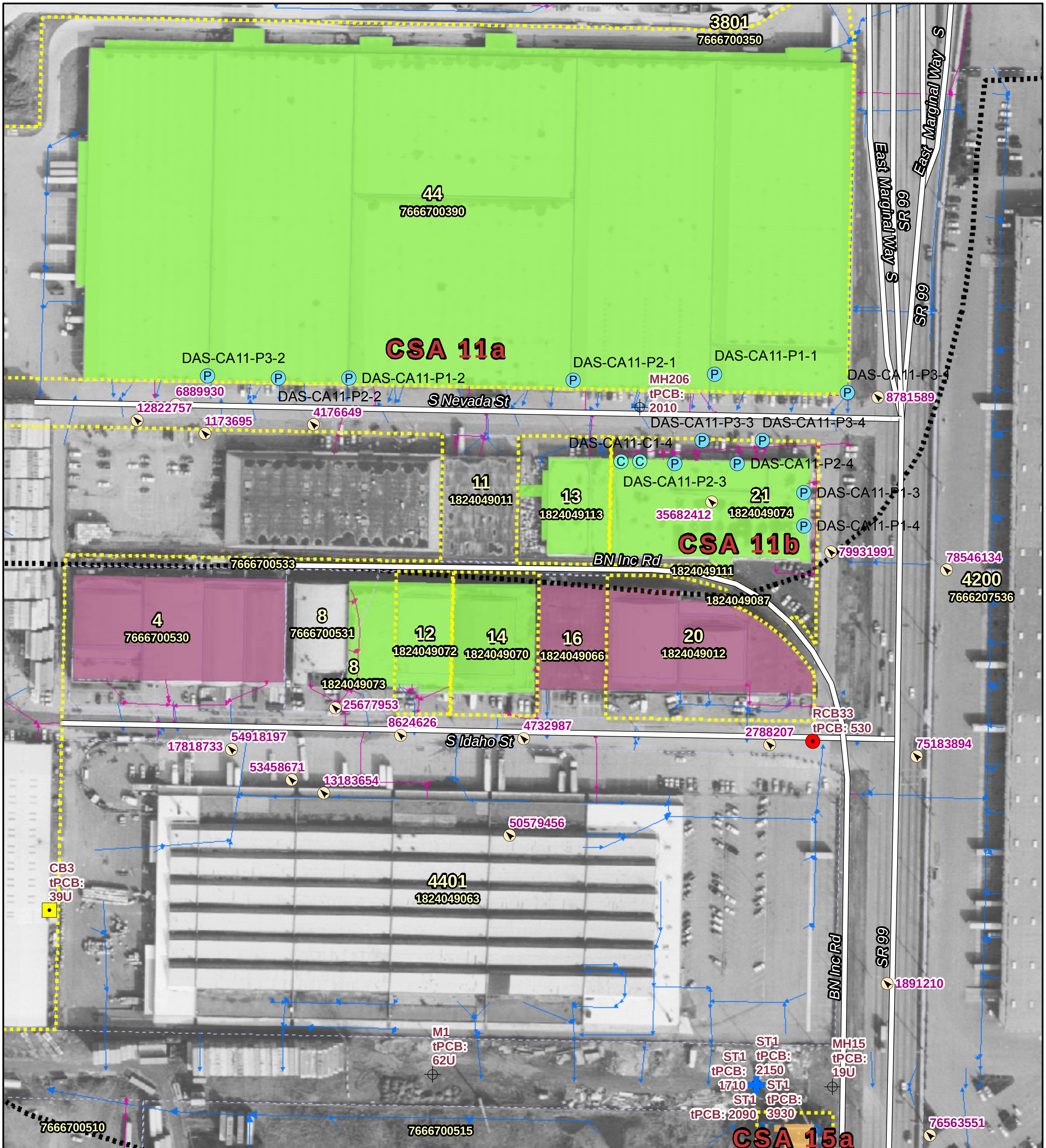
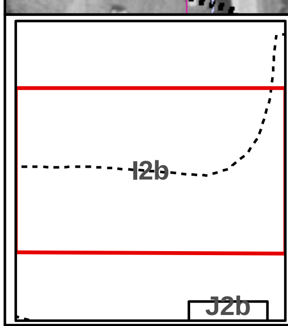
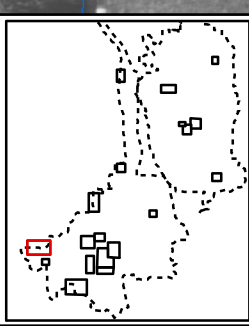
H7







Source Tracing Samples thru 10/10/10 - Total PCBs

- Dirt (street/yard)
- Onsite CB
- Inline Grab
- ROW CB
- Sediment Trap
- Diagonal SD Basin
- Facility with Ecology FSID
- Parcels of interest

- Drainage
- Sanitary sewer
- Combined
- King County
- Drainage Lateral
- Side Sewer
- Drainage Lateral (not inspected)
- Side Sewer (not inspected)

Sampling Locations

- Caulk
- Paint

Note: Total PCB concentration (tPCB) in storm drains shown in µg/kg

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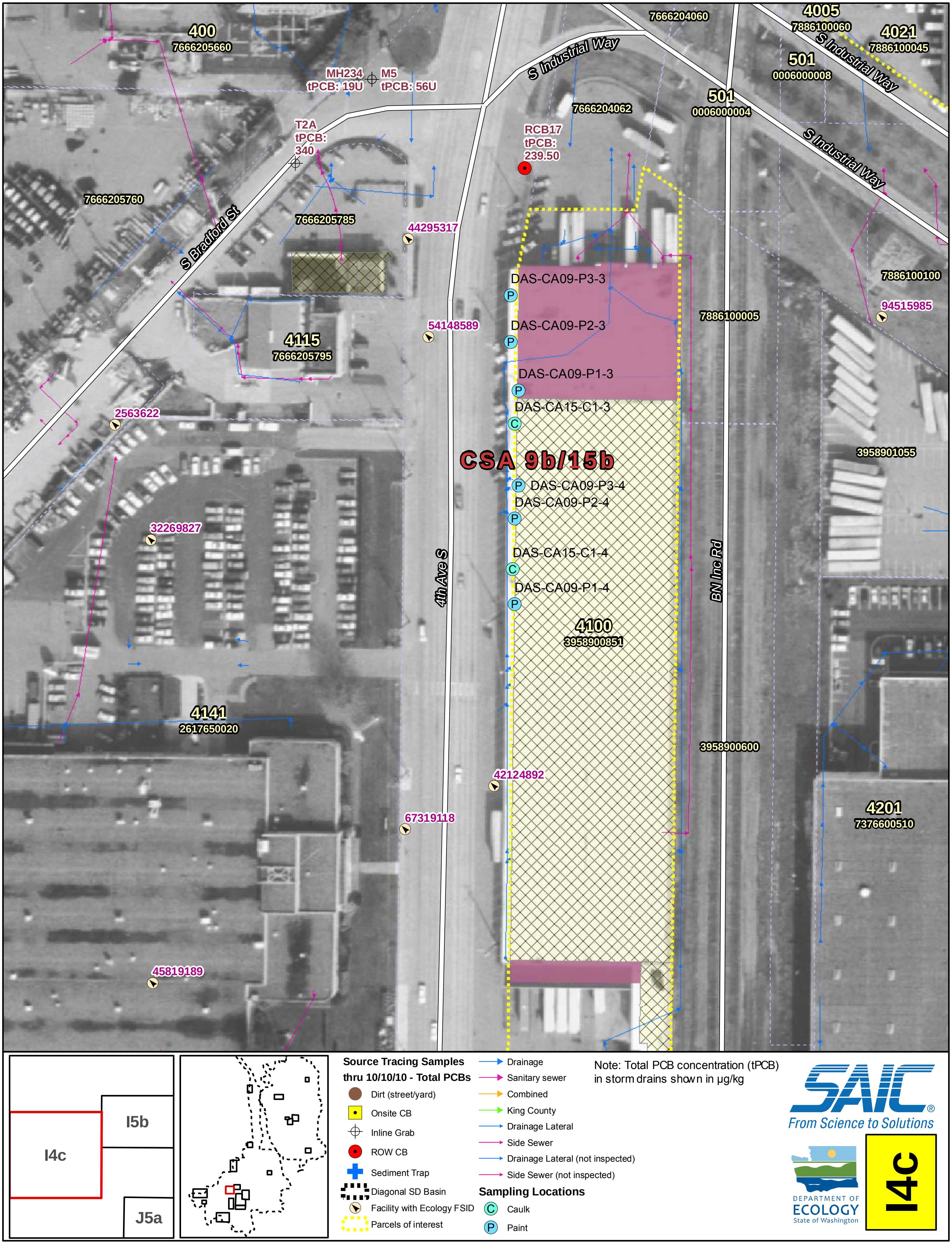
I2b



400
7666205660
MH234
tPCB: 19U
M5
tPCB: 56U
T2A
tPCB:
340
RCB17
tPCB:
239.50
S Industrial Way
7666204060
7666204062
4005
7886100060
4021
7886100045
501
0006000008
501
0006000004
S Industrial Way
7666205760
7666205785
S Bradford St
44295317
DAS-CA09-P3-3
DAS-CA09-P2-3
DAS-CA09-P1-3
DAS-CA15-C1-3
7886100005
7886100100
94515985
4115
7666205795
54148589
2563622
CSA 9b/15b
DAS-CA09-P3-4
DAS-CA09-P2-4
DAS-CA15-C1-4
DAS-CA09-P1-4
3958901055
32269827
4th Ave S
BN Inc Rd
4100
3958900851
4141
2617650020
3958900600
42124892
67319118
4201
7376600510
45819189
I4c
I5b
J5a
Source Tracing Samples
thru 10/10/10 - Total PCBs
Dirt (street/yard)
Onsite CB
Inline Grab
ROW CB
Sediment Trap
Diagonal SD Basin
Facility with Ecology FSID
Parcels of interest
Drainage
Sanitary sewer
Combined
King County
Drainage Lateral
Side Sewer
Drainage Lateral (not inspected)
Side Sewer (not inspected)
Sampling Locations
Caulk
Paint
Note: Total PCB concentration (tPCB)
in storm drains shown in µg/kg
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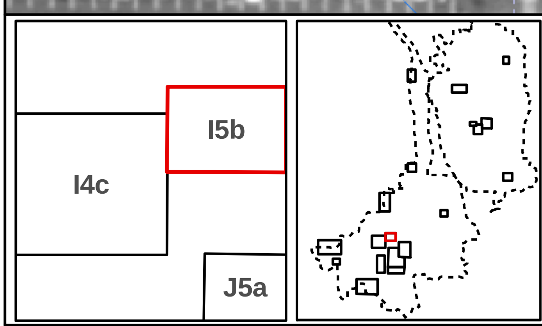
I4c



Source Tracing Samples thru 10/10/10 - Total PCBs

- Dirt (street/yard)
- Onsite CB
- Inline Grab
- ROW CB
- Sediment Trap
- Diagonal SD Basin
- Facility with Ecology FSID
- Parcels of interest

- Drainage
- Sanitary sewer
- Combined
- King County
- Drainage Lateral
- Side Sewer
- Drainage Lateral (not inspected)
- Side Sewer (not inspected)

Sampling Locations

- C Caulk
- P Paint

Note: Total PCB concentration (tPCB) in storm drains shown in µg/kg

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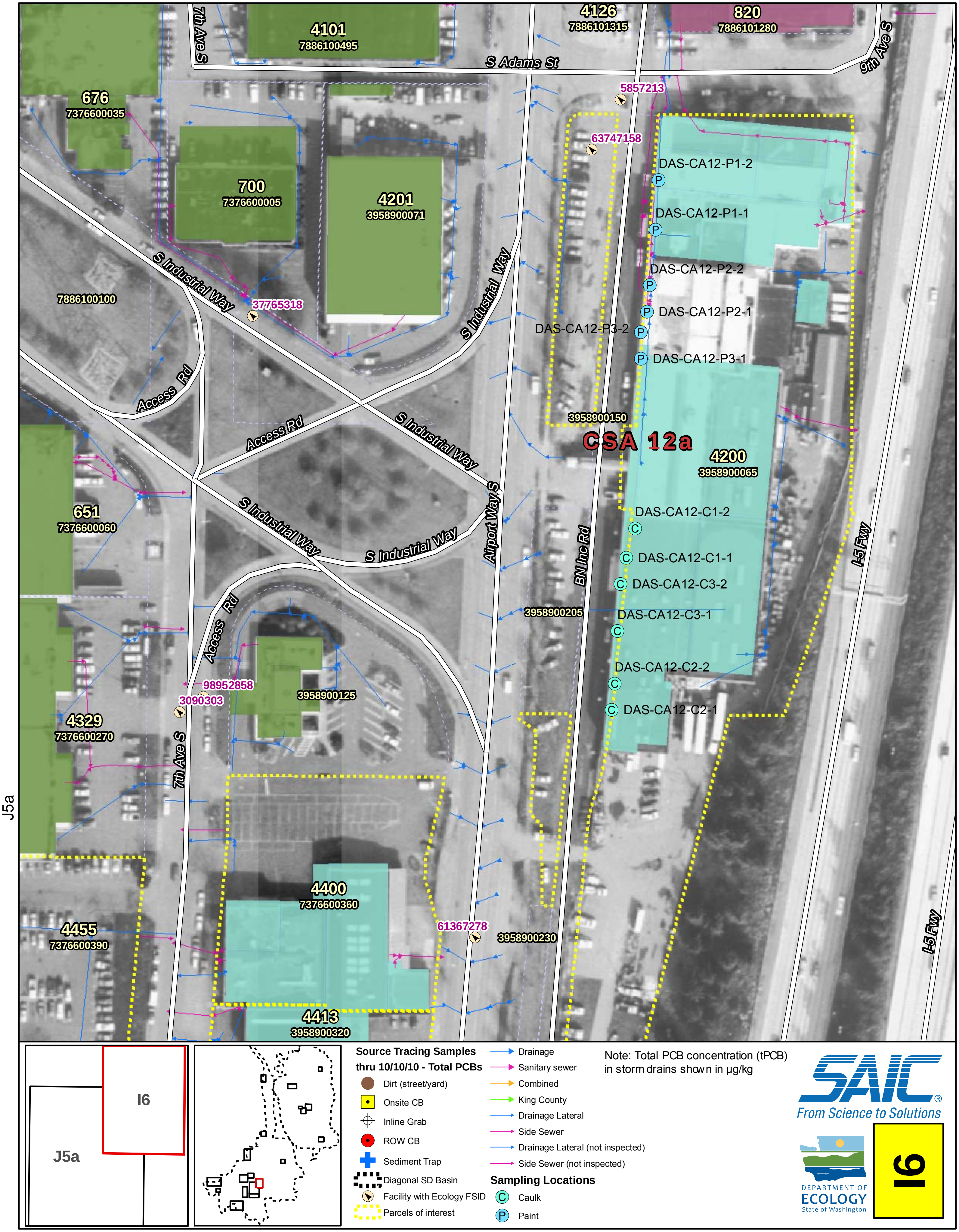
I5b



4126
7886101315
820
7886101280
4101
7886100495
7th Ave S
S Adams St
9th Ave S
676
7376600035
5857213
63747158
700
7376600005
4201
3958900071
DAS-CA12-P1-2
DAS-CA12-P1-1
DAS-CA12-P2-2
DAS-CA12-P2-1
DAS-CA12-P3-2
DAS-CA12-P3-1
S Industrial Way
7886100100
37765318
Access Rd
3958900150
CSA 12a
4200
3958900065
651
7376600060
Airport Way S
BN Inc Rd
DAS-CA12-C1-2
DAS-CA12-C1-1
DAS-CA12-C3-2
DAS-CA12-C3-1
DAS-CA12-C2-2
DAS-CA12-C2-1
I-5 Fwy
3958900205
98952858
3090303
3958900125
4329
7376600270
7th Ave S
4400
7376600360
4455
7376600390
61367278
3958900230
4413
3958900320
J5a
I6
J5a
Source Tracing Samples
thru 10/10/10 - Total PCBs
Dirt (street/yard)
Onsite CB
Inline Grab
ROW CB
Sediment Trap
Diagonal SD Basin
Facility with Ecology FSID
Parcels of interest
Drainage
Sanitary sewer
Combined
King County
Drainage Lateral
Side Sewer
Drainage Lateral (not inspected)
Side Sewer (not inspected)
Sampling Locations
Caulk
Paint
Note: Total PCB concentration (tPCB)
in storm drains shown in µg/kg
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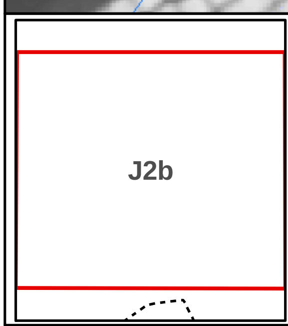
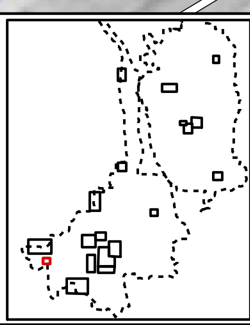
ECOLOGY
State of Washington
I6





Source Tracing Samples thru 10/10/10 - Total PCBs

- Dirt (street/yard)
- Onsite CB
- Inline Grab
- ROW CB
- Sediment Trap
- Diagonal SD Basin
- Facility with Ecology FSID
- Parcels of interest

- Drainage
- Sanitary sewer
- Combined
- King County
- Drainage Lateral
- Side Sewer
- Drainage Lateral (not inspected)
- Side Sewer (not inspected)

Sampling Locations

- Caulk
- Paint

Note: Total PCB concentration (tPCB) in storm drains shown in µg/kg

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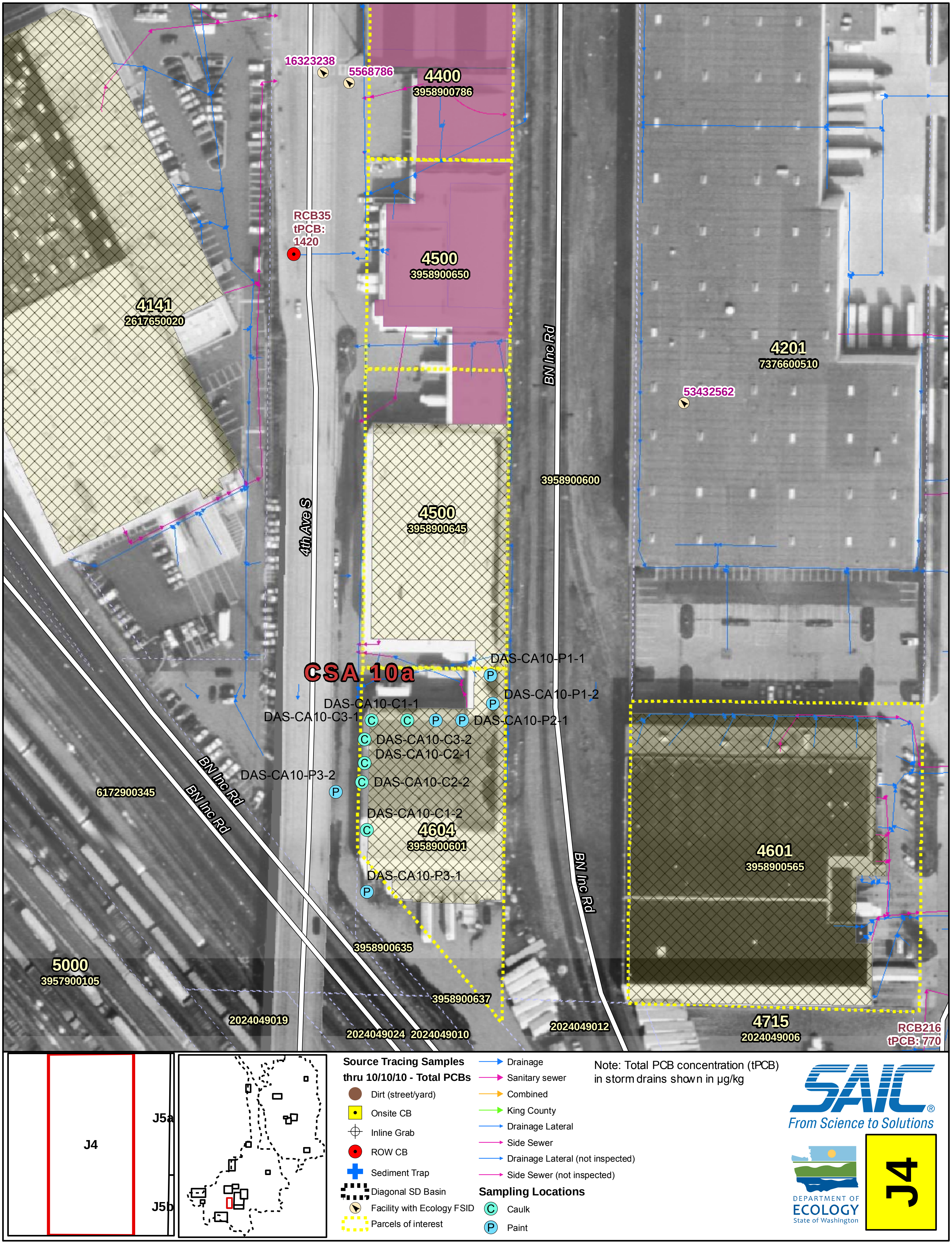
J2b



16323238
5568786
4400
3958900786
RCB35
tPCB:
1420
4500
3958900650
4141
2617650020
BN Inc Rd
4201
7376600510
53432562
3958900600
4500
3958900645
4th Ave S
CSA 10a
DAS-CA10-P1-1
DAS-CA10-P1-2
DAS-CA10-C1-1
DAS-CA10-C3-1
DAS-CA10-P2-1
DAS-CA10-C3-2
DAS-CA10-C2-1
DAS-CA10-P3-2
DAS-CA10-C2-2
DAS-CA10-C1-2
DAS-CA10-P3-1
6172900345
BN Inc Rd
BN Inc Rd
4604
3958900601
4601
3958900565
BN Inc Rd
5000
3957900105
3958900635
3958900637
2024049019
2024049024
2024049010
2024049012
4715
2024049006
RCB216
tPCB: 770
J4
J5a
J5b
Source Tracing Samples
thru 10/10/10 - Total PCBs
Dirt (street/yard)
Onsite CB
Inline Grab
ROW CB
Sediment Trap
Diagonal SD Basin
Facility with Ecology FSID
Parcels of interest
Drainage
Sanitary sewer
Combined
King County
Drainage Lateral
Side Sewer
Drainage Lateral (not inspected)
Side Sewer (not inspected)
Sampling Locations
Caulk
Paint
Note: Total PCB concentration (tPCB)
in storm drains shown in µg/kg
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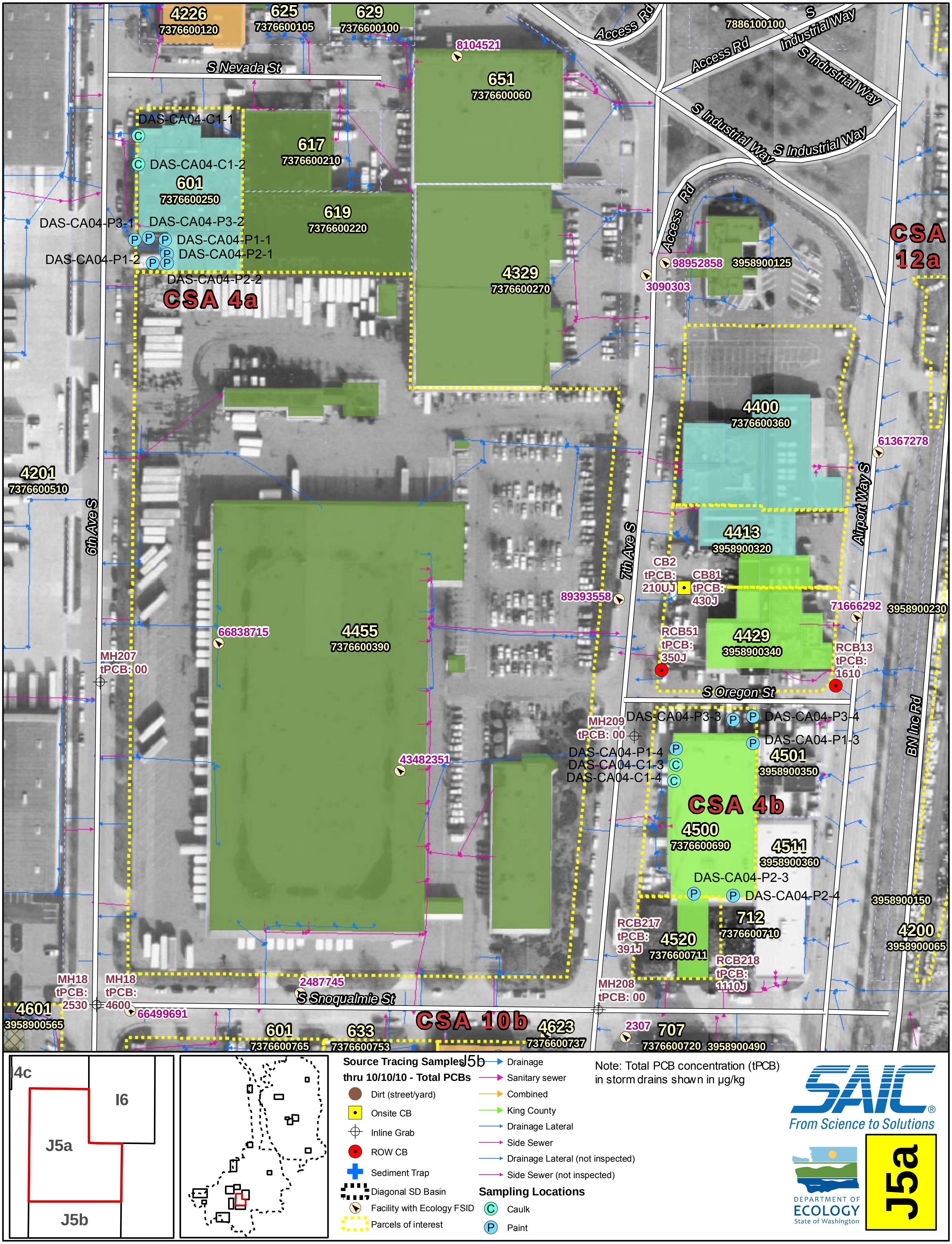
State of Washington
J4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625
7376600105
629
7376600100
S Nevada St
8104521
651
7376600060
Access Rd
S Industrial Way
7886100100
Access Rd
S Industrial Way
S Industrial Way
S Industrial Way
DAS-CA04-C1-1
DAS-CA04-C1-2
617
7376600210
601
7376600250
619
7376600220
DAS-CA04-P3-1
DAS-CA04-P3-2
DAS-CA04-P1-1
DAS-CA04-P2-1
DAS-CA04-P1-2
DAS-CA04-P2-2
CSA 4a
4329
7376600270
Access Rd
98952858
3958900125
3090303
CSA 12a
4400
7376600360
61367278
4201
7376600510
6th Ave S
4413
3958900320
Airport Way S
7th Ave S
CB2
tPCB:
210UJ
CB81
tPCB:
430J
89393558
71666292
3958900230
4455
7376600390
66838715
RCB51
tPCB:
350J
4429
3958900340
RCB13
tPCB:
1610
MH207
tPCB: 00
S Oregon St
MH209
tPCB: 00
DAS-CA04-P3-3
DAS-CA04-P3-4
DAS-CA04-P1-3
DAS-CA04-P1-4
DAS-CA04-C1-3
DAS-CA04-C1-4
4501
3958900350
43482351
BN Inc Rd
CSA 4b
4500
7376600690
4511
3958900360
DAS-CA04-P2-3
DAS-CA04-P2-4
3958900150
712
7376600710
RCB217
tPCB:
391J
4520
7376600711
4200
3958900065
RCB218
tPCB:
1110J
MH18
tPCB:
2530
MH18
tPCB:
4600
2487745
S Snoqualmie St
MH208
tPCB: 00
4601
3958900565
66499691
601
7376600765
633
7376600753
CSA 10b
4623
7376600737
2307
707
7376600720
3958900490
4c
I6
J5a
J5b
J5b
Source Tracing Samples
thru 10/10/10 - Total PCBs
Dirt (street/yard)
Onsite CB
Inline Grab
ROW CB
Sediment Trap
Diagonal SD Basin
Facility with Ecology FSID
Parcels of interest
Drainage
Sanitary sewer
Combined
King County
Drainage Lateral
Side Sewer
Drainage Lateral (not inspected)
Side Sewer (not inspected)
Sampling Locations
Caulk
Paint
Note: Total PCB concentration (tPCB)
in storm drains shown in µg/kg
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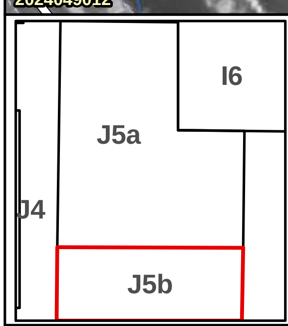
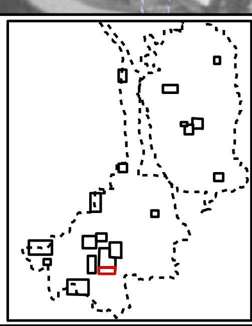
State of Washington
J5a





Source Tracing Samples thru 10/10/10 - Total PCBs

- Dirt (street/yard)
- Onsite CB
- Inline Grab
- ROW CB
- Sediment Trap
- Diagonal SD Basin
- Facility with Ecology FSID
- Parcels of interest

- Drainage
- Sanitary sewer
- Combined
- King County
- Drainage Lateral
- Side Sewer
- Drainage Lateral (not inspected)
- Side Sewer (not inspected)

Sampling Locations

- C Caulk
- P Paint

Note: Total PCB concentration (tPCB) in storm drains shown in µg/kg

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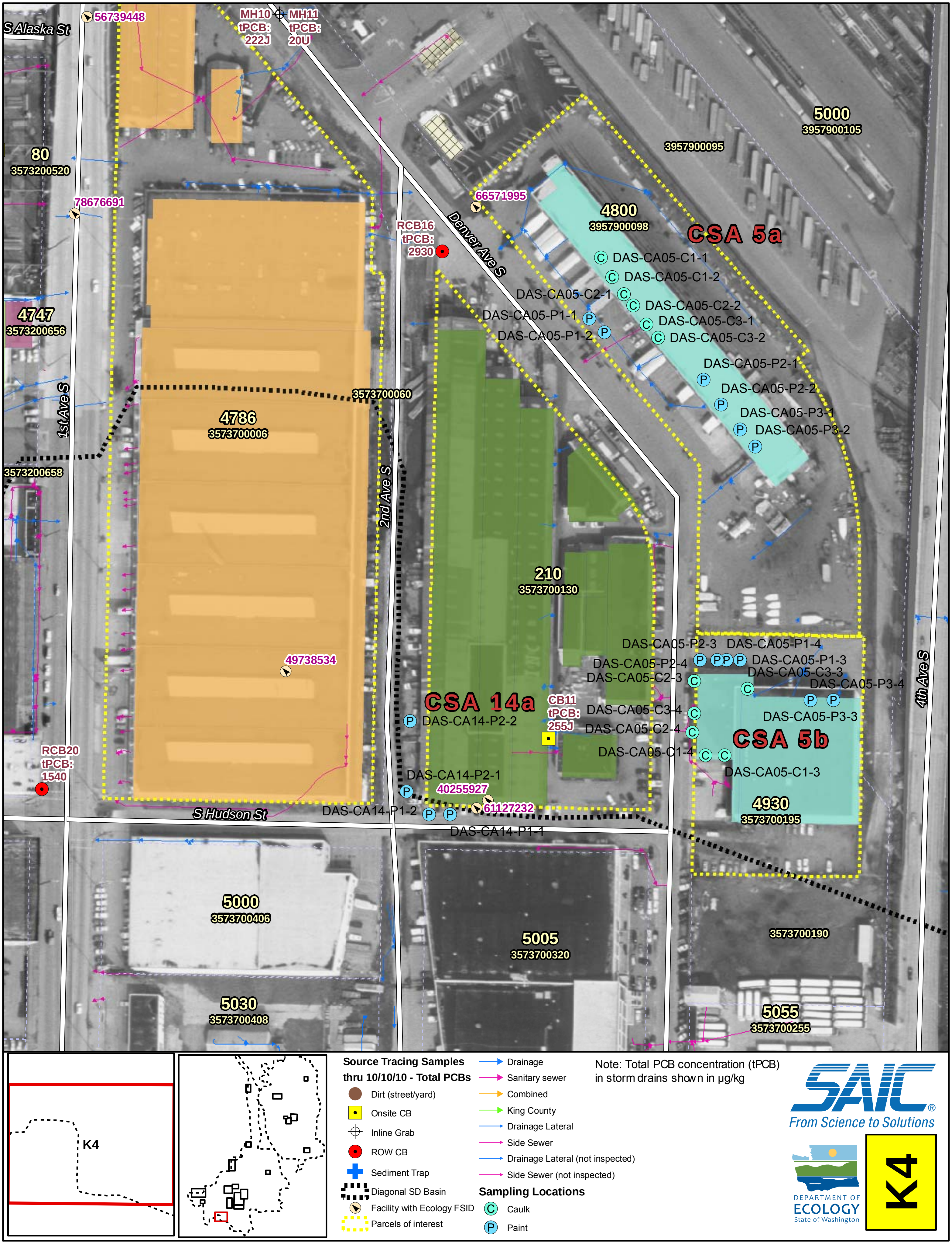
J5b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56739448
MH10 tPCB: 222J
MH11 tPCB: 20U
80
3573200520
78676691
4747
3573200656
3573200658
1st Ave S
4786
3573700006
3573700060
2nd Ave S
49738534
RCB20 tPCB: 1540
RCB16 tPCB: 2930
66571995
Denver Ave S
4800
3957900098
3957900095
5000
3957900105
CSA 5a
DAS-CA05-C1-1
DAS-CA05-C1-2
DAS-CA05-C2-1
DAS-CA05-C2-2
DAS-CA05-P1-1
DAS-CA05-C3-1
DAS-CA05-P1-2
DAS-CA05-C3-2
DAS-CA05-P2-1
DAS-CA05-P2-2
DAS-CA05-P3-1
DAS-CA05-P3-2
210
3573700130
CSA 14a
CB11 tPCB: 255J
DAS-CA14-P2-2
DAS-CA14-P2-1
40255927
61127232
DAS-CA14-P1-2
DAS-CA14-P1-1
S Hudson St
DAS-CA05-P2-3
DAS-CA05-P1-4
DAS-CA05-P2-4
DAS-CA05-P1-3
DAS-CA05-C2-3
DAS-CA05-C3-3
DAS-CA05-P3-4
DAS-CA05-C3-4
DAS-CA05-P3-3
DAS-CA05-C2-4
CSA 5b
DAS-CA05-C1-4
DAS-CA05-C1-3
4930
3573700195
4th Ave S
5000
3573700406
5005
3573700320
3573700190
5030
3573700408
5055
3573700255
K4
Source Tracing Samples thru 10/10/10 - Total PCBs
Dirt (street/yard)
Onsite CB
Inline Grab
ROW CB
Sediment Trap
Diagonal SD Basin
Facility with Ecology FSID
Parcels of interest
Drainage
Sanitary sewer
Combined
King County
Drainage Lateral
Side Sewer
Drainage Lateral (not inspected)
Side Sewer (not inspected)
Sampling Locations
Caulk
Paint
Note: Total PCB concentration (tPCB) in storm drains shown in µg/kg
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K4

Appendix C

Chain of Custody Forms

SR40

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SAIC
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18912 North Creek Parkway, Suite 101
Bothell, Washington 98011
TEL: 425.485.5800 • FAX: 425.485.5566

CHAIN OF CUSTODY RECORD

Project Number: 196257
Project Name: LDW Survey of PCB-Containing Building Materials
Project Location: Diagonal Avenue South Drainage Basin, Seattle, WA
Contact Name: Marina Mitchell 425.482.3310 marina.i.mitchell@saic.com
Samples Collected by: John Whelpley, Julie Wartes, Corey Wilson

Sample ID	Depth	Matrix	Date	Time	# of Containers	PCB Aroclors (EPA 8082)	Mercury (EPA 7471A)	Other Metals (EPA 6010B/200.8)						
DAS-CA 03 -P 1	na	paint	4/12/11	1045	1	X	X							
DAS-CA 03 -P 2	na	paint	4/12/11	1050	1	X								
DAS-CA 03 -P 3	na	paint	4/12/11	1055	1	X								
DAS-CA 05 -P 1	na	paint	4/12/11	1310	1	X	X							
DAS-CA 05 -P 2	na	paint	4/12/11	1315	1	X								
DAS-CA 05 -P 3	na	paint	4/12/11	1320	1	X								
DAS-CA 05 -P 3D	na	paint	4/12/11	0800	1	X	X							
DAS-CA 07 -P 1	na	paint	4/12/11	1535	1	X	X							
DAS-CA 07 -P 2	na	paint	4/12/11	1540	1	X								
DAS-CA 07 -P 3	na	paint	4/12/11	1545	1	X								
DAS-CA 04 -P 1	na	paint	4/12/11	1735	1	X	X							
DAS-CA 04 -P 2	na	paint	4/12/11	1730	1	X								

Shipping Information

Number of Shipping Containers: 1
Date Shipped:
Carrier: SAIC
Waybill No.: N/A

Comments

Analyze per SAP/QAPP, provided under separate cover.

Do not dispose of samples without written authorization from SAIC.

RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
Signature: Julie Wartes	Signature: [illegible]	Signature: [illegible]	Signature:
Date/Time: 4/12/11 /2011 @ 1755	Date/Time: 4/12/11 1755	Date/Time: 4/12/11 18:15	Date/Time:
Affiliation: SAIC	Affiliation: SAIC	Affiliation: ARI	Affiliation:

No Ice, 19.2°C

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CHAIN OF CUSTODY RECORD

Project Number: 196257
Project Name: LDW Survey of PCB-Containing Building Materials
Project Location: Diagonal Avenue South Drainage Basin, Seattle, WA
Contact Name: Marina Mitchell 425.482.3310 marina.i.mitchell@saic.com
Samples Collected by: John Whelpley, Julie Wartes, Corey Wilson

Sample ID	Depth	Matrix	Date	Time	# of Containers	PCB Aroclors (EPA 8082)	Mercury (EPA 7471A)	Other Metals (EPA 6010B/200.8)						
DAS-CA 04 -P 3	na	paint	4/12/11	1740	1	X								
DAS-CA -P	na	paint	4/ /11		1	X								
DAS-CA -P	na	paint	4/ /11		1	X								
DAS-CA -P	na	paint	4/ /11		1	X								
DAS-CA -P	na	paint	4/ /11		1	X								
DAS-CA -P	na	paint	4/ /11		1	X								

Julie Wartes 4/12/11

Shipping Information

Number of Shipping Containers: 1
Date Shipped:
Carrier: SAIC
Waybill No.: N/A

Comments

Analyze per SAP/QAPP, provided under separate cover.

Do not dispose of samples without written authorization from SAIC.

RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
Signature: Julie Wartes	Signature: Joel M	Signature: W... W...	Signature:
Date/Time: 4/12/2011 @ 1755	Date/Time: 4/12/11 1755	Date/Time: 4/12/11 18:15	Date/Time:
Affiliation: SAIC	Affiliation: SAIC	Affiliation: ARI	Affiliation:

SR41

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TEL: 425.485.5800 • FAX: 425.485.5566

CHAIN OF CUSTODY RECORD

Project Number: 196257
Project Name: LDW Survey of PCB-Containing Building Materials
Project Location: Diagonal Avenue South Drainage Basin, Seattle, WA
Contact Name: Marina Mitchell 425.482.3310 marina.i.mitchell@saic.com
Samples Collected by: John Whelpley, Julie Wartes, Corey Wilson

Shipping Information

Number of Shipping Containers: 1
Date Shipped:
Carrier: SAIC
Waybill No.: N/A

Sample ID	Depth	Matrix	Date	Time	# of Containers	PCB Aroclors (EPA 8082)									Comments
DAS-CA 03 -C 1	na	caulk	4/12/11	1045	1	X									
DAS-CA 03 -C 2	na	caulk	4/12/11	1050	1	X									Analyze per SAP/QAPP,
DAS-CA 03 -C 3	na	caulk	4/12/11	1055	1	X									provided under separate cover.
DAS-CA 05 -C 3	na	caulk	4/12/11	1325	1	X									
DAS-CA 05 -C 3D	na	caulk	4/12/11	1330	1	X									
DAS-CA 05 -C 1	na	caulk	4/12/11	1335	1	X									Do not dispose of samples
DAS-CA 05 -C 2	na	caulk	4/12/11	1340	1	X									without written authorization
DAS-CA 04 -C 1	na	caulk	4/12/11	1656	1	X									from SAIC.
~~DAS-CA -C~~	~~na~~	~~caulk~~	~~4/ /11~~		~~1~~	~~X~~									
~~DAS-CA -C~~	~~na~~	~~caulk~~	~~4/ /11~~		~~1~~	~~X~~									
~~DAS-CA -C~~	~~na~~	~~caulk~~	~~4/ /11~~	4/12/11	~~1~~	~~X~~									
~~DAS-CA -C~~	~~na~~	~~caulk~~	~~4/ /11~~		~~1~~	~~X~~									

RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
Signature: [signature]	Signature: [signature]	Signature: [signature]	Signature:
Date/Time: 4/12/2011 @ 1751	Date/Time: 4/12/11 1755	Date/Time: 4/12/11	Date/Time:
Affiliation: SAIC	Affiliation: SAIC	Affiliation: ARI	Affiliation:

SR92

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18912 North Creek Parkway, Suite 101
Bothell, Washington 98011
TEL: 425.485.5800 • FAX: 425.485.5566

CHAIN OF CUSTODY RECORD

Project Number: 196257
Project Name: LDW Survey of PCB-Containing Building Materials
Project Location: Diagonal Avenue South Drainage Basin, Seattle, WA
Contact Name: Marina Mitchell 425.482.3310 marina.i.mitchell@saic.com
Samples Collected by: John Whelpley, Julie Wartes, Corey Wilson

Shipping Information
Number of Shipping Containers:
Date Shipped: 4/13/11
Carrier: SAIC
Waybill No.: N/A

Sample ID	Depth	Matrix	Date	Time	# of Containers	PCB Aroclors (EPA 8082)	Mercury (EPA 7471A)	Other Metals (EPA 6010B/200.8)							Comments
DAS-CA 11 -P 1	na	paint	4/13/11	0850	1	X	X								
DAS-CA 11 -P 2	na	paint	4/13/11	0840	1	X									Analyze per SAP/QAPP,
DAS-CA 11 -P 3	na	paint	4/13/11	0845	1	X									provided under separate cover.
DAS-CA 01 -P 1	na	paint	4/13/11	1210	1	X	X								
DAS-CA 01 -P 2	na	paint	4/13/11	1215	1	X									
DAS-CA 01 -P 3	na	paint	4/13/11	1210	1	X									Do not dispose of samples
DAS-CA 10 -P 1	na	paint	4/13/11	1710	1	X	X								without written authorization
DAS-CA 10 -P 10	na	paint	4/13/11	0800	1	X	X								from SAIC.
DAS-CA 10 -P 2	na	paint	4/13/11	1720	1	X									
DAS-CA 10 -P 3	na	paint	4/13/11	1715	1	X									
DAS-CA 07 -P 01	na	paint	4/13/11	1745	1	X	X								
DAS-CA 06 -P 1	na	paint	4/13/11	1755	1	X	X								

RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
Signature: [signature]	Signature: [signature]	Signature: [signature]	Signature: [signature]
Date/Time: 4/13/2011 @ 1816	Date/Time: 4/13/13 1816	Date/Time: 4/14/11 0712	Date/Time: 4/14/11 0712
Affiliation: SAIC	Affiliation: SAIC	Affiliation: SAIC	Affiliation: ARI

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TEL: 425.485.5800 • FAX: 425.485.5566

CHAIN OF CUSTODY RECORD

Project Number: 196257
Project Name: LDW Survey of PCB-Containing Building Materials
Project Location: Diagonal Avenue South Drainage Basin, Seattle, WA
Contact Name: Marina Mitchell 425.482.3310 marina.i.mitchell@saic.com
Samples Collected by: John Whelpley, Julie Wartes, Corey Wilson

Sample ID	Depth	Matrix	Date	Time	# of Containers	PCB Aroclors (EPA 8082)									
DAS-CA 02/11 -C 1	na	caulk	4/13/11	0800	1	X									
DAS-CA 01 -C 1	na	caulk	4/13/11	1155	1	X									
DAS-CA 10 -C 1	na	caulk	4/13/11	1747	1	X									
DAS-CA 10 -C 1-D	na	caulk	4/13/11	1749	1	X									
DAS-CA 10 -C 2	na	caulk	4/13/11	1805	1	X									
DAS-CA 10 -C 3	na	caulk	4/ /11	1800	1	X									
~~DAS-CA -C~~	~~na~~	~~caulk~~	~~4/ /11~~		~~1~~	~~X~~									
~~DAS-CA -C~~	~~na~~	~~caulk~~	~~4/ /11~~		~~1~~	~~X~~									
~~DAS-CA -C~~	~~na~~	~~caulk~~	~~4/ /11~~		~~1~~	~~X~~									
~~DAS-CA -C~~	~~na~~	~~caulk~~	~~4/ /11~~		~~1~~	~~X~~									
~~DAS-CA -C~~	~~na~~	~~caulk~~	~~4/ /11~~		~~1~~	~~X~~									
~~DAS-CA -C~~	~~na~~	~~caulk~~	~~4/ /11~~		~~1~~	~~X~~									

4/13/11

Shipping Information

Number of Shipping Containers:
Date Shipped:
Carrier: SAIC
Waybill No.: N/A

Comments

Analyze per SAP/QAPP, provided under separate cover.

Do not dispose of samples without written authorization from SAIC.

RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
Signature: [signature]	Signature: [signature]	Signature: [signature]	Signature: [signature]
Date/Time: 4/13/2011 @ 1814	Date/Time: 4/13/11 1814	Date/Time: 4/14/11 0712	Date/Time: 4/14/11 0712
Affiliation: SAIC	Affiliation: SAIC	Affiliation: SAIC	Affiliation: ARI

page 1/3

SAIC
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TEL: 425.485.5800 • FAX: 425.485.5566

CHAIN OF CUSTODY RECORD

Project Number: 196257
Project Name: LDW Survey of PCB-Containing Building Materials
Project Location: Diagonal Avenue South Drainage Basin, Seattle, WA
Contact Name: Marina Mitchell 425.482.3310 marina.i.mitchell@saic.com
Samples Collected by: John Whelpley, Julie Wartes, Corey Wilson

Shipping Information

Number of Shipping Containers:
Date Shipped: 4/14/11
Carrier: SAIC
Waybill No.: N/A

Sample ID	Depth	Matrix	Date	Time	# of Containers	PCB Aroclors (EPA 8082)	Mercury (EPA 7471A)	Other Metals (EPA 6010B/200.8)							Comments
DAS-CA 08 -P 1	na	paint	4/14/11	0900	1	X	X								
DAS-CA 08 -P 2	na	paint	4/14/11	0855	1	X									Analyze per SAP/QAPP,
DAS-CA 12 -P 1	na	paint	4/14/11	1630	1	X	X								provided under separate cover.
DAS-CA 12 -P 2	na	paint	4/14/11	1650	1	X									
DAS-CA 12 -P 3	na	paint	4/14/11	1710	1	X									
DAS-CA 16 -P 1	na	paint	4/14/11	1725	1	X	X								Do not dispose of samples
DAS-CA 16 -P 3	na	paint	4/14/11	1110	1	X									without written authorization
DAS-CA 16 -P 2	na	paint	4/14/11	1731	1	X									from SAIC.
DAS-CA 14 -P 1	na	paint	4/14/11	1730	1	X	X								
DAS-CA 14 -P 2	na	paint	4/14/11	1735	1	X									
DAS-CA 09 -P 1	na	paint	4/14/11	1745	1	X	X								
DAS-CA 09 -P 2	na	paint	4/14/11	1750	1	X									

RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
Signature: Julie Wartes	Signature: [illegible]	Signature: [illegible]	Signature: [illegible]
Date/Time: 4/14/2011 @ 1800	Date/Time: 4/14/11 1800	Date/Time: 4/14/11 1832	Date/Time: 4/14/11 18:32
Affiliation: SAIC	Affiliation: SAIC	Affiliation: SAIC	Affiliation: ARI

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SAIC
From Science to Solutions

18912 North Creek Parkway, Suite 101
Bothell, Washington 98011
TEL: 425.485.5800 • FAX: 425.485.5566

CHAIN OF CUSTODY RECORD

Project Number: 196257
Project Name: LDW Survey of PCB-Containing Building Materials
Project Location: Diagonal Avenue South Drainage Basin, Seattle, WA
Contact Name: Marina Mitchell 425.482.3310 marina.i.mitchell@saic.com
Samples Collected by: John Whelpley, Julie Wartes, Corey Wilson

Sample ID	Depth	Matrix	Date	Time	# of Containers	PCB Aroclors (EPA 8082)	Mercury (EPA 7471A)	Other Metals (EPA 6010B/200.8)						
DAS-CA 09 -P 3	na	paint	4/14/11	1800	1	X								
DAS-CA -P	na	paint	4/ /11		1	X								
DAS-CA -P	na	paint	4/ /11		1	X								
DAS-CA -P	na	paint	4/ /11		1	X								
DAS-CA -P	na	paint	4/ /11		1	X								
DAS-CA -P	na	paint	4/ /11		1	X								

Shipping Information

Number of Shipping Containers:
Date Shipped: 4/14/11
Carrier: SAIC
Waybill No.: N/A

Comments

Analyze per SAP/QAPP, provided under separate cover.

Do not dispose of samples without written authorization from SAIC.

RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
Signature: Julie Wartes	Signature: [signature]	Signature: [signature]	Signature: [signature]
Date/Time: 4/14/2011 @ 1800	Date/Time: 4/14/11 1800	Date/Time: 4/14/11 1837	Date/Time: 4/14/11 18:32
Affiliation: SAIC	Affiliation: SAIC	Affiliation: SAIC	Affiliation: ARI

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CHAIN OF CUSTODY RECORD

Project Number: 196257
Project Name: LDW Survey of PCB-Containing Building Materials
Project Location: Diagonal Avenue South Drainage Basin, Seattle, WA
Contact Name: Marina Mitchell 425.482.3310 marina.i.mitchell@saic.com
Samples Collected by: John Whelpley, Julie Wartes, Corey Wilson

Shipping Information

Number of Shipping Containers:
Date Shipped:
Carrier: SAIC
Waybill No.: N/A

Sample ID	Depth	Matrix	Date	Time	# of Containers	PCB Aroclors (EPA 8082)										Comments
DAS-CA 12 -C 1	na	caulk	4/14/11	1520	1	X										
DAS-CA 12 -C 2	na	caulk	4/14/11	1606	1	X										Analyze per SAP/QAPP,
DAS-CA 12 -C 3	na	caulk	4/14/11	1649	1	X										provided under separate cover.
DAS-CA 12 -C 3-D	na	caulk	4/ /11	1651	1	X										
DAS-CA 15 -C 1	na	caulk	4/ /11	1507	1	X										
DAS-CA -C	na	caulk	4/ /11		1	X										Do not dispose of samples
DAS-CA -C	na	caulk	4/ /11		1	X										without written authorization
DAS-CA -C	na	caulk	4/ /11		1	X										from SAIC.
DAS-CA -C	na	caulk	4/ /11		1	X										
DAS-CA -C	na	caulk	4/ /11		1	X										
DAS-CA -C	na	caulk	4/ /11		1	X										
DAS-CA -C	na	caulk	4/ /11		1	X										

RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
Signature:	Signature:	Signature:	Signature:
Date/Time: 4/14/2011 @ 1750	Date/Time: 4/14/2011 1750	Date/Time: 4/14/11 1832	Date/Time: 4/14/11 18:32
Affiliation: SAIC	Affiliation: SAIC	Affiliation: SAIC	Affiliation: ARI

SS37

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Bothell, Washington 98011
TEL: 425.485.5800 • FAX: 425.485.5566

CHAIN OF CUSTODY RECORD

Project Number: 196257
Project Name: LDW Survey of PCB-Containing Building Materials
Project Location: Diagonal Avenue South Drainage Basin, Seattle, WA
Contact Name: Marina Mitchell 425.482.3310 marina.i.mitchell@saic.com
Samples Collected by: John Whelpley, Julie Wartes, Corey Wilson

Analyses / Tests 4/18/11

Sample ID	Depth	Matrix	Date	Time	# of Containers	~~PCB-Aroclors (EPA 8082)~~ JW	~~Mercury (EPA 7471A)~~ JW	~~Other Metals (EPA 6010B/200.8)~~	~~[illegible]~~	~~[illegible]~~	~~[illegible]~~	Weight provide	weights to SAIC.	Then await further	instruction. MOM 4-18-11	Comments
DAS-CA 03 -P1-1	na	paint	4/18/11	0855	1	X			X			1				
DAS-CA 03 -P1-2	na	paint	4/18/11	0900	1	X			X							Analyze per SAP/QAPP,
DAS-CA 03 -P1-3	na	paint	4/18/11	1000	1	X			X							provided under separate cover.
DAS-CA 03 -P1-4	na	paint	4/18/11	0950	1	X			X							
DAS-CA 03 -P2-1	na	paint	4/12/11	0908	1	X				X						
DAS-CA 03 -P2-2	na	paint	4/12/11	0916	1	X				X						Do not dispose of samples
DAS-CA 03 -P2-3	na	paint	4/12/11	1010	1	X				X						without written authorization
DAS-CA 03 -P2-4	na	paint	4/12/11	1012	1	X				X						from SAIC.
DAS-CA 03 -P3-1	na	paint	4/12/11	0925	1	X					X					
DAS-CA 03 -P3-2	na	paint	4/12/11	0930	1	X					X					Blank bag & tag
DAS-CA 03 -P3-3	na	paint	4/12/11	1030	1	X					X					provided for
DAS-CA 03 -P3-4	na	paint	4/12/11	1035	1	X					X					estimating weights.

MOM 4-18-11

Shipping Information

Number of Shipping Containers: 1
Date Shipped: 4/18/11
Carrier: SAIC
Waybill No.: N/A

RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
Signature: Julie Wartes	Signature: [illegible]	Signature:	Signature:
Date/Time: 4/18/2011 @ 0950	Date/Time: 4/18/2011 1100	Date/Time:	Date/Time:
Affiliation: SAIC	Affiliation: ARI	Affiliation:	Affiliation:

SS39

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TEL: 425.485.5800 • FAX: 425.485.5566

CHAIN OF CUSTODY RECORD

Project Number: 196257
Project Name: LDW Survey of PCB-Containing Building Materials
Project Location: Diagonal Avenue South Drainage Basin, Seattle, WA
Contact Name: Marina Mitchell 425.482.3310 marina.i.mitchell@saic.com
Samples Collected by: John Whelpley, Julie Wartes, Corey Wilson

Shipping Information
Number of Shipping Containers:
Date Shipped: 4/18/11
Carrier: SAIC
Waybill No.: N/A

Analyses / Tests: ~~PCB Aroclors (EPA 8082)~~ JW 4/18/11; ~~Mercury (EPA 7471A)~~ JW 4/18/11; ~~Other Metals (EPA 6010B/200.8)~~ JW 4/18/11; weigh + provide weights to SAIC. Then await further instructions.

Sample ID	Depth	Matrix	Date	Time	# of Containers	~~PCB Aroclors (EPA 8082)~~	~~Mercury (EPA 7471A)~~	~~Other Metals (EPA 6010B/200.8)~~	weigh + provide weights to SAIC. Then await further instructions.						Comments
DAS-CA 08 -P 1-1	na	paint	4/NA/11	0750	1	~~X~~			X						
DAS-CA 08 -P 1-2	na	paint	4/NA/11	0755	1	~~X~~			X						Analyze per SAP/QAPP,
DAS-CA 08 -P 1-3	na	paint	4/NA/11	0850	1	~~X~~			X						provided under separate cover.
DAS-CA 08 -P 1-4	na	paint	4/NA/11	0845	1	~~X~~			X						
DAS-CA 08 -P 2-1	na	paint	4/14/11	0747	1	~~X~~			X						
DAS-CA 08 -P 2-2	na	paint	4/NA/11	NA	1	~~X~~			X						Do not dispose of samples
DAS-CA 08 -P 2-3	na	paint	4/14/11	0840	1	~~X~~			X						without written authorization
DAS-CA 08 -P 2-4	na	paint	4/14/11	0847	1	~~X~~			X						from SAIC.
DAS-CA 10 -P 1-1	na	paint	4/NA/11	0925	1	~~X~~			X						
DAS-CA 10 -P 1-2	na	paint	4/NA/11	0938	1	~~X~~			X						
DAS-CA 10 -P 1-3	na	paint	4/NA/11	1645	1	~~X~~			X						
DAS-CA 10 -P 1-4	na	paint	4/NA/11	1650	1	~~X~~			X						

RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
Signature: Julie Wartes	Signature: [signature]	Signature:	Signature:
Date/Time: 4/18/2011 @ 1730	Date/Time: 4/19/11 0825	Date/Time:	Date/Time:
Affiliation: SAIC	Affiliation: ARI	Affiliation:	Affiliation:

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TEL: 425.485.5800 • FAX: 425.485.5566

CHAIN OF CUSTODY RECORD

Project Number: 196257
Project Name: LDW Survey of PCB-Containing Building Materials
Project Location: Diagonal Avenue South Drainage Basin, Seattle, WA
Contact Name: Marina Mitchell 425.482.3310 marina.i.mitchell@saic.com
Samples Collected by: John Whelpley, Julie Wartes, Corey Wilson

Analyses / Tests

Sample ID	Depth	Matrix	Date	Time	# of Containers	~~PCB Aroclors (EPA 8082)~~ JW 4/18/11	~~Mercury (EPA 7471A)~~ JW 4/18/11	~~Other Metals (EPA 6010B/200.8)~~ JW 4/18/11	weigh + provide weights to SAIC. Then await further instructions						
DAS-CA 10 -P3-1	na	paint	4/NA/11	0945	1	X			X						
DAS-CA 10 -P3-2	na	paint	4/NA/11	0950	1	X			X						
DAS-CA 10 -P3-4	na	paint	4/NA/11	1705	1	X			X						
DAS-CA 10 -P3-3	na	paint	4/NA/11	1700	1	X			X						
DAS-CA 10 -P2-1	na	paint	4/NA/11	0926	1	X			X						
DAS-CA 10 -P2-2	na	paint	4/NA/11	0928	1	X			X						
DAS-CA10-P2-3	NA	paint	NA	1650	1				X						
DAS-CA10-P2-4	NA	paint	NA	1655	1				X						

Shipping Information

Number of Shipping Containers: 4/18/11
Date Shipped:
Carrier: SAIC
Waybill No.: N/A

Comments

Analyze per SAP/QAPP, provided under separate cover.

Do not dispose of samples without written authorization from SAIC.

RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
Signature: Julie Wartes	Signature: [illegible]	Signature:	Signature:
Date/Time: 4/18/2011 @ 1730	Date/Time: 4/19/11 0825	Date/Time:	Date/Time:
Affiliation: SAIC	Affiliation: ARI	Affiliation:	Affiliation:

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TEL: 425.485.5800 • FAX: 425.485.5566

CHAIN OF CUSTODY RECORD

Project Number: 196257
Project Name: LDW Survey of PCB-Containing Building Materials
Project Location: Diagonal Avenue South Drainage Basin, Seattle, WA
Contact Name: Marina Mitchell 425.482.3310 marina.i.mitchell@saic.com
Samples Collected by: John Whelpley, Julie Wartes, Corey Wilson

Analyses / Tests 4/20/11 JW

Sample ID	Depth	Matrix	Date	Time	# of Containers	~~PCB-Aroclors (EPA 8082)~~	~~Mercury (EPA 7471A)~~	~~Other Metals (EPA 6010B/200.8)~~	~~weight provide weights~~	Instructions provided under	separate cover from	Marina Mitchell			
DAS-CA 16 -P 2-1	na	paint	4/NA/11	1255	1	X				X					
DAS-CA 16 -P 2-2	na	paint	4/NA/11	1300	1	X				X					
DAS-CA 16 -P 2-3	na	paint	4/NA/11	1100	1	X				X					
DAS-CA 16 -P 2-4	na	paint	4/NA/11	1105	1	X				X					
DAS-CA 02 -P 2-1	na	paint	4/NA/11	1520	1	X				X					
DAS-CA 02 -P 2-2	na	paint	4/NA/11	1515	1	X				X					
DAS-CA02-P2-3	NA	paint	NA	1435	1					X					
DAS-CA02-P2-4	NA	paint	NA	1430	1					X					

Julie Wartes 4/20/11

Shipping Information

Number of Shipping Containers: 1
Date Shipped: 4/20/11
Carrier: SAIC
Waybill No.: N/A

Comments

Analyze per SAP/QAPP, provided under separate cover.

Do not dispose of samples without written authorization from SAIC.

RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
Signature: [signature]	Signature: [signature]	Signature:	Signature:
Date/Time: 4/21/2011 @ 1710	Date/Time: 4/21 1710	Date/Time:	Date/Time:
Affiliation: SAIC	Affiliation: ARI	Affiliation:	Affiliation:

Appendix D

Field Forms

Paint Sample Field Forms
Caulk Sample Field Forms

Paint Sample Field Forms

SAIC
From Science to Solutions

Sample Composite Form

Project: LDW Survey of Potential PCB-Containing Building Material Sources

Matrix: (circle one) **paint** *or* **caulk** **Composite Sample ID:** DAS-CA01-~~B3~~P1

Sampled By: JW **Date:** 4/13/11

Discrete Sample 1	**Building:** (circle one) A, B, C, or D	Time: 1147	**Comments:**		
Color	*Condition*	*Substrate / Location*	*Building Type*	*Building Age*	*Side of Building*
light dark bright beige brown tan black blue green gray red white	slightly very new / fresh chipping peeling good moderate poor	brick concrete metal siding wood Other: ____ window door Other: ____	Industrial Commercial Residential Other: ____	1950s 1960s 1970s undated Other: ____	North South East West Other: ____

Discrete Sample 2	**Building:** (circle one) A, B, C, or D	Time: 1200	**Comments:**		
Color	*Condition*	*Substrate / Location*	*Building Type*	*Building Age*	*Side of Building*
light dark bright beige brown tan black blue green gray red white	slightly very new / fresh chipping peeling good moderate poor	brick concrete metal siding wood Other: ____ window door Other: ____	Industrial Commercial Residential Other: ____	1950s 1960s 1970s undated Other: ____	North South East West Other: ____

Discrete Sample 3 N/A ☐	**Building:** (circle one) A, B, C, or D	Time: 1030	**Comments:**		
Color	*Condition*	*Substrate / Location*	*Building Type*	*Building Age*	*Side of Building*
light dark bright beige brown tan black blue green gray red white	slightly very new / fresh chipping peeling good moderate poor	brick concrete metal siding wood Other: ____ window door Other: ____	Industrial Commercial Residential Other: ____	1950s 1940 1960s 1970s undated Other: ____	North South East West Other: ____

Discrete Sample 4 N/A ☐	**Building:** (circle one) A, B, C, or D	Time: 1035	**Comments:**		
Color	*Condition*	*Substrate / Location*	*Building Type*	*Building Age*	*Side of Building*
light dark bright beige brown tan black blue green gray red white	slightly very new / fresh chipping peeling good moderate poor	brick concrete metal siding wood Other: ____ window door Other: ____	Industrial Commercial Residential Other: ____	1950s 1960s 1940 1970s undated Other: ____	North South East West Other: ____

Circle all sample descriptors above that are applicable to the associated sample.
Note: commercial buildings include schools, churches, apartment buildings, and park buildings

Recorded By/Date: Julie Wartze 4/13/11 **Reviewed By/Date:** [illegible signature] 4/9/11

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Sample Composite Form

Project: LDW Survey of Potential PCB-Containing Building Material Sources

Matrix: (*circle one*) **paint** *or* **caulk** **Composite Sample ID:** DAS-CA01-P2

Sampled By: JW **Date:** 4/13/11

Discrete Sample 1	**Building:** (circle one) A, B, C, or D	**Time:** 1150	**Comments:**		
Color	*Condition*	*Substrate / Location*	*Building Type*	*Building Age*	*Side of Building*
light dark bright beige brown tan black blue green gray red white	slightly very new / fresh chipping peeling good moderate poor	brick concrete metal siding wood *Other:* ______ window door *Other:* ______	Industrial Commercial Residential *Other:* ______	1950s 1960s 1970s undated *Other:* ______	North South East West *Other:* ______

Discrete Sample 2	**Building:** (circle one) A, B, C, or D	**Time:** 1152	**Comments:**		
Color	*Condition*	*Substrate / Location*	*Building Type*	*Building Age*	*Side of Building*
light dark bright beige brown tan black blue green gray red white	slightly very new / fresh chipping peeling good moderate poor	brick concrete metal siding wood *Other:* ______ window door *Other:* ______	Industrial Commercial Residential *Other:* ______	1950s 1960s 1970s undated *Other:* ______	North South East West *Other:* ______

Discrete Sample 3 N/A ☐	**Building:** (circle one) A, B, C, or D	**Time:** 1045	**Comments:**		
Color	*Condition*	*Substrate / Location*	*Building Type*	*Building Age*	*Side of Building*
light dark bright beige brown tan black blue green gray red white	slightly very new / fresh chipping peeling good moderate poor	brick concrete metal siding wood *Other:* ______ window door *Other:* ______	Industrial Commercial Residential *Other:* ______	1950s 1960s 1970s 1940 undated *Other:* ______	North South East West *Other:* ______

Discrete Sample 4 N/A ☐	**Building:** (circle one) A, B, C, or D	**Time:** 1080	**Comments:**		
Color	*Condition*	*Substrate / Location*	*Building Type*	*Building Age*	*Side of Building*
light dark bright beige brown tan black blue green gray red white	slightly very new / fresh chipping peeling good moderate poor	brick concrete metal siding wood *Other:* ______ window door *Other:* ______	Industrial Commercial Residential *Other:* ______	1950s 1960s 1940 1970s undated *Other:* ______	North South East West *Other:* ______

Circle all sample descriptors above that are applicable to the associated sample.
Note: commercial buildings include schools, churches, apartment buildings, and park buildings

Recorded By/Date: Julie Wakeley 4/13/11 **Reviewed By/Date:** [illegible] 6/9/11

JW

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Sample Composite Form

Project: LDW Survey of Potential PCB-Containing Building Material Sources

Matrix: (*circle one*) **paint** *or* **caulk** **Composite Sample ID:** DAS-CA01-03

Sampled By: SW **Date:** 4/13/11

Discrete Sample 1	**Building:** (circle one) A, B, C, or D	**Time:** 1140	**Comments:**		
Color	***Condition***	***Substrate / Location***	***Building Type***	***Building Age***	***Side of Building***
light dark bright	slightly	brick	Industrial	1950s	North
beige brown tan	very	concrete	Commercial	1960s	South
black	new / fresh	metal siding	Residential	1970s	East
blue	chipping	wood	*Other:*	undated	West
green	peeling	*Other:* ______	______	*Other:*	*Other:*
gray	good	window		______	______
red	moderate	door			
white	poor	*Other:* ______			

Discrete Sample 2	**Building:** (circle one) A, B, C, or D	**Time:** 1130	**Comments:**		
Color	***Condition***	***Substrate / Location***	***Building Type***	***Building Age***	***Side of Building***
light dark bright	slightly	brick	Industrial	1950s	North
beige brown tan	very	concrete	Commercial	1960s	South
black	new / fresh	metal siding	Residential	1970s	East
blue	chipping	wood	*Other:*	undated	West
green	peeling	*Other:* ______	______	*Other:*	*Other:*
gray	good	window		______	______
red	moderate	door			
white	poor	*Other:* ______			

Discrete Sample 3 N/A ☐	**Building:** (circle one) A, B, C, or D	**Time:** 1045	**Comments:**		
Color	***Condition***	***Substrate / Location***	***Building Type***	***Building Age***	***Side of Building***
light dark bright	slightly	brick	Industrial	1950s	North
beige brown tan	very	concrete	Commercial	1960s 1940	South
black	new / fresh	metal siding	Residential	1970s	East
blue	chipping	wood	*Other:*	undated	West
green	peeling	*Other:* ______	______	*Other:*	*Other:*
gray	good	window		______	______
red	moderate	door			
white	poor	*Other:* ______			

Discrete Sample 4 N/A ☐	**Building:** (circle one) A, B, C, or D	**Time:** 1055	**Comments:**		
Color	***Condition***	***Substrate / Location***	***Building Type***	***Building Age***	***Side of Building***
light dark bright	slightly	brick	Industrial	1950s	North
beige brown tan	very	concrete	Commercial	1960s 1940	South
black	new / fresh	metal siding	Residential	1970s	East
blue	chipping	wood	*Other:*	undated	West
green	peeling	*Other:* ______	______	*Other:*	*Other:*
gray	good	window		______	______
red	moderate	door			
white	poor	*Other:* ______			

Circle all sample descriptors above that are applicable to the associated sample.
Note: commercial buildings include schools, churches, apartment buildings, and park buildings

Recorded By/Date: Suta Worter 4/13/11 **Reviewed By/Date:** [signature] 6/9/11

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Sample Composite Form

Project: LDW Survey of Potential PCB-Containing Building Material Sources

Matrix: (circle one) **paint** *or* **caulk** **Composite Sample ID:** DAS-CA02-P1

Sampled By: JW **Date:** 4/12/11

Discrete Sample 1	**Building:** (circle one) A, B, C, or D	**Time:** 1450	**Comments:**		
Color	***Condition***	***Substrate / Location***	***Building Type***	***Building Age***	***Side of Building***
light dark bright	slightly	brick	Industrial	1950s	North
beige brown tan	very	concrete	Commercial	1960s	South
black	new / fresh	metal siding	Residential	1970s	East
blue	chipping	wood	*Other:*	undated	West
green	peeling	*Other:* ________	________	*Other:*	*Other:*
gray	good	window		________	________
red	moderate	door			
white	poor	*Other:* ________			

Discrete Sample 2	**Building:** (circle one) A, B, C, or D	**Time:** 1455	**Comments:**		
Color	***Condition***	***Substrate / Location***	***Building Type***	***Building Age***	***Side of Building***
light dark bright	slightly	brick	Industrial	1950s	North
beige brown tan	very	concrete	Commercial	1960s	South
black	new / fresh	metal siding	Residential	1970s	East
blue	chipping	wood	*Other:*	undated	West
green	peeling	*Other:* ________	________	*Other:*	*Other:*
gray	good	window		________	________
red	moderate	door			
white	poor	*Other:* ________			

Discrete Sample 3 N/A ☐	**Building:** (circle one) A, B, C, or D	**Time:** 1512	**Comments:**		
Color	***Condition***	***Substrate / Location***	***Building Type***	***Building Age***	***Side of Building***
light dark bright	slightly	brick	Industrial	1950s	North
beige brown tan	very	concrete	Commercial	1960s	South
black	new / fresh	metal siding	Residential	1970s	East
blue	chipping	wood	*Other:*	undated	West
green	peeling	*Other:* ________	________	*Other:*	*Other:*
gray	good	window		________	________
red	moderate	door			
white	poor	*Other:* ________			

Discrete Sample 4 N/A ☐	**Building:** (circle one) A, B, C, or D	**Time:** 1509	**Comments:**		
Color	***Condition***	***Substrate / Location***	***Building Type***	***Building Age***	***Side of Building***
light dark bright	slightly	brick	Industrial	1950s	North
beige brown tan	very	concrete	~~Commercial~~ cw 4/12/11	1960s	South
black	new / fresh	metal siding	Residential	1970s	East
blue	chipping	wood	*Other:*	undated	West
green	peeling	*Other:* ________	________	*Other:*	*Other:*
gray	good	window		________	________
red	moderate	door			
white	poor	*Other:* ________			

Circle all sample descriptors above that are applicable to the associated sample.
Note: commercial buildings include schools, churches, apartment buildings, and park buildings

Recorded By/Date: Julia Waters 4/12/11 **Reviewed By/Date:** [signature] 4/9/11

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Sample Composite Form

Project: LDW Survey of Potential PCB-Containing Building Material Sources

Matrix: (circle one) **paint** *or* **caulk** **Composite Sample ID:** DAS-CA02-~~AT~~P2

Sampled By: JW **Date:** 4/12/11

Discrete Sample 1	**Building:** (circle one) A, B, C, or D	**Time:** 1430	**Comments:**		
Color	*Condition*	*Substrate / Location*	*Building Type*	*Building Age*	*Side of Building*
light dark bright beige brown tan black yellow blue green gray red white	slightly very new / fresh chipping peeling good moderate poor	brick concrete metal siding wood Other: ballard window metal door Other:	Industrial Commercial Residential Other:	1950s 1960s 1970s undated Other:	North South East West Other:
Discrete Sample 2	**Building:** (circle one) A, B, C, or D	**Time:** 1435	**Comments:**		
Color	*Condition*	*Substrate / Location*	*Building Type*	*Building Age*	*Side of Building*
light dark bright beige brown tan black blue yellow green gray red white	slightly very new / fresh chipping peeling good moderate poor	brick concrete metal siding wood Other: ballard window metal door Other:	Industrial Commercial Residential Other:	1950s 1960s 1970s undated Other:	North South East West Other:
Discrete Sample 3 N/A ☐	**Building:** (circle one) A, B, C, or D	**Time:** 1515	**Comments:**		
Color	*Condition*	*Substrate / Location*	*Building Type*	*Building Age*	*Side of Building*
light dark bright beige brown tan black blue green gray red white	slightly very new / fresh chipping peeling good moderate poor	brick concrete metal siding wood Other: window door Other:	Industrial Commercial Residential Other:	1950s 1960s 1970s undated Other:	North South East West Other:
Discrete Sample 4 N/A ☐	**Building:** (circle one) A, B, C, or D	**Time:** 1520	**Comments:**		
Color	*Condition*	*Substrate / Location*	*Building Type*	*Building Age*	*Side of Building*
light dark bright beige brown tan black blue green gray red white	slightly very new / fresh chipping peeling good moderate poor	brick concrete metal siding wood Other: window door Other:	Industrial Commercial Residential Other:	1950s 1960s 1970s undated Other:	North South East West Other:

Circle all sample descriptors above that are applicable to the associated sample.
Note: commercial buildings include schools, churches, apartment buildings, and park buildings

Recorded By/Date: Julie Wartes 4/12/11 **Reviewed By/Date:** [illegible signature] 6/9/11

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Sample Composite Form

Project: LDW Survey of Potential PCB-Containing Building Material Sources

Matrix: (circle one) **paint or caulk** **Composite Sample ID:** DAS-CA02-P3 ~~X~~ JW

Sampled By: JW **Date:** 4/12/11

Discrete Sample 1	**Building:** (circle one) A, B, C, or D	**Time:** 1440	**Comments:** ~~DK green under gray~~ JW		
Color	*Condition*	*Substrate / Location*	*Building Type*	*Building Age*	*Side of Building*
light dark bright beige brown tan black blue green gray red white	slightly very new / fresh chipping peeling good moderate poor	brick concrete metal siding wood Other: ____ window door Other: ____	Industrial Commercial Residential Other: ____	1950s 1960s 1970s undated Other: ____	North South East West Other: ____
Discrete Sample 2	**Building:** (circle one) A, B, C, or D	**Time:** 1445	**Comments:** DK green under gray. JW		
Color	*Condition*	*Substrate / Location*	*Building Type*	*Building Age*	*Side of Building*
light dark bright beige brown tan black blue green gray red white	slightly very new / fresh chipping peeling good moderate poor	brick concrete metal siding wood Other: ____ window door Other: ____	Industrial Commercial Residential Other: ____	1950s 1960s 1970s undated Other: ____	North South East West Other: ____
Discrete Sample 3 N/A ☐	**Building:** (circle one) A, B, C, or D	**Time:** 1510	**Comments:** DK green under gray		
Color	*Condition*	*Substrate / Location*	*Building Type*	*Building Age*	*Side of Building*
light dark bright beige brown tan black blue green gray red white	slightly very new / fresh chipping peeling good moderate poor	brick concrete metal siding wood Other: ____ window door Other: ____	Industrial Commercial Residential Other: ____	1950s 1960s 1970s undated Other: ____	North South East West Other: ____
Discrete Sample 4 N/A ☐	**Building:** (circle one) A, B, C, or D	**Time:** 1512	**Comments:** DK green under gray		
Color	*Condition*	*Substrate / Location*	*Building Type*	*Building Age*	*Side of Building*
light dark bright beige brown tan black blue green gray red white	slightly very new / fresh chipping peeling good moderate poor	brick concrete metal siding wood Other: ____ window door Other: ____	Industrial Commercial Residential Other: ____	1950s 1960s 1970s undated Other: ____	North South East West Other: ____

Circle all sample descriptors above that are applicable to the associated sample.
Note: commercial buildings include schools, churches, apartment buildings, and park buildings

Recorded By/Date: [signature] 4/12/11 **Reviewed By/Date:** [signature] 6/9/11

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Sample Composite Form

Project: LDW Survey of Potential PCB-Containing Building Material Sources

Matrix: (circle one) **paint** or **caulk** **Composite Sample ID:** DAS-CA03-P1-1

Sampled By: JW **Date:** 4/12/11

Discrete Sample 1	**Building:** (circle one) A, B, C, or D	**Time:** 0855	**Comments:**		
Color	***Condition***	***Substrate / Location***	***Building Type***	***Building Age***	***Side of Building***
light dark bright beige brown tan black blue green gray red white	slightly very new / fresh chipping peeling good moderate poor	brick concrete metal siding wood *Other:* ______ window door *Other:* ______	Industrial Commercial Residential *Other:* ______	1950s 1960s 1970s undated *Other:* ______	North South East West *Other:* ______
Discrete Sample 2	**Building:** (circle one) A, B, C, or D	**Time:** 0900	**Comments:**		
Color	***Condition***	***Substrate / Location***	***Building Type***	***Building Age***	***Side of Building***
light dark bright beige brown tan black blue green gray red white	slightly very new / fresh chipping peeling good moderate poor	brick concrete metal siding wood *Other:* ______ window door *Other:* ______	Industrial Commercial Residential *Other:* ______	1950s 1960s 1970s undated *Other:* ______	North South East West *Other:* ______
Discrete Sample 3 N/A ☐	**Building:** (circle one) A, B, C, or D	**Time:** 1000	**Comments:**		
Color	***Condition***	***Substrate / Location***	***Building Type***	***Building Age***	***Side of Building***
light dark bright beige brown tan black blue green gray red white	slightly very new / fresh chipping peeling good moderate poor	brick concrete metal siding wood *Other:* ______ window door *Other:* ______	Industrial Commercial Residential *Other:* ______	1950s 1960s 1970s undated *Other:* ______	North South East West *Other:* ______
Discrete Sample 4 N/A ☐	**Building:** (circle one) A, B, C, or D	**Time:** 0950	**Comments:**		
Color	***Condition***	***Substrate / Location***	***Building Type***	***Building Age***	***Side of Building***
light dark bright beige brown tan black blue green gray red white	slightly very new / fresh chipping peeling good moderate poor	brick concrete metal siding wood *Other:* ______ window door *Other:* ______	Industrial Commercial Residential *Other:* ______	1950s 1960s 1970s undated *Other:* ______	North South East West *Other:* ______

Circle all sample descriptors above that are applicable to the associated sample.
Note: commercial buildings include schools, churches, apartment buildings, and park buildings

Recorded By/Date: Julie Warter 4/12/11 **Reviewed By/Date:** [illegible signature] 6/9/11

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Sample Composite Form

Project: LDW Survey of Potential PCB-Containing Building Material Sources

Matrix: (*circle one*) **paint** *or* **caulk** **Composite Sample ID:** DAS-CA03-P2-1

Sampled By: JW **Date:** 4/12/11

Discrete Sample 1	**Building:** (circle one) A, B, C, or D	**Time:** 0908	**Comments:**		
Color	***Condition***	***Substrate / Location***	***Building Type***	***Building Age***	***Side of Building***
light dark bright	slightly	brick	Industrial	1950s	North
beige brown tan	very	concrete	Commercial	1960s	South
black	new / fresh	metal siding	Residential	1970s	East
blue	chipping	wood	*Other:*	undated	West
green	peeling	*Other:* ______	______	*Other:*	*Other:*
gray	good	window		______	______
red	moderate	door			
white	poor	*Other:* ______			

Discrete Sample 2	**Building:** (circle one) A, B, C, or D	**Time:** 0916	**Comments:**		
Color	***Condition***	***Substrate / Location***	***Building Type***	***Building Age***	***Side of Building***
light dark bright	slightly	brick	Industrial	1950s	North
beige brown tan	very	concrete	Commercial	1960s	South
black	new / fresh	metal siding	Residential	1970s	East
blue	chipping	wood	*Other:*	undated	West
green	peeling	*Other:* ______	______	*Other:*	*Other:*
gray	good	window		______	______
red	moderate	door			
white	poor	*Other:* ______			

Discrete Sample 3 N/A ☐	**Building:** (circle one) A, B, C, or D	**Time:** 1010	**Comments:**		
Color	***Condition***	***Substrate / Location***	***Building Type***	***Building Age***	***Side of Building***
light dark bright	slightly	brick	Industrial	1950s	North
beige brown tan	very	concrete	Commercial	~~1960s~~	South
black	new / fresh	metal siding	Residential	1970s CW 4/12/11	East
blue	chipping	wood	*Other:*	undated	West
green	peeling	*Other:* ______	______	*Other:*	*Other:*
gray	good	window		______	______
red	moderate	door			
white	poor	*Other:* ______			

Discrete Sample 4 N/A ☐	**Building:** (circle one) A, B, C, or D	**Time:** 1020	**Comments:**		
Color	***Condition***	***Substrate / Location***	***Building Type***	***Building Age***	***Side of Building***
light dark bright	slightly	brick	Industrial	1950s	North
beige brown tan	very	concrete	Commercial	~~1960s~~ 4/12/11	South
black	new / fresh	metal siding	Residential	1970s	East
blue	chipping	wood	*Other:*	undated	West
green	peeling	*Other:* ______	______	*Other:*	*Other:*
gray	good	window		______	______
red	moderate	door			
white	poor	*Other:* ______			

Circle all sample descriptors above that are applicable to the associated sample.
Note: commercial buildings include schools, churches, apartment buildings, and park buildings

Recorded By/Date: Julie Wartes 4/12/11 **Reviewed By/Date:** [signature] 6/9/11

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Sample Composite Form

Project: LDW Survey of Potential PCB-Containing Building Material Sources

Matrix: (circle one) **paint** or **caulk** **Composite Sample ID:** IDAS-CA03-P3-1

Sampled By: JW **Date:** 4/12/11

Discrete Sample 1	Building: (circle one) A, B, C, or D	Time: 0925	Comments:		
Color	*Condition*	*Substrate / Location*	*Building Type*	*Building Age*	*Side of Building*
light dark bright	slightly	brick	Industrial	1950s	North
beige brown tan	very	concrete	Commercial	1960s	South
black	new / fresh	metal siding	Residential	1970s	East
blue	chipping	wood	Other:	undated	West
green	peeling	Other:		Other:	Other:
gray	good	window			
red	moderate	door			
white	poor	Other:			

Discrete Sample 2	Building: (circle one) A, B, C, or D	Time: 0930	Comments:		
Color	*Condition*	*Substrate / Location*	*Building Type*	*Building Age*	*Side of Building*
light dark bright	slightly	brick	Industrial	1950s	North
beige brown tan	very	concrete	Commercial	1960s	South
black	new / fresh	metal siding	Residential	1970s	East
blue	chipping	wood	Other:	undated	West
green	peeling	Other:		Other:	Other:
gray	good	window			
red	moderate	door			
white	poor	Other:			

Discrete Sample 3 N/A ☐	Building: (circle one) A, B, C, or D	Time: 1030	Comments:		
Color	*Condition*	*Substrate / Location*	*Building Type*	*Building Age*	*Side of Building*
light dark bright	slightly	brick	Industrial	1950s	North
beige brown tan	very	concrete	Commercial	1960s	South
black	new / fresh	metal siding	Residential	1970s	East
blue	chipping	wood	Other:	undated	West
green	peeling	Other: metal door		Other:	Other:
gray	good	window			
red	moderate	door			
white	poor	Other:			

Discrete Sample 4 N/A ☐	Building: (circle one) A, B, C, or D	Time: 1035	Comments:		
Color	*Condition*	*Substrate / Location*	*Building Type*	*Building Age*	*Side of Building*
light dark bright	slightly	brick	Industrial	1950s	North
beige brown tan	very	concrete	Commercial	1960s	South
black	new / fresh	metal siding	Residential	1970s	East
blue	chipping	wood	Other:	undated	West
green	peeling	Other: metal door		Other:	Other:
gray	good	window			
red	moderate	door			
white	poor	Other:			

Circle all sample descriptors above that are applicable to the associated sample.
Note: commercial buildings include schools, churches, apartment buildings, and park buildings

Recorded By/Date: Julie Wartz 4/12/11 **Reviewed By/Date:** [illegible signature] 6/9/11

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Sample Composite Form

Project: LDW Survey of Potential PCB-Containing Building Material Sources

Matrix: (circle one) **paint** *or* **caulk** **Composite Sample ID:** DAS-CA04-P1

Sampled By: [illegible] **Date:** 4/12/11

Discrete Sample 1	**Building:** (circle one) A, B, C, or D	**Time:** 1605	**Comments:** Burgandy under paint		
Color	*Condition*	*Substrate / Location*	*Building Type*	*Building Age*	*Side of Building*
light dark bright	slightly	brick	Industrial	1950s	North
beige brown tan	very	concrete	Commercial	1960s	South
black	new / fresh	metal siding	Residential	1970s	East
blue	chipping	wood	*Other:*	undated	West
green olive	peeling	*Other:* metal support		*Other:*	*Other:*
gray	good	window			
red	moderate	door			
white	poor	*Other:*			

Discrete Sample 2	**Building:** (circle one) A, B, C, or D	**Time:** 1610	**Comments:**		
Color	*Condition*	*Substrate / Location*	*Building Type*	*Building Age*	*Side of Building*
light dark bright	slightly	brick	Industrial	1950s	North
beige brown tan	very	concrete	Commercial	1960s	South
black	new / fresh	metal siding	Residential	1970s	East
blue	chipping	wood	*Other:*	undated	West
green olive	peeling	*Other:* metal support		*Other:*	*Other:*
gray	good	window			
red	moderate	door			
white	poor	*Other:*			

Discrete Sample 3 N/A ☐	**Building:** (circle one) A, B, C, or D	**Time:** 1640	**Comments:**		
Color	*Condition*	*Substrate / Location*	*Building Type*	*Building Age*	*Side of Building*
light dark bright	slightly	brick	Industrial	1950s	North
beige brown tan	very	concrete	Commercial	1960s	South
black	new / fresh	metal siding	Residential	1970s	East
blue	chipping	wood	*Other:*	undated	West
green	peeling	*Other:* metal support		*Other:*	*Other:*
gray	good	window			
red	moderate	door			
white	poor	*Other:*			

Discrete Sample 4 N/A ☐	**Building:** (circle one) A, B, C, or D	**Time:** 1645	**Comments:** loading bay		
Color	*Condition*	*Substrate / Location*	*Building Type*	*Building Age*	*Side of Building*
light dark bright	slightly	brick	Industrial	1950s	North
beige brown tan	very	concrete	Commercial	1960s	South
black	new / fresh	metal siding	Residential	1970s	East
blue	chipping	wood	*Other:*	undated	West
green	peeling	*Other:*		*Other:*	*Other:*
gray	good	window			
red	moderate	door			
white	poor	*Other:*			

Circle all sample descriptors above that are applicable to the associated sample.
Note: commercial buildings include schools, churches, apartment buildings, and park buildings

Recorded By/Date: [illegible] 4/12/11 **Reviewed By/Date:** [illegible] 6/9/11

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Sample Composite Form

Project: LDW Survey of Potential PCB-Containing Building Material Sources

Matrix: (circle one) **paint** *or* **caulk** **Composite Sample ID:** DAS-CA04-P2

Sampled By: JW **Date:** 4/12/11

Discrete Sample 1	**Building:** (circle one) A, B, C, or D	**Time:** 1615	**Comments:**		
Color	***Condition***	***Substrate / Location***	***Building Type***	***Building Age***	***Side of Building***
light dark bright	slightly	brick	Industrial	1950s	North
beige brown tan	very	concrete	Commercial	1960s	South
black	new / fresh	metal siding	Residential	1970s	East
blue	chipping	wood	*Other:*	undated	West
green	peeling	*Other:* ______	______	*Other:*	*Other:*
gray	good	window		______	______
red	moderate	door			
white	poor	*Other:* ______			

Discrete Sample 2	**Building:** (circle one) A, B, C, or D	**Time:** 1618	**Comments:**		
Color	***Condition***	***Substrate / Location***	***Building Type***	***Building Age***	***Side of Building***
light dark bright	slightly	brick	Industrial	1950s	North
beige brown tan	very	concrete	Commercial	1960s	South
black	new / fresh	metal siding	Residential	1970s	East
blue	chipping	wood	*Other:*	undated	West
green	peeling	*Other:* ______	______	*Other:*	*Other:*
gray	good	window		______	______
red	moderate	door			
white	poor	*Other:* ______			

Discrete Sample 3 N/A ☐	**Building:** (circle one) A, B, C, or D	**Time:** 1610	**Comments:**		
Color	***Condition***	***Substrate / Location***	***Building Type***	***Building Age***	***Side of Building***
light dark bright	slightly	brick	Industrial	1950s	North
beige brown tan	very	concrete	Commercial	1960s	South
black	new / fresh	metal siding	Residential	1970s	East
blue	chipping	wood	*Other:*	undated	West
green	peeling	*Other:* ______	______	*Other:*	*Other:*
gray	good	window		______	______
red	moderate	door			
white	poor	*Other:* ______			

Discrete Sample 4 N/A ☐	**Building:** (circle one) A, B, C, or D	**Time:** 1700	**Comments:** Yellow under gray		
Color	***Condition***	***Substrate / Location***	***Building Type***	***Building Age***	***Side of Building***
light dark bright	slightly	brick	Industrial	1950s	North
beige brown tan	very	concrete	Commercial	1960s	South
black	new / fresh	metal siding	Residential	1970s	East
blue	chipping	wood	*Other:*	undated	West
green	peeling	*Other:* ______	______	*Other:*	*Other:*
gray	good	window		______	______
red	moderate	door			
white	poor	*Other:* ______			

Circle all sample descriptors above that are applicable to the associated sample.
Note: commercial buildings include schools, churches, apartment buildings, and park buildings

Recorded By/Date: Julia Wasko 4/12/10 **Reviewed By/Date:** [signature] 6/9/11

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Sample Composite Form

Project: LDW Survey of Potential PCB-Containing Building Material Sources

Matrix: (circle one) **paint** *or* **caulk** **Composite Sample ID:** DAS-CA04-P3

Sampled By: JW **Date:** 4/12/11

Discrete Sample 1	**Building:** (circle one) A, B, C, or D	**Time:** 1622	**Comments:**		
Color	***Condition***	***Substrate / Location***	***Building Type***	***Building Age***	***Side of Building***
light dark bright	slightly	brick	Industrial	1950s	North
beige brown tan	very	concrete	Commercial	1960s	South
black	new / fresh	metal siding	Residential	1970s	East
blue	chipping	wood	*Other:*	undated	West
green yellow	peeling	*Other:* bollard		*Other:*	*Other:*
gray	good	window			
red	moderate	door			
white	poor	*Other:*			

Discrete Sample 2	**Building:** (circle one) A, B, C, or D	**Time:** 1625	**Comments:**		
Color	***Condition***	***Substrate / Location***	***Building Type***	***Building Age***	***Side of Building***
light dark bright	slightly	brick	Industrial	1950s	North
beige brown tan	very	concrete	Commercial	1960s	South
black yellow	new / fresh	metal siding	Residential	1970s	East
blue	chipping	wood	*Other:*	undated	West
green	peeling	*Other:* bollard		*Other:*	*Other:*
gray	good	window			
red	moderate	door			
white	poor	*Other:*			

Discrete Sample 3 N/A ☐	**Building:** (circle one) A, B, C, or D	**Time:** 16[illegible]	**Comments:**		
Color	***Condition***	***Substrate / Location***	***Building Type***	***Building Age***	***Side of Building***
light dark bright	slightly	brick	Industrial	1950s	North
beige brown tan	very	concrete	Commercial	1960s	South
black	new / fresh	metal siding	Residential	1970s	East
blue yellow	chipping	wood	*Other:*	undated	West
green	peeling	*Other:* bollard		*Other:*	*Other:*
gray	good	window			
red	moderate	door			
white	poor	*Other:*			

Discrete Sample 4 N/A ☐	**Building:** (circle one) A, B, C, or D	**Time:** 1655	**Comments:**		
Color	***Condition***	***Substrate / Location***	***Building Type***	***Building Age***	***Side of Building***
light dark bright	slightly	brick	Industrial	1950s	North
beige brown tan	very	concrete	Commercial	1960s	South
black	new / fresh	metal siding	Residential	1970s	East
blue yellow	chipping	wood	*Other:*	undated	West
green	peeling	*Other:* bollard		*Other:*	*Other:*
gray	good	window			
red	moderate	door			
white	poor	*Other:*			

Circle all sample descriptors above that are applicable to the associated sample.
Note: commercial buildings include schools, churches, apartment buildings, and park buildings

Recorded By/Date: Julie Weston 4/12/11 **Reviewed By/Date:** [illegible signature] 6/9/11

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From Science to Solutions

Sample Composite Form

Project: LDW Survey of Potential PCB-Containing Building Material Sources

Matrix: (circle one) **paint** *or* **caulk** **Composite Sample ID:** DAS-CA05-P1

Sampled By: JW **Date:** 4/12/11

Discrete Sample 1	**Building:** (circle one) A, B, C, or D	**Time:** 1130	**Comments:**		
Color	*Condition*	*Substrate / Location*	*Building Type*	*Building Age*	*Side of Building*
light dark bright beige brown tan black blue yellow green gray red white	slightly very new / fresh chipping peeling good moderate poor	brick concrete metal siding wood Other: ballard-metal window out-concrete door in Other:	Industrial Commercial Residential Other:	1950s 1960s 1970s undated Other:	North South East West Other:

Discrete Sample 2	**Building:** (circle one) A, B, C, or D	**Time:** 1140	**Comments:**		
Color	*Condition*	*Substrate / Location*	*Building Type*	*Building Age*	*Side of Building*
light dark bright beige brown tan black blue yellow green gray red white	slightly very new / fresh chipping peeling good moderate poor	brick concrete metal siding wood Other: ballard-metal window out-concrete door in Other:	Industrial Commercial Residential Other:	1950s 1960s 1970s undated Other:	North South East West Other:

Discrete Sample 3 N/A ☐	**Building:** (circle one) A, B, C, or D	**Time:** 1235	**Comments:**		
Color	*Condition*	*Substrate / Location*	*Building Type*	*Building Age*	*Side of Building*
light dark bright beige brown tan black blue green gray red white	slightly very new / fresh chipping peeling good moderate poor	brick concrete metal siding wood Other: ballard-metal window out-concrete door in Other:	Industrial Commercial Residential Other:	1950s 1960s 1970s undated Other:	North South East West Other:

Discrete Sample 4 N/A ☐	**Building:** (circle one) A, B, C, or D	**Time:** ~~1235~~ 1225 CHW 6/9/11	**Comments:**		
Color	*Condition*	*Substrate / Location*	*Building Type*	*Building Age*	*Side of Building*
light dark bright beige brown tan black blue green gray red white	slightly very new / fresh chipping peeling good moderate poor	brick concrete metal siding wood Other: ballard-metal window out-concrete door in Other:	Industrial Commercial Residential Other:	1950s 1960s 1970s undated Other:	North South East West Other:

Circle all sample descriptors above that are applicable to the associated sample.
Note: commercial buildings include schools, churches, apartment buildings, and park buildings

Recorded By/Date: Julie Wartes 4/12/11 **Reviewed By/Date:** [signature] 6/9/11

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Sample Composite Form

Project: LDW Survey of Potential PCB-Containing Building Material Sources

Matrix: (*circle one*) **paint** *or* **caulk** **Composite Sample ID:** DAS-CA05-PP D2

Sampled By: JW **Date:** 4/12/11

Discrete Sample 1	**Building:** (circle one) A, B, C, or D	**Time:** 1145	**Comments:**		
Color	***Condition***	***Substrate / Location***	***Building Type***	***Building Age***	***Side of Building***
light dark bright	slightly	brick	Industrial	1950s	North
beige brown tan	very	concrete	Commercial	1960s	South
black	new / fresh	metal siding	Residential	1970s	East
blue	chipping	wood	*Other:*	undated	West
green	peeling	*Other:* metal		*Other:*	*Other:*
gray	good	window down spout			
red	moderate	door			
white	poor	*Other:*			

Discrete Sample 2	**Building:** (circle one) A, B, C, or D	**Time:** 1148	**Comments:**		
Color	***Condition***	***Substrate / Location***	***Building Type***	***Building Age***	***Side of Building***
light dark bright	slightly	brick	Industrial	1950s	North
beige brown tan	very	concrete	Commercial	1960s	South
black	new / fresh	metal siding	Residential	1970s	East
blue	chipping	wood	*Other:*	undated	West
green	peeling	*Other:* metal down		*Other:*	*Other:*
gray	good	window spout			
red	moderate	door			
white	poor	*Other:*			

Discrete Sample 3 N/A ☐	**Building:** (circle one) A, B, C, or D	**Time:** 1240	**Comments:**		
Color	***Condition***	***Substrate / Location***	***Building Type***	***Building Age***	***Side of Building***
light dark bright	slightly	brick	Industrial	1950s	North
beige brown tan	very	concrete	Commercial	1960s	South
black	new / fresh	metal siding	Residential	1970s	East
blue	chipping	wood	*Other:*	undated	West
green	peeling	*Other:*		*Other:*	*Other:*
gray	good	window			
red	moderate	door			
white	poor	*Other:*			

Discrete Sample 4 N/A ☐	**Building:** (circle one) A, B, C, or D	**Time:** 1245	**Comments:**		
Color	***Condition***	***Substrate / Location***	***Building Type***	***Building Age***	***Side of Building***
light dark bright	slightly	brick	Industrial	1950s	North
beige brown tan	very	concrete	Commercial	1960s	South
black	new / fresh	metal siding	Residential	1970s	East
blue	chipping	wood	*Other:*	undated	West
green	peeling	*Other:*		*Other:*	*Other:*
gray	good	window			
red	moderate	door			
white	poor	*Other:*			

Circle all sample descriptors above that are applicable to the associated sample.

Note: commercial buildings include schools, churches, apartment buildings, and park buildings

Recorded By/Date: Julie Wartoz 4/12/11 **Reviewed By/Date:** [illegible signature] 6/9/11

SAIC
From Science to Solutions

Sample Composite Form

Project: LDW Survey of Potential PCB-Containing Building Material Sources

Matrix: (circle one) **paint** *or* **caulk** **Composite Sample ID:** DAS-CA05-P3

Sampled By: SW **Date:** 4/12/11

Discrete Sample 1	**Building:** (circle one) A, B, C, or D	**Time:** 1150	**Comments:**		
Color	*Condition*	*Substrate / Location*	*Building Type*	*Building Age*	*Side of Building*
light dark bright beige brown tan black blue green gray red white	slightly very new / fresh chipping peeling good moderate poor	brick concrete metal siding wood Other: metal down spout window door Other:	Industrial Commercial Residential Other:	1950s 1960s 1970s undated Other:	North South East SW West Other:
Discrete Sample 2	**Building:** (circle one) A, B, C, or D	**Time:** 1200	**Comments:**		
Color	*Condition*	*Substrate / Location*	*Building Type*	*Building Age*	*Side of Building*
light dark bright beige brown tan black blue green gray red white	slightly very new / fresh chipping peeling good moderate poor	brick concrete metal siding wood Other: metal down spout window door Other:	Industrial Commercial Residential Other:	1950s 1960s 1970s undated Other:	North South East SW West Other:
Discrete Sample 3 N/A ☐	**Building:** (circle one) A, B, C, or D	**Time:** 1220	**Comments:**		
Color	*Condition*	*Substrate / Location*	*Building Type*	*Building Age*	*Side of Building*
light dark bright beige brown tan black blue green gray red white	slightly very new / fresh chipping peeling good moderate poor	brick concrete metal siding wood Other: window door Other:	Industrial Commercial Residential Other:	1950s 1960s 1970s undated Other:	North South East West Other:
Discrete Sample 4 N/A ☐	**Building:** (circle one) A, B, C, or D	**Time:** 1225	**Comments:**		
Color	*Condition*	*Substrate / Location*	*Building Type*	*Building Age*	*Side of Building*
light dark bright beige brown tan black blue green gray red white	slightly very new / fresh chipping peeling good moderate poor	brick concrete metal siding wood Other: window door Other:	Industrial Commercial Residential Other:	1950s 1960s 1970s undated Other:	North South East West Other:

Circle all sample descriptors above that are applicable to the associated sample.
Note: commercial buildings include schools, churches, apartment buildings, and park buildings

Recorded By/Date: Julie Wartez 4/12/11 **Reviewed By/Date:** [signature] 6/9/11

SAIC
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Sample Composite Form

Project: LDW Survey of Potential PCB-Containing Building Material Sources

Matrix: (circle one) **paint** *or* **caulk** **Composite Sample ID:** DAS - CA06 - P1

Sampled By: RHW **Date:** 4/13/11

Discrete Sample 1	**Building:** (circle one) A, B, C, or D	**Time:** 1425	**Comments:**		
Color	*Condition*	*Substrate / Location*	*Building Type*	*Building Age*	*Side of Building*
light dark bright beige brown tan black blue Purple green gray red white	slightly very new / fresh chipping peeling good moderate poor	brick concrete metal siding wood Other: ____ window door Other: ____	Industrial Commercial Residential Other: ____	1950s 1960s 1970s undated Other: ____	North South East West Other: ____

Discrete Sample 2	**Building:** (circle one) A, B, C, or D	**Time:** 1430	**Comments:**		
Color	*Condition*	*Substrate / Location*	*Building Type*	*Building Age*	*Side of Building*
light dark bright beige brown tan black blue green Purple gray red white	slightly very new / fresh chipping peeling good moderate poor	brick concrete metal siding wood Other: ____ window door Other: ____	Industrial Commercial Residential Other: ____	1950s 1960s 1970s undated Other: ____	North South East West Other: ____

Sample from 505 S McKinley - only one sample collected for analysis - purple

Discrete Sample 3 N/A ☐	**Building:** (circle one) A, B, C, or D	**Time:** 1545	**Comments:**		
Color	*Condition*	*Substrate / Location*	*Building Type*	*Building Age*	*Side of Building*
light dark bright beige brown tan black blue green gray red white	slightly very new / fresh chipping peeling good moderate to poor	brick concrete metal siding wood Other: ____ window door Other: ____	Industrial Commercial Residential Other: ____	1950s 1960s 1970s undated Other: ____	North South East West Other: ____

Discrete Sample 4 N/A ☐	**Building:** (circle one) A, B, C, or D	**Time:** 1550	**Comments:**		
Color	*Condition*	*Substrate / Location*	*Building Type*	*Building Age*	*Side of Building*
light dark bright beige brown tan black blue green gray red white	slightly very new / fresh chipping peeling good moderate poor to	brick concrete metal siding wood Other: ____ window door Other: ____	Industrial Commercial Residential Other: ____	1950s 1960s 1970s undated Other: ____	North South East West Other: ____

Sample from 2001 S Gravel - Only one sample collected - white

Circle all sample descriptors above that are applicable to the associated sample.
Note: commercial buildings include schools, churches, apartment buildings, and park buildings

Recorded By/Date: [signature] 4/13/11 **Reviewed By/Date:** [signature] 6/9/11

6b

SAIC From Science to Solutions

Sample Composite Form

Project: LDW Survey of Potential PCB-Containing Building Material Sources

Too Much wood - removed from matrix

Matrix: (*circle one*) **paint** *or* **caulk** **Composite Sample ID:** DAS-CA06-P2

Sampled By: JW **Date:** 4/13/11

Discrete Sample 1	Building: (circle one) A, B, C, or D	Time: 1440	Comments: Difficult to collect sample, wood shaved off w/sample, small volume		
Color	*Condition*	*Substrate / Location*	*Building Type*	*Building Age*	*Side of Building*
light dark bright	slightly	brick	Industrial	1950s	North
beige brown tan	very	concrete	Commercial	1960s	South
black	new / fresh	metal siding	Residential	1970s	East
blue	chipping	wood	Other:	undated	West
green	peeling	Other: trim		Other:	Other:
gray	good	window			
red	moderate	door			
white	poor	Other:			

Discrete Sample 2	Building: (circle one) A, B, C, or D	Time: 1430	Comments: Difficult to collect sample, wood shaved off w/sample, small volume		
Color	*Condition*	*Substrate / Location*	*Building Type*	*Building Age*	*Side of Building*
light dark bright	slightly	brick	Industrial	1950s	North
beige brown tan	very	concrete	Commercial	1960s	South
black	new / fresh	metal siding	Residential	1970s	East
blue	chipping	wood	Other:	undated	West
green	peeling	Other: trim		Other:	Other:
gray	good	window			
red	moderate	door			
white	poor	Other:			

Discrete Sample 3 N/A ☐	Building: (circle one) A, B, C, or D	Time:	Comments:		
Color	*Condition*	*Substrate / Location*	*Building Type*	*Building Age*	*Side of Building*
light dark bright	slightly	brick	Industrial	1950s	North
beige brown tan	very	concrete	Commercial	1960s	South
black	new / fresh	metal siding	Residential	1970s	East
blue	chipping	wood	Other:	undated	West
green	peeling	Other:		Other:	Other:
gray	good	window			
red	moderate	door			
white	poor	Other:			

Discrete Sample 4 N/A ☐	Building: (circle one) A, B, C, or D	Time:	Comments:		
Color	*Condition*	*Substrate / Location*	*Building Type*	*Building Age*	*Side of Building*
light dark bright	slightly	brick	Industrial	1950s	North
beige brown tan	very	concrete	Commercial	1960s	South
black	new / fresh	metal siding	Residential	1970s	East
blue	chipping	wood	Other:	undated	West
green	peeling	Other:		Other:	Other:
gray	good	window			
red	moderate	door			
white	poor	Other:			

Circle all sample descriptors above that are applicable to the associated sample.
Note: commercial buildings include schools, churches, apartment buildings, and park buildings

Recorded By/Date: Julie Wartes 4/13/11 **Reviewed By/Date:** NO SAMPLE - [illegible] 6/8/11

No Sample collected - not enough paint, too much wood for analysis

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Sample Composite Form

Project: LDW Survey of Potential PCB-Containing Building Material Sources

Matrix: (circle one) **paint** *or* **caulk** **Composite Sample ID:** DAS-CA06-P3

Sampled By: CAW **Date:** 4/13/11

Discrete Sample 1	Building: (circle one) A, B, C, or D	Time: 1437	Comments: ★ insufficient material Will not Analyze		
Color	***Condition***	***Substrate / Location***	***Building Type***	***Building Age***	***Side of Building***
light dark bright	slightly	brick	Industrial	1950s	North
beige brown tan	very	concrete	Commercial	1960s	South
black	new / fresh	metal siding	Residential	1970s	East
blue	chipping	wood	*Other:*	undated	West
green	peeling	*Other:* ______	______	*Other:*	*Other:*
gray	good	window		______	______
red	moderate	door			
white	poor	*Other:* ______			

Discrete Sample 2	Building: (circle one) A, B, C, or D	Time: 1447	Comments: Very Difficult to obtain enough material; Old dried out wood		
Color	***Condition***	***Substrate / Location***	***Building Type***	***Building Age***	***Side of Building***
light dark bright	slightly	brick	Industrial	1950s	North
beige brown tan	very	concrete	Commercial	1960s	South
black	new / fresh	metal siding	Residential	1970s	East
blue	chipping	wood	*Other:*	undated	West
green	peeling	*Other:* ______	______	*Other:*	*Other:*
gray	good	window		______	______
red	moderate	door			
white	poor	*Other:* ______			

Discrete Sample 3 N/A ☐	Building: (circle one) A, B, C, or D	Time: ______	Comments:		
Color	***Condition***	***Substrate / Location***	***Building Type***	***Building Age***	***Side of Building***
light dark bright	slightly	brick	Industrial	1950s	North
beige brown tan	very	concrete	Commercial	1960s	South
black	new / fresh	metal siding	Residential	1970s	East
blue	chipping	wood	*Other:*	undated	West
green	peeling	*Other:* ______	______	*Other:*	*Other:*
gray	good	window		______	______
red	moderate	door			
white	poor	*Other:* ______			

Discrete Sample 4 N/A ☐	Building: (circle one) A, B, C, or D	Time: ______	Comments:		
Color	***Condition***	***Substrate / Location***	***Building Type***	***Building Age***	***Side of Building***
light dark bright	slightly	brick	Industrial	1950s	North
beige brown tan	very	concrete	Commercial	1960s	South
black	new / fresh	metal siding	Residential	1970s	East
blue	chipping	wood	*Other:*	undated	West
green	peeling	*Other:* ______	______	*Other:*	*Other:*
gray	good	window		______	______
red	moderate	door			
white	poor	*Other:* ______			

Circle all sample descriptors above that are applicable to the associated sample.

Note: commercial buildings include schools, churches, apartment buildings, and park buildings

Recorded By/Date: [signature] 4/13/11 **Reviewed By/Date:** No Sample [signature] 6/9/11

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From Science to Solutions

Sample Composite Form

Project: LDW Survey of Potential PCB-Containing Building Material Sources

Matrix: (circle one) **paint** *or* **caulk** **Composite Sample ID:** DAS-CA07-P1

Sampled By: JW/CW **Date:** 4/13/11

Discrete Sample 1	**Building:** (circle one) A, B, C, or D	**Time:** 1600	**Comments:**		
Color	*Condition*	*Substrate / Location*	*Building Type*	*Building Age*	*Side of Building*
light dark bright beige brown tan black blue green gray red white	slightly very new / fresh chipping peeling good moderate poor	brick concrete metal siding wood Other: ____ window door Other: ____	Industrial Commercial Residential Other: ____	1950s 1960s 1970s undated Other: ____	North South East West Other: ____
Discrete Sample 2	**Building:** (circle one) A, B, C, or D	**Time:** 1610	**Comments:**		
Color	*Condition*	*Substrate / Location*	*Building Type*	*Building Age*	*Side of Building*
light dark bright beige brown tan black blue green gray red white	slightly very new / fresh chipping peeling good moderate poor	brick concrete metal siding wood Other: ____ window door Other: ____	Industrial Commercial Residential Other: ____	1950s 1960s 1970s undated Other: ____	North South East West Other: ____
Discrete Sample 3 N/A ☐	**Building:** (circle one) A, B, C, or D	**Time:** 1527	**Comments:**		
Color	*Condition*	*Substrate / Location*	*Building Type*	*Building Age*	*Side of Building*
light dark bright beige brown tan black blue green gray red white	slightly very new / fresh chipping peeling good moderate poor	brick concrete metal siding wood Other: ____ window door Other: ____	Industrial Commercial Residential Other: ____	1950s ~~1960s~~ 1970s undated Other: ____	North South East West Other: ____
Discrete Sample 4 N/A ☐	**Building:** (circle one) A, B, C, or D	**Time:** 1533	**Comments:**		
Color	*Condition*	*Substrate / Location*	*Building Type*	*Building Age*	*Side of Building*
light dark bright beige brown tan black blue green gray red white	slightly very new / fresh chipping peeling good moderate poor	brick concrete metal siding wood Other: ____ window door Other: ____	Industrial Commercial Residential Other: ____	1950s ~~1960s~~ 1970s undated Other: ____	North South East West Other: ____

Circle all sample descriptors above that are applicable to the associated sample.
Note: commercial buildings include schools, churches, apartment buildings, and park buildings

Recorded By/Date: Julie Wardee 4/13/11 **Reviewed By/Date:** [signature] 6/9/2011

mum 6/9/11

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Sample Composite Form

Project: LDW Survey of Potential PCB-Containing Building Material Sources

Matrix: (circle one) **paint** or **caulk** **Composite Sample ID:** DAS - CA07-P2 AND DAS-CA07-P3

Sampled By: [illegible] **Date:** 4/13/11

No sample collected for CA07-P2/P3

Discrete Sample 1	Building: (circle one) A, B, C, or D	Time: ________	Comments:		
Color	*Condition*	*Substrate / Location*	*Building Type*	*Building Age*	*Side of Building*
light dark bright	slightly	brick	Industrial	1950s	North
beige brown tan	very	concrete	Commercial	1960s	South
black	new / fresh	metal siding	Residential	1970s	East
blue	chipping	wood	Other:	undated	West
green	peeling	Other: ________	________	Other:	Other:
gray	good	window		________	________
red	moderate	door			
white	poor	Other: ________			

Discrete Sample 2	Building: (circle one) A, B, C, or D	Time: ________	Comments:		
Color	*Condition*	*Substrate / Location*	*Building Type*	*Building Age*	*Side of Building*
light dark bright	slightly	brick	Industrial	1950s	North
beige brown tan	very	concrete	Commercial	1960s	South
black	new / fresh	metal siding	Residential	1970s	East
blue	chipping	wood	Other:	undated	West
green	peeling	Other: ________	________	Other:	Other:
gray	good	window		________	________
red	moderate	door			
white	poor	Other: ________			

Discrete Sample 3 N/A ☐	Building: (circle one) A, B, C, or D	Time: ________	Comments:		
Color	*Condition*	*Substrate / Location*	*Building Type*	*Building Age*	*Side of Building*
light dark bright	slightly	brick	Industrial	1950s	North
beige brown tan	very	concrete	Commercial	1960s	South
black	new / fresh	metal siding	Residential	1970s	East
blue	chipping	wood	Other:	undated	West
green	peeling	Other: ________	________	Other:	Other:
gray	good	window		________	________
red	moderate	door			
white	poor	Other: ________			

Discrete Sample 4 N/A ☐	Building: (circle one) A, B, C, or D	Time: ________	Comments:		
Color	*Condition*	*Substrate / Location*	*Building Type*	*Building Age*	*Side of Building*
light dark bright	slightly	brick	Industrial	1950s	North
beige brown tan	very	concrete	Commercial	1960s	South
black	new / fresh	metal siding	Residential	1970s	East
blue	chipping	wood	Other:	undated	West
green	peeling	Other: ________	________	Other:	Other:
gray	good	window		________	________
red	moderate	door			
white	poor	Other: ________			

Circle all sample descriptors above that are applicable to the associated sample.
Note: commercial buildings include schools, churches, apartment buildings, and park buildings

Recorded By/Date: Julie Wasson 4/13/11 **Reviewed By/Date:** NO sample - P2 } ok NO Sample - P3 } [signature] 6/9/11

SAIC
From Science to Solutions

Sample Composite Form

Project: LDW Survey of Potential PCB-Containing Building Material Sources

Matrix: (circle one) **paint** *or* **caulk** **Composite Sample ID:** DAS-CA08-P1

Sampled By: DKW **Date:** 4/14/11

Discrete Sample 1	Building: (circle one) A, B, C, or D	Time: 0750	Comments:		
Color	*Condition*	*Substrate / Location*	*Building Type*	*Building Age*	*Side of Building*
light dark bright beige brown tan black blue green gray red white	slightly very new / fresh chipping peeling good moderate poor	brick concrete metal siding wood Other: ______ window door Other: ______	Industrial Commercial Residential Other: ______	1950s 1960s 1970s undated Other: ______	North South East West Other: ______
Discrete Sample 2	**Building:** (circle one) A, B, C, or D	**Time:** 0755	**Comments:**		
Color	*Condition*	*Substrate / Location*	*Building Type*	*Building Age*	*Side of Building*
light dark bright beige brown tan black blue green gray red white	slightly very new / fresh chipping peeling good moderate poor	brick concrete metal siding wood Other: ______ window door Other: ______	Industrial Commercial Residential Other: ______	1950s 1960s 1970s undated Other: ______	North South East West Other: ______
Discrete Sample 3 N/A ☐	**Building:** (circle one) A, B, C, or D	**Time:** 0840	**Comments:**		
Color	*Condition*	*Substrate / Location*	*Building Type*	*Building Age*	*Side of Building*
light dark bright beige brown tan black blue green gray red white	slightly very new / fresh chipping peeling good moderate poor	brick concrete metal siding wood Other: ______ window door Other: ______	Industrial Commercial Residential Other: Church	1950s 1960s 1970s undated Other: ______	North South East West Other: ______
Discrete Sample 4 N/A ☐	**Building:** (circle one) A, B, C, or D	**Time:** 0845	**Comments:**		
Color	*Condition*	*Substrate / Location*	*Building Type*	*Building Age*	*Side of Building*
light dark bright beige brown tan black blue green gray red white	slightly very new / fresh chipping peeling good moderate to poor	brick concrete metal siding wood Other: Metal railing window door Other: ______	Industrial Commercial Residential Other: Church	1950s 1960s 1970s undated Other: ______	North South East West Other: ______

Circle all sample descriptors above that are applicable to the associated sample.
Note: commercial buildings include schools, churches, apartment buildings, and park buildings

Recorded By/Date: Julie Walters 4/14/11 **Reviewed By/Date:** [signature] 6/9/11

SAIC
From Science to Solutions

Sample Composite Form

Project: LDW Survey of Potential PCB-Containing Building Material Sources

Matrix: (circle one) **paint** *or* **caulk** **Composite Sample ID:** DAS-CA08-P2

Sampled By: CHW **Date:** 4/14/11

Discrete Sample 1	**Building:** (circle one) A, B, C, or D	**Time:** 0747	**Comments:**		
Color	***Condition***	***Substrate / Location***	***Building Type***	***Building Age***	***Side of Building***
light dark bright	slightly	brick	Industrial	1950s	North
beige brown tan	very	concrete	Commercial	1960s	South
black	new / fresh	metal siding	Residential	1970s	East
blue	chipping	wood	*Other:*	undated	West
green	peeling	*Other:* ______	______	*Other:*	*Other:*
gray	good	window		______	______
red	moderate	door			
white	poor	*Other:* ______			

Discrete Sample 2	**Building:** (circle one) A, B, C, or D	**Time:** 0803	**Comments:**		
Color	***Condition***	***Substrate / Location***	***Building Type***	***Building Age***	***Side of Building***
light dark bright	slightly	brick	Industrial	1950s	North
beige brown tan	very	concrete	Commercial	1960s	South
black	new / fresh	metal siding	Residential	1970s	East
blue	chipping	wood	*Other:*	undated	West
green	peeling	*Other:* ______	______	*Other:*	*Other:*
gray	good	window		______	______
red	moderate	door			
white	poor	*Other:* ______			

Discrete Sample 3 N/A ☐	**Building:** (circle one) A, B, C, or D	**Time:** 0840	**Comments:**		
Color	***Condition***	***Substrate / Location***	***Building Type***	***Building Age***	***Side of Building***
light dark bright	slightly	brick	Industrial	1950s	North
beige brown tan	very	concrete	Commercial	1960s	South
black	new / fresh	metal siding	Residential	1970s	East
blue	chipping	wood	*Other:*	undated	West
green	peeling	*Other:* ______	Church	*Other:*	*Other:*
gray	~~good~~	window		______	______
red	moderate	door			
white	poor	*Other:* ______			

Discrete Sample 4 N/A ☐	**Building:** (circle one) A, B, C, or D	**Time:** 0847	**Comments:**		
Color	***Condition***	***Substrate / Location***	***Building Type***	***Building Age***	***Side of Building***
light dark bright	slightly	brick	Industrial	1950s	North
beige brown tan	very	concrete	Commercial	1960s	South
black	new / fresh	metal siding	Residential	1970s	East
blue	chipping	wood	*Other:*	undated	West
green	peeling	*Other:* ______	Church	*Other:*	*Other:*
gray	good	window		______	______
red	moderate	door			
white	poor	*Other:* ______			

Circle all sample descriptors above that are applicable to the associated sample.
Note: commercial buildings include schools, churches, apartment buildings, and park buildings

Recorded By/Date: [signature] 4/14/11 **Reviewed By/Date:** [signature] 6/9/11

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Sample Composite Form

Project: LDW Survey of Potential PCB-Containing Building Material Sources

Matrix: (*circle one*) **paint** *or* **caulk** **Composite Sample ID:** DAS-CA09-P1

Sampled By: CHW **Date:** 4/13/11

Discrete Sample 1	**Building:** (circle one) A, B, C, or D	**Time:** 1252	**Comments:**		
Color	***Condition***	***Substrate / Location***	***Building Type***	***Building Age***	***Side of Building***
light dark bright	slightly	brick	Industrial	1950s	North
beige brown tan	very	concrete	Commercial	1960s	South
black	new / fresh	metal siding	Residential	1970s	East
blue	chipping	wood	*Other:*	undated	West
green	peeling	*Other:* ______	______	*Other:*	*Other:*
gray	good	window		______	______
red	moderate	door			
white	poor	*Other:* ______			

Discrete Sample 2	**Building:** (circle one) A, B, C, or D	**Time:** 1317	**Comments:**		
Color	***Condition***	***Substrate / Location***	***Building Type***	***Building Age***	***Side of Building***
light dark bright	slightly	brick	Industrial	1950s	North
beige brown tan	very	concrete	Commercial	1960s	South
black	new / fresh	metal siding	Residential	1970s	East
blue	chipping	wood	*Other:*	undated	West
green	peeling	*Other:* ______	______	*Other:*	*Other:*
gray	good	window		______	______
red	moderate	door			
white	poor	*Other:* ______			

Discrete Sample 3 N/A ☐	**Building:** (circle one) A, B, C, or D	**Time:** 1405	**Comments:** Originally 13a, changed to 15b in field, now 9b 4/14/11		
Color	***Condition***	***Substrate / Location***	***Building Type***	***Building Age***	***Side of Building***
light dark bright	slightly	brick	Industrial	1950s	North
beige brown tan	very	concrete	Commercial	1960s	South
black	new / fresh	metal siding	Residential	1970s	East
blue	chipping	wood	*Other:*	undated	West
green	peeling	*Other:* metal	______	*Other:*	*Other:*
gray	good	window		______	______
red	moderate	door			
white	poor	*Other:* railing			

Discrete Sample 4 N/A ☐	**Building:** (circle one) A, B, C, or D	**Time:** 1400	**Comments:** " See above " 4/14/11		
Color	***Condition***	***Substrate / Location***	***Building Type***	***Building Age***	***Side of Building***
light dark bright	slightly	brick	Industrial	1950s	North
beige brown tan	very	concrete	Commercial	1960s	South
black	new / fresh	metal siding	Residential	1970s	East
blue	chipping	wood	*Other:*	undated	West
green	peeling	*Other:* metal	______	*Other:*	*Other:*
gray	good	window		______	______
red	moderate	door			
white	poor	*Other:* railing			

Circle all sample descriptors above that are applicable to the associated sample.
Note: commercial buildings include schools, churches, apartment buildings, and park buildings

Recorded By/Date: Julie Warter 4/14/11 **Reviewed By/Date:** [signature] 6/9/11

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From Science to Solutions

Sample Composite Form

Project: LDW Survey of Potential PCB-Containing Building Material Sources

Matrix: (circle one) **paint** *or* **caulk** **Composite Sample ID:** DAS-CA09-P2

Sampled By: CHW **Date:** 4/13/11

Discrete Sample 1	**Building:** (circle one) A, B, C, or D	**Time:** 1300	**Comments:**		
Color	*Condition*	*Substrate / Location*	*Building Type*	*Building Age*	*Side of Building*
light dark bright	slightly	brick	Industrial	1950s	North
beige brown tan	very	concrete	Commercial	1960s	South
black	new / fresh	metal siding	Residential	1970s	East
blue	chipping	wood	*Other:*	undated	West
green	peeling	*Other:*		*Other:*	*Other:*
gray	good	window			
red	moderate	door			
white	poor	*Other:*			

Discrete Sample 2	**Building:** (circle one) A, B, C, or D	**Time:** 1322	**Comments:**		
Color	*Condition*	*Substrate / Location*	*Building Type*	*Building Age*	*Side of Building*
light dark bright	slightly	brick	Industrial	1950s	North
beige brown tan	very	concrete	Commercial	1960s	South
black	new / fresh	~~metal siding~~ CHW	Residential	1970s	East
blue	chipping	wood	*Other:*	undated	West
green	peeling	*Other:* metal		*Other:*	*Other:*
gray	good	window			
red	moderate	door			
white	poor	*Other:* Downspout			

Discrete Sample 3 N/A ☐	**Building:** (circle one) A, B, C, or D	**Time:** 1410	**Comments:** Originally 13a, changed to 15b 4/14/11 in field, now 9b		
Color	*Condition*	*Substrate / Location*	*Building Type*	*Building Age*	*Side of Building*
light dark bright	slightly	brick	~~Industrial~~	1950s	North
beige brown tan	very	concrete	Commercial	1960s	South
black	new / fresh	metal siding	Residential	1970s	East
blue	chipping	wood	*Other:*	undated	West
green	peeling	*Other:*		*Other:*	*Other:*
gray	good	window			
red	moderate	door			
white	poor	*Other:*			

Discrete Sample 4 N/A ☐	**Building:** (circle one) A, B, C, or D	**Time:** 1415	**Comments:** " " 4/14/11		
Color	*Condition*	*Substrate / Location*	*Building Type*	*Building Age*	*Side of Building*
light dark bright	slightly	brick	Industrial	1950s	North
beige brown tan	very	concrete	Commercial	1960s	South
black	new / fresh	metal siding	Residential	1970s	East
blue	chipping	wood	*Other:*	undated	West
green	peeling	*Other:*		*Other:*	*Other:*
gray	good	window			
red	moderate	door			
white	poor	*Other:*			

Circle all sample descriptors above that are applicable to the associated sample.
Note: commercial buildings include schools, churches, apartment buildings, and park buildings

Recorded By/Date: Julie Wartes 4/14/11 **Reviewed By/Date:** [signature] 6/9/11

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Sample Composite Form

Project: LDW Survey of Potential PCB-Containing Building Material Sources

Matrix: (circle one) **paint** *or* **caulk** **Composite Sample ID:** DAS-CA09-P3

Sampled By: CHW **Date:** 4/13/11

Discrete Sample 1	**Building:** (circle one) A, B, C, or D	**Time:** 1308	**Comments:**		
Color	***Condition***	***Substrate / Location***	***Building Type***	***Building Age***	***Side of Building***
light dark bright beige brown tan black blue green gray red white	slightly very new / fresh chipping peeling good moderate poor	brick concrete metal siding wood *Other:* ____ window door *Other:* ____	Industrial Commercial Residential *Other:* ____	1950s 1960s 1970s undated *Other:* ____	North South East West *Other:* ____

Discrete Sample 2	**Building:** (circle one) A, B, C, or D	**Time:** 1312	**Comments:**		
Color	***Condition***	***Substrate / Location***	***Building Type***	***Building Age***	***Side of Building***
light dark bright beige brown tan black blue green gray red white	slightly very new / fresh chipping peeling good moderate poor	brick concrete metal siding wood *Other:* ____ window door *Other:* ____	Industrial Commercial Residential *Other:* ____	1950s 1960s 1970s undated *Other:* ____	North South East West *Other:* ____

Discrete Sample 3 N/A ☐	**Building:** (circle one) A, B, C, or D	**Time:** 1411	**Comments:** originally Ba, changed to 4/14/11 15b in field, now 9b		
Color	***Condition***	***Substrate / Location***	***Building Type***	***Building Age***	***Side of Building***
light dark bright beige brown tan black blue green gray red white	slightly very ~~new / fresh~~ chipping peeling ~~good~~ moderate poor	~~brick~~ concrete metal siding wood *Other:* ____ window door *Other:* ____	~~Industrial~~ Commercial Residential *Other:* ____	1950s 1960s 1970s undated *Other:* ____	North South East West *Other:* ____

Discrete Sample 4 N/A ☐	**Building:** (circle one) A, B, C, or D	**Time:** 1414	**Comments:** " " 4/14/11		
Color	***Condition***	***Substrate / Location***	***Building Type***	***Building Age***	***Side of Building***
light dark bright beige brown tan black blue green gray red white	slightly very new / fresh chipping peeling ~~good~~ moderate ~~poor~~	~~brick~~ concrete metal siding wood *Other:* ____ window door *Other:* ____	Industrial Commercial ~~Residential~~ *Other:* ____	1950s 1960s 1970s undated *Other:* ____	North South East West *Other:* ____

Circle all sample descriptors above that are applicable to the associated sample.
Note: commercial buildings include schools, churches, apartment buildings, and park buildings

Recorded By/Date: Julie Wartes 4/14/11 **Reviewed By/Date:** [signature] 6/9/11

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Sample Composite Form

Project: LDW Survey of Potential PCB-Containing Building Material Sources

Matrix: (circle one) **paint** *or* **caulk** **Composite Sample ID:** DAS-CA10-P1

Sampled By: JD **Date:** 4/13/11

Discrete Sample 1	**Building:** (circle one) A, B, C, or D	**Time:** 0925	**Comments:**		
Color	***Condition***	***Substrate / Location***	***Building Type***	***Building Age***	***Side of Building***
light dark bright beige brown tan black blue green gray red white	slightly very new / fresh chipping peeling good moderate poor	brick concrete metal siding wood *Other:* ______ window door *Other:* ______	Industrial Commercial Residential *Other:* ______	1950s 1960s 1970s undated *Other:* ______	North South East West *Other:* ______
Discrete Sample 2	**Building:** (circle one) A, B, C, or D	**Time:** 0938	**Comments:**		
Color	***Condition***	***Substrate / Location***	***Building Type***	***Building Age***	***Side of Building***
light dark bright beige brown tan black blue green gray red white	slightly very new / fresh chipping peeling good moderate poor	brick concrete metal siding wood *Other:* ______ window door *Other:* ______	Industrial Commercial Residential *Other:* ______	1950s 1960s 1970s undated *Other:* ______	North South East West *Other:* ______
Discrete Sample 3 N/A ☐	**Building:** (circle one) A, B, C, or D	**Time:** 1645	**Comments:**		
Color	***Condition***	***Substrate / Location***	***Building Type***	***Building Age***	***Side of Building***
light dark bright beige brown tan black blue green gray red white	slightly very new / fresh chipping peeling good moderate poor	brick concrete metal siding wood *Other:* ______ window door *Other:* ______	Industrial Commercial Residential *Other:* ______	1950s 1960s 1970s undated *Other:* ______	North South East West *Other:* ______
Discrete Sample 4 N/A ☐	**Building:** (circle one) A, B, C, or D	**Time:** 1650	**Comments:**		
Color	***Condition***	***Substrate / Location***	***Building Type***	***Building Age***	***Side of Building***
light dark bright beige brown tan black blue green gray red white	slightly very new / fresh chipping peeling good moderate poor	brick concrete metal siding wood *Other:* ______ window door *Other:* ______	Industrial Commercial Residential *Other:* ______	1950s 1960s 1970s undated *Other:* ______	North South East West *Other:* ______

Circle all sample descriptors above that are applicable to the associated sample.
Note: commercial buildings include schools, churches, apartment buildings, and park buildings

Recorded By/Date: Julie Wartes 4/13/11 **Reviewed By/Date:** [illegible signature] 6/9/11

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Sample Composite Form

Project: LDW Survey of Potential PCB-Containing Building Material Sources

Matrix: (circle one) **paint** or **caulk** **Composite Sample ID:** DA8-CA10-P2

Sampled By: JW **Date:** 4/13/11

Discrete Sample 1	**Building:** (circle one) A, B, C, or D	Time: 0926	**Comments:**		
Color	*Condition*	*Substrate / Location*	*Building Type*	*Building Age*	*Side of Building*
light dark bright beige brown tan black blue green gray red white	slightly very new / fresh chipping peeling good moderate poor	brick concrete metal siding wood Other: ______ window door Other: ______	Industrial Commercial Residential Other: ______	1950s 1960s 1970s undated Other: ______	North South East West Other: ______
Discrete Sample 2	**Building:** (circle one) A, B, C, or D	Time: 0928	**Comments:**		
Color	*Condition*	*Substrate / Location*	*Building Type*	*Building Age*	*Side of Building*
light dark bright beige brown tan black blue green gray red white	slightly very new / fresh chipping peeling good moderate poor	brick concrete metal siding wood Other: metal window door Other: ______	Industrial Commercial Residential Other: ______	1950s 1960s 1970s undated Other: ______	North South East West Other: ______
Discrete Sample 3 N/A ☐	**Building:** (circle one) A, B, C, or D	Time: 1650	**Comments:**		
Color	*Condition*	*Substrate / Location*	*Building Type*	*Building Age*	*Side of Building*
light dark bright beige brown tan black blue green gray red white	slightly very new / fresh chipping peeling good moderate poor	brick concrete metal siding wood Other: ______ window door Other: ______	Industrial Commercial Residential Other: ______	1950s 1960s 1970s undated Other: ______	North South East West Other: ______
Discrete Sample 4 N/A ☐	**Building:** (circle one) A, B, C, or D	Time: 1655	**Comments:**		
Color	*Condition*	*Substrate / Location*	*Building Type*	*Building Age*	*Side of Building*
light dark bright beige brown tan black blue green gray red white	slightly very new / fresh chipping peeling good moderate poor	brick concrete metal siding wood Other: ______ window door Other: ______	Industrial Commercial Residential Other: ______	1950s 1960s 1970s undated Other: ______	North South East West Other: ______

Circle all sample descriptors above that are applicable to the associated sample.

Note: commercial buildings include schools, churches, apartment buildings, and park buildings

Recorded By/Date: Julie Walters 4/13/11 **Reviewed By/Date:** [signature] 4/9/14

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Sample Composite Form

Project: LDW Survey of Potential PCB-Containing Building Material Sources

Matrix: (circle one) **paint** *or* **caulk** **Composite Sample ID:** DAS - CA10 - P3

Sampled By: JW **Date:** 4/13/11

Discrete Sample 1	**Building:** (circle one) A, B, C, or D	Time: 0945	**Comments:**		
Color	*Condition*	*Substrate / Location*	*Building Type*	*Building Age*	*Side of Building*
light dark bright beige brown tan black blue green yellow gray red white	slightly very new / fresh chipping peeling good moderate poor	brick concrete metal siding wood Other: bollard window door Other: ______	Industrial Commercial Residential Other: ______	1950s 1960s 1970s undated Other: ______	North South East West Other: ______

Discrete Sample 2	**Building:** (circle one) A, B, C, or D	Time: 0950	**Comments:**		
Color	*Condition*	*Substrate / Location*	*Building Type*	*Building Age*	*Side of Building*
light dark bright beige brown tan black blue yellow green gray red white	slightly very new / fresh chipping peeling good moderate poor	brick concrete metal siding wood Other: bollard window door Other: ______	Industrial Commercial Residential Other: ______	1950s 1960s 1970s undated Other: ______	North South East West Other: ______

Discrete Sample 3 N/A ☐	**Building:** (circle one) A, B, C, or D	Time: 1700	**Comments:**		
Color	*Condition*	*Substrate / Location*	*Building Type*	*Building Age*	*Side of Building*
light dark bright beige brown tan black blue green gray red white	slightly very new / fresh chipping peeling good moderate poor	brick concrete metal siding wood Other: ______ window door Other: ______	Industrial Commercial Residential Other: ______	1950s 1960s 1970s undated Other: ______	North South East West Other: ______

Discrete Sample 4 N/A ☐	**Building:** (circle one) A, B, C, or D	Time: 1705	**Comments:**		
Color	*Condition*	*Substrate / Location*	*Building Type*	*Building Age*	*Side of Building*
light dark bright beige brown tan black blue green gray red white	slightly very new / fresh chipping peeling good moderate poor	brick concrete metal siding wood Other: ______ window door Other: ______	Industrial Commercial Residential Other: ______	1950s 1960s 1970s undated Other: ______	North South East West Other: ______

Circle all sample descriptors above that are applicable to the associated sample.
Note: commercial buildings include schools, churches, apartment buildings, and park buildings

Recorded By/Date: Julie Wakeman 4/13/11 **Reviewed By/Date:** [signature] 6/9/11 ~~10~~
mm 6/9/11

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Sample Composite Form

Project: LDW Survey of Potential PCB-Containing Building Material Sources

Matrix: (circle one) **paint** *or* **caulk** **Composite Sample ID:** DAS-CA11-P1

Sampled By: JW **Date:** 4/13/11

Discrete Sample 1	**Building:** (circle one) A, B, C, or D	**Time:** 0827	**Comments:**		
Color	*Condition*	*Substrate / Location*	*Building Type*	*Building Age*	*Side of Building*
light dark bright	slightly	brick	Industrial	1950s	North
beige brown tan	very	concrete	Commercial	1960s	South
black	new / fresh	metal siding	Residential	1970s	East
blue	chipping	wood	*Other:*	undated	West
green	peeling	*Other:*		*Other:*	*Other:*
gray	good	window			
red	moderate	door			
white	poor	*Other:*			

Discrete Sample 2	**Building:** (circle one) A, B, C, or D	**Time:** 0835	**Comments:**		
Color	*Condition*	*Substrate / Location*	*Building Type*	*Building Age*	*Side of Building*
light dark bright	slightly	brick	Industrial	1950s	North
beige brown tan	very	concrete	Commercial	1960s	South
black	new / fresh	metal siding	Residential	1970s	East
blue	chipping	wood	*Other:*	undated	West
green	peeling	*Other:*		*Other:*	*Other:*
gray	good	window			
red	moderate	door			
white	poor	*Other:*			

Discrete Sample 3 N/A ☐	**Building:** (circle one) A, B, C, or D	**Time:** 0845	**Comments:**		
Color	*Condition*	*Substrate / Location*	*Building Type*	*Building Age*	*Side of Building*
light dark bright	slightly	brick	Industrial	1950s	North
beige brown tan	very	concrete	Commercial	1960s	South
black	new / fresh	metal siding	Residential	1970s	East
blue	chipping	wood	*Other:*	undated	West
green	peeling	*Other:*		*Other:*	*Other:*
gray	good	window			
red	moderate	door			
white	poor	*Other:*			

Discrete Sample 4 N/A ☐	**Building:** (circle one) A, B, C, or D	**Time:** 0850	**Comments:**		
Color	*Condition*	*Substrate / Location*	*Building Type*	*Building Age*	*Side of Building*
light dark bright	slightly	brick	Industrial	1950s	North
beige brown tan	very	concrete	Commercial	1960s	South
black	new / fresh	metal siding	Residential	1970s	East
blue	chipping	wood	*Other:*	undated	West
green	peeling	*Other:*		*Other:*	*Other:*
gray	good	window			
red	moderate	door			
white	poor	*Other:*			

Circle all sample descriptors above that are applicable to the associated sample.

Note: commercial buildings include schools, churches, apartment buildings, and park buildings

Recorded By/Date: [signature] 4/13/11 **Reviewed By/Date:** [signature] 6/9/11

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Sample Composite Form

Project: LDW Survey of Potential PCB-Containing Building Material Sources

Matrix: (*circle one*) **paint** *or* **caulk** **Composite Sample ID:** DAS-CA11-P2

Sampled By: JW **Date:** 4/13/11

Discrete Sample 1	**Building:** (circle one) A, B, C, or D	**Time:** 0847	**Comments:**		
Color	***Condition***	***Substrate / Location***	***Building Type***	***Building Age***	***Side of Building***
light dark bright	slightly	brick	Industrial	1950s	North
beige brown tan	very	concrete	Commercial	1960s	South
black	new / fresh	metal siding	Residential	1970s	East
blue	chipping	wood	*Other:*	undated	West
green	peeling	*Other:* Pipe		*Other:*	*Other:*
gray	good	window			
red	moderate	door			
white	poor	*Other:* Pipe			

Discrete Sample 2	**Building:** (circle one) A, B, C, or D	**Time:** 0858	**Comments:**		
Color	***Condition***	***Substrate / Location***	***Building Type***	***Building Age***	***Side of Building***
light dark bright	slightly	brick	Industrial	1950s	North
beige brown tan	very	concrete	Commercial	1960s	South
black	new / fresh	metal siding	Residential	1970s	~~East~~ CHW 4/13/11
blue	chipping	wood	*Other:*	undated	West
green	peeling	*Other:*		*Other:*	*Other:*
gray	good	window			
red	moderate	door			
white	poor	*Other:*			

Discrete Sample 3 N/A ☐	**Building:** (circle one) A, B, C, or D	**Time:** 0748	**Comments:**		
Color	***Condition***	***Substrate / Location***	***Building Type***	***Building Age***	***Side of Building***
light dark bright	slightly	brick	Industrial	1950s	North
beige brown tan	very	concrete	Commercial	1960s	South
black	new / fresh	metal siding	Residential	1970s	East
blue	chipping	wood	*Other:*	undated	West
green	peeling	*Other:*		*Other:*	*Other:*
gray	good	window			
red	moderate	door			
white	poor	*Other:*			

Discrete Sample 4 N/A ☐	**Building:** (circle one) A, B, C, or D	**Time:** 0750	**Comments:**		
Color	***Condition***	***Substrate / Location***	***Building Type***	***Building Age***	***Side of Building***
light dark bright	slightly	brick	Industrial	1950s	North
beige brown tan	very	concrete	Commercial	1960s	South
black	new / fresh	metal siding	Residential	1970s	East
blue	chipping	wood	*Other:*	undated	West
green	peeling	*Other:*		*Other:*	*Other:*
gray	good	window			
red	moderate	door			
white	poor	*Other:*			

Circle all sample descriptors above that are applicable to the associated sample.
Note: commercial buildings include schools, churches, apartment buildings, and park buildings

Recorded By/Date: [signature] 4/13/11 **Reviewed By/Date:** [signature] 6/9/11

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Sample Composite Form

Project: LDW Survey of Potential PCB-Containing Building Material Sources

Matrix: (circle one) **paint** *or* **caulk** **Composite Sample ID:** DAS - CA11 - P3

Sampled By: JW **Date:** 4/13/11

Discrete Sample 1	**Building:** (circle one) A, B, C, or D	**Time:** 0830	**Comments:**		
Color	*Condition*	*Substrate / Location*	*Building Type*	*Building Age*	*Side of Building*
light dark bright beige brown tan black blue green yellow gray red white	slightly very new / fresh chipping peeling good moderate poor	brick concrete metal siding wood Other: ecology block window door Other:	Industrial Commercial Residential Other:	1950s 1960s 1970s undated Other:	North South East West Other:

Discrete Sample 2	**Building:** (circle one) A, B, C, or D	**Time:** 0828	**Comments:**		
Color	*Condition*	*Substrate / Location*	*Building Type*	*Building Age*	*Side of Building*
light dark bright beige brown tan black blue green yellow gray red white	slightly very new / fresh chipping peeling good moderate poor	brick concrete metal siding wood Other: metal window ballard door Other:	Industrial Commercial Residential Other:	1950s 1960s 1970s undated Other:	North South East West Other:

Discrete Sample 3 N/A ☐	**Building:** (circle one) A, B, C, or D	**Time:** 0755	**Comments:** Red under yellow		
Color	*Condition*	*Substrate / Location*	*Building Type*	*Building Age*	*Side of Building*
light dark bright beige brown tan black blue yellow green gray red white	slightly very new / fresh chipping peeling good moderate poor	brick concrete metal siding wood Other: ballard window door Other:	Industrial Commercial Residential Other:	1950s 1960s 1970s undated Other:	North South East West Other:

Discrete Sample 4 N/A ☐	**Building:** (circle one) A, B, C, or D	**Time:** 0800	**Comments:**		
Color	*Condition*	*Substrate / Location*	*Building Type*	*Building Age*	*Side of Building*
light dark bright beige brown tan black blue green yellow gray red white	slightly very new / fresh chipping peeling good moderate poor	brick concrete metal siding wood Other: metal loading window bay door Other:	Industrial Commercial Residential Other:	1950s 1960s 1970s undated Other:	North South East West Other:

Circle all sample descriptors above that are applicable to the associated sample.
Note: commercial buildings include schools, churches, apartment buildings, and park buildings

Recorded By/Date: Julie Wartes 4/13/11 **Reviewed By/Date:** [signature] 6/9/11

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Sample Composite Form

Project: LDW Survey of Potential PCB-Containing Building Material Sources

Matrix: (circle one) **paint** *or* **caulk** **Composite Sample ID:** DAS-CA12-P1

Sampled By: JW **Date:** 6/14/11

Discrete Sample 1	**Building:** (circle one) A, B, C, or D	Time: 1325	**Comments:**		
Color	*Condition*	*Substrate / Location*	*Building Type*	*Building Age*	*Side of Building*
light dark bright beige brown tan black blue green gray red white	slightly very new / fresh chipping peeling good moderate poor	brick concrete metal siding wood Other: ______ window door Other: ______	Industrial Commercial Residential Other: ______	1950s 1960s 1970s undated Other: ______	North South East West Other: ______
Discrete Sample 2	**Building:** (circle one) A, B, C, or D	Time: 1330	**Comments:**		
Color	*Condition*	*Substrate / Location*	*Building Type*	*Building Age*	*Side of Building*
light dark bright beige brown tan black blue green gray red white	slightly very new / fresh chipping peeling good moderate poor	brick concrete metal siding wood Other: ______ window door Other: ______	Industrial Commercial Residential Other: ______	1950s 1960s 1970s undated Other: ______	North South East West Other: ______
Discrete Sample 3 N/A ☐	**Building:** (circle one) A, B, C, or D	Time: 1000	**Comments:**		
Color	*Condition*	*Substrate / Location*	*Building Type*	*Building Age*	*Side of Building*
light dark bright beige brown tan black blue green gray red white	slightly very new / fresh chipping peeling good moderate poor	brick concrete metal siding wood Other: metal Flag pole window door Other: ______	Industrial Commercial Residential Other: ______	1950s 1960s 1970s undated Other: ______	North South East West Other: ______
Discrete Sample 4 N/A ☐	**Building:** (circle one) A, B, C, or D	Time: 1005	**Comments:**		
Color	*Condition*	*Substrate / Location*	*Building Type*	*Building Age*	*Side of Building*
light dark bright beige brown tan black blue green gray red white	slightly very new / fresh chipping peeling good moderate poor	brick concrete metal siding wood Other: metal Flag pole window door Other: ______	Industrial Commercial Residential Other: ______	1950s 1960s 1970s undated Other: ______	North South East West Other: ______

Circle all sample descriptors above that are applicable to the associated sample.
Note: commercial buildings include schools, churches, apartment buildings, and park buildings

Recorded By/Date: Julie Wartes 6/14/11 **Reviewed By/Date:** [signature] 6/9/11

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Sample Composite Form

Project: LDW Survey of Potential PCB-Containing Building Material Sources

Matrix: (circle one) **paint** *or* **caulk** **Composite Sample ID:** DAS-CA12-P2

Sampled By: JW **Date:** 4/14/11

Discrete Sample 1	**Building:** (circle one) A, B, C, or D	**Time:** 1320	**Comments:**		
Color	*Condition*	*Substrate / Location*	*Building Type*	*Building Age*	*Side of Building*
light dark bright beige brown tan black blue green gray red white	slightly very new / fresh chipping peeling good moderate poor	brick concrete metal siding wood Other: ______ window door Other: ______	Industrial Commercial Residential Other: ______	1950s 1960s 1970s undated Other: ______	North South East West Other: ______

Discrete Sample 2	**Building:** (circle one) A, B, C, or D	**Time:** 1325	**Comments:**		
Color	*Condition*	*Substrate / Location*	*Building Type*	*Building Age*	*Side of Building*
light dark bright beige brown tan black blue green gray red white	slightly very new / fresh chipping peeling good moderate poor	brick concrete metal siding wood Other: ______ window door Other: ______	Industrial Commercial Residential Other: ______	1950s 1960s 1970s undated Other: ______	North South East West Other: ______

Discrete Sample 3 N/A ☐	**Building:** (circle one) A, B, C, or D	**Time:** 0935	**Comments:**		
Color	*Condition*	*Substrate / Location*	*Building Type*	*Building Age*	*Side of Building*
light dark bright beige brown tan black blue green gray red white	slightly very new / fresh chipping peeling good moderate poor	brick concrete metal siding wood Other: metal downspout window door Other: ______	Industrial Commercial Residential Other: ______	1950s 1960s 1970s undated Other: ______	North South East West Other: ______

Discrete Sample 4 N/A ☐	**Building:** (circle one) A, B, C, or D	**Time:** 0930	**Comments:**		
Color	*Condition*	*Substrate / Location*	*Building Type*	*Building Age*	*Side of Building*
light dark bright beige brown tan black blue green gray red white	slightly very new / fresh chipping peeling good moderate poor	brick concrete metal siding wood Other: metal railing window door Other: ______	Industrial Commercial Residential Other: ______	1950s 1960s 1970s undated Other: ______	North South East West Other: ______

Circle all sample descriptors above that are applicable to the associated sample.
Note: commercial buildings include schools, churches, apartment buildings, and park buildings

Recorded By/Date: Julie Warner 4/14/11 **Reviewed By/Date:** [illegible signature] 6/9/11

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Sample Composite Form

Project: LDW Survey of Potential PCB-Containing Building Material Sources

Matrix: (circle one) **paint** *or* **caulk** **Composite Sample ID:** DAS-CA12-P3

Sampled By: JW **Date:** 4/14/11

Discrete Sample 1	**Building:** (circle one) A, B, C, or D	**Time:** 1315	**Comments:** Red under green		
Color	*Condition*	*Substrate / Location*	*Building Type*	*Building Age*	*Side of Building*
light dark bright	slightly	brick	Industrial	1950s	North
beige brown tan	very	concrete	Commercial	1960s	South
black	new / fresh	metal siding	Residential	1970s	East
blue	chipping	wood	Other:	undated	West
green	peeling	Other:		Other:	Other:
gray	good	window			
red	moderate	door			
white	poor	Other: 1317			

Discrete Sample 2	**Building:** (circle one) A, B, C, or D	**Time:**	**Comments:**		
Color	*Condition*	*Substrate / Location*	*Building Type*	*Building Age*	*Side of Building*
light dark bright	slightly	brick	Industrial	1950s	North
beige brown tan	very	concrete	Commercial	1960s	South
black	new / fresh	metal siding	Residential	1970s	East
blue	chipping	wood	Other:	undated	West
green	peeling	Other:		Other:	Other:
gray	good	window			
red	moderate	door			
white	poor	Other:			

Discrete Sample 3 N/A ☐	**Building:** (circle one) A, B, C, or D	**Time:** 0940	**Comments:**		
Color	*Condition*	*Substrate / Location*	*Building Type*	*Building Age*	*Side of Building*
light dark bright	slightly	brick	Industrial	1950s	North
beige brown tan	very	concrete	Commercial	1960s	South
black	new / fresh	metal siding	Residential	1970s	East
blue	chipping	wood	Other:	undated	West
green	peeling	Other:		Other:	Other:
gray	good	window			
red	moderate	door			
white	poor	Other:			

Discrete Sample 4 N/A ☐	**Building:** (circle one) A, B, C, or D	**Time:** 0950	**Comments:**		
Color	*Condition*	*Substrate / Location*	*Building Type*	*Building Age*	*Side of Building*
light dark bright	slightly	brick	Industrial	1950s	North
beige brown tan	very	concrete	Commercial	1960s	South
black	new / fresh	metal siding	Residential	1970s	East
blue	chipping	wood	Other:	undated	West
green	peeling	Other:		Other:	Other:
gray	good	window			
red	moderate	door			
white	poor	Other:			

Circle all sample descriptors above that are applicable to the associated sample.
Note: commercial buildings include schools, churches, apartment buildings, and park buildings

Recorded By/Date: Julie Wartes 4/14/11 **Reviewed By/Date:** [signature] 6/9/11

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Sample Composite Form

Project: LDW Survey of Potential PCB-Containing Building Material Sources

Matrix: (circle one) **paint** *or* **caulk** **Composite Sample ID:** PAS-CAM-P1

Sampled By: JW/CW **Date:** 4/14/11

Discrete Sample 1	**Building:** (circle one) A, B, C, or D	**Time:** 1550	**Comments:**		
Color	*Condition*	*Substrate / Location*	*Building Type*	*Building Age*	*Side of Building*
light dark bright beige brown tan black blue green gray red white	slightly very new / fresh chipping peeling good moderate poor	brick concrete metal siding wood Other: metal window door Other: bollard	Industrial Commercial Residential Other: ______	1950s 1960s 1970s undated Other: ______	North South East West Other: ______
Discrete Sample 2	**Building:** (circle one) A, B, C, or D	**Time:** 1555	**Comments:**		
Color	*Condition*	*Substrate / Location*	*Building Type*	*Building Age*	*Side of Building*
light dark bright beige brown tan black blue green gray red white	slightly very new / fresh chipping peeling good moderate poor	brick concrete metal siding wood Other: metal window door Other: bollard	Industrial Commercial Residential Other: ______	1950s 1960s 1970s undated Other: ______	North South East West Other: ______
Discrete Sample 3 N/A ☐	**Building:** (circle one) A, B, C, or D	**Time:** 0820	**Comments:**		
Color	*Condition*	*Substrate / Location*	*Building Type*	*Building Age*	*Side of Building*
light dark bright beige brown tan black blue green gray red white	slightly very new / fresh chipping peeling good moderate poor	brick concrete metal siding wood Other: ______ window door Other: ______	Industrial Commercial Residential Other: ______	1950s 1960s 1970s undated Other: ______	North South East West Other: ______
Discrete Sample 4 N/A ☐	**Building:** (circle one) A, B, C, or D	**Time:** ~~0805~~ 0825	**Comments:**		
Color	*Condition*	*Substrate / Location*	*Building Type*	*Building Age*	*Side of Building*
light dark bright beige brown tan black blue green gray red white	slightly very new / fresh chipping peeling good moderate poor	brick concrete metal siding wood Other: ______ window door Other: ______	Industrial Commercial Residential Other: ______	1950s 1960s 1970s undated Other: ______	North ~~South~~ JW East West Other: ______

Circle all sample descriptors above that are applicable to the associated sample.
Note: commercial buildings include schools, churches, apartment buildings, and park buildings

Recorded By/Date: Julie Watts 4/14/11 **Reviewed By/Date:** [signature] 6/9/11

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Sample Composite Form

Project: LDW Survey of Potential PCB-Containing Building Material Sources

Matrix: (circle one) **paint** *or* **caulk** **Composite Sample ID:** DAS-CA14-P2

Sampled By: JW **Date:** 4/14/11

Discrete Sample 1 3	**Building:** (circle one) A, B, C, or D	**Time:** 0818	**Comments:**		
Color	*Condition*	*Substrate / Location*	*Building Type*	*Building Age*	*Side of Building*
light dark bright	slightly	brick	Industrial	1950s	North
beige brown tan	very	concrete	Commercial	1960s	South
black	new / fresh	metal siding	Residential	1970s	East
blue	chipping	wood	Other:	undated	West
green	peeling	Other: ________	________	Other:	Other:
gray	good	window		________	________
red	moderate	door			
white	poor	Other: ________			

Discrete Sample 2 4	**Building:** (circle one) A, B, C, or D	**Time:** 0821	**Comments:**		
Color	*Condition*	*Substrate / Location*	*Building Type*	*Building Age*	*Side of Building*
light dark bright	slightly	brick	Industrial	1950s	North
beige brown tan	very	concrete	Commercial	1960s	South
black	new / fresh	metal siding	Residential	1970s	East
blue	chipping	wood	Other:	undated	West
green	peeling	Other: ________	________	Other:	Other:
gray	good	window		________	________
red	moderate	door			
white	poor CHW 4/14/11	Other: ________			

Discrete Sample 3 1 N/A ☐	**Building:** (circle one) A, B, C, or D	**Time:** 1547	**Comments:**		
Color	*Condition*	*Substrate / Location*	*Building Type*	*Building Age*	*Side of Building*
light dark bright	slightly	brick	Industrial	1950s	North
beige brown tan	very	concrete	Commercial	1960s	South
black	new / fresh	metal siding	Residential	1970s	East
blue Yellow	chipping	wood	Other:	undated	West
green	peeling	Other: ________	________	Other:	Other:
gray	good	window		________	________
red	moderate	door			
white	poor CHW 4/14/11	Other: Ballard			

Discrete Sample 4 2 N/A ☐	**Building:** (circle one) A, B, C, or D	**Time:** 1553	**Comments:**		
Color	*Condition*	*Substrate / Location*	*Building Type*	*Building Age*	*Side of Building*
light dark bright	slightly	brick	Industrial	1950s	North
beige brown tan	very	concrete	Commercial	1960s	South
black	new / fresh	metal siding	Residential	1970s	East
blue Yellow	chipping	wood	Other:	undated	West
green	peeling	Other: ________	________	Other:	Other:
gray	good	window		________	________
red	moderate	door			
white	poor	Other: Ballard			

Circle all sample descriptors above that are applicable to the associated sample.
Note: commercial buildings include schools, churches, apartment buildings, and park buildings

Recorded By/Date: [signature] 4/14/11 **Reviewed By/Date:** [signature] 6/9/11

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Sample Composite Form

Project: LDW Survey of Potential PCB-Containing Building Material Sources

Matrix: (circle one) **paint** *or* **caulk** **Composite Sample ID:** DRS-CA16-P1

Sampled By: JW **Date:** 4/13/11

Discrete Sample 1	Building: (circle one) A, B, C, or D	Time: 1315	Comments:		
Color	*Condition*	*Substrate / Location*	*Building Type*	*Building Age*	*Side of Building*
light dark bright	slightly	brick	Industrial	1950s	North
beige brown tan	very	concrete	Commercial	1960s	South
black	new / fresh	metal siding	Residential	1970s	East
blue	chipping	wood	*Other:*	undated	West
green	peeling	*Other:* ________	________	*Other:*	*Other:*
gray	good	window		________	________
red	moderate	door			
white	poor	*Other:* ________			

Discrete Sample 2	Building: (circle one) A, B, C, or D	Time: 1320	Comments:		
Color	*Condition*	*Substrate / Location*	*Building Type*	*Building Age*	*Side of Building*
light dark bright	slightly	brick	Industrial	1950s	North
beige brown tan	very	concrete	Commercial	1960s	South
black	new / fresh	metal siding	Residential	1970s	East
blue	chipping	wood	*Other:*	undated	West
green	peeling	*Other:* ________	________	*Other:*	*Other:*
gray	good	window		________	________
red	moderate to	door			
white	poor	*Other:* ________			

Discrete Sample 3 N/A ☐	Building: (circle one) A, B, C, or D	Time: 1115	Comments: 4/14/11		
Color	*Condition*	*Substrate / Location*	*Building Type*	*Building Age*	*Side of Building*
light dark bright	slightly	brick	Industrial	1950s	North
beige brown tan	very	concrete	Commercial	1960s	South
black	new / fresh	metal siding	Residential	1970s	East
blue	chipping	wood	*Other:*	undated	West
green	peeling	*Other:* ________	________	*Other:*	*Other:*
gray	good	window		________	________
red	moderate	door			
white	poor	*Other:* ________			

Discrete Sample 4 N/A ☐	Building: (circle one) A, B, C, or D	Time: 1120	Comments: 4/14/11		
Color	*Condition*	*Substrate / Location*	*Building Type*	*Building Age*	*Side of Building*
light dark bright	slightly	brick	Industrial	1950s	North
beige brown tan	very	concrete	Commercial	1960s	South
black	new / fresh	metal siding	Residential	1970s	East
blue	chipping	wood	*Other:*	undated	West
green	peeling	*Other:* ________	________	*Other:*	*Other:*
gray	good	window		________	________
red	moderate	door			
white	poor	*Other:* ________			

Circle all sample descriptors above that are applicable to the associated sample.
Note: commercial buildings include schools, churches, apartment buildings, and park buildings

Recorded By/Date: Julie Wartes 4/14/11 **Reviewed By/Date:** [illegible] 6/9/11

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Sample Composite Form

Project: LDW Survey of Potential PCB-Containing Building Material Sources

Matrix: (circle one) **paint** *or* **caulk** **Composite Sample ID:** PAS-CA16-P2

Sampled By: JW **Date:** 4/13/11

Discrete Sample 1	**Building:** (circle one) A, B, C, or D	**Time:** 1255	**Comments:** wood w/ 1 sample		
Color	***Condition***	***Substrate / Location***	***Building Type***	***Building Age***	***Side of Building***
light dark bright beige brown tan black blue green gray red white	slightly very new / fresh chipping peeling good moderate poor	brick concrete metal siding wood *Other:* ____ window door *Other:* ____	Industrial Commercial Residential *Other:* ____	1950s 1960s 1970s undated *Other:* ____	North South East West *Other:* ____
Discrete Sample 2	**Building:** (circle one) A, B, C, or D	**Time:** 1300	**Comments:**		
Color	***Condition***	***Substrate / Location***	***Building Type***	***Building Age***	***Side of Building***
light dark bright beige brown tan black blue green gray red white	slightly very new / fresh chipping peeling good moderate poor	brick concrete metal siding wood *Other:* ____ window door *Other:* ____	Industrial Commercial Residential *Other:* ____	1950s 1960s 1970s undated *Other:* ____	North South East West *Other:* ____
Discrete Sample 3 N/A ☐	**Building:** (circle one) A, B, C, or D	**Time:** 1100	**Comments:** 4/14/11		
Color	***Condition***	***Substrate / Location***	***Building Type***	***Building Age***	***Side of Building***
light dark bright beige brown tan black blue yellow green gray red white	slightly very new / fresh chipping peeling good moderate poor	brick concrete metal siding wood *Other:* metal window door *Other:* ____	Industrial Commercial Residential *Other:* ____	1950s 1960s 1970s undated *Other:* ____	North South East West *Other:* ____
Discrete Sample 4 N/A ☐	**Building:** (circle one) A, B, C, or D	**Time:** 1105	**Comments:** 4/14/11		
Color	***Condition***	***Substrate / Location***	***Building Type***	***Building Age***	***Side of Building***
light dark bright beige brown tan black blue green yellow gray red white	slightly very new / fresh chipping peeling good moderate poor	brick concrete metal siding wood *Other:* metal window door *Other:* ____	Industrial Commercial Residential *Other:* ____	1950s 1960s 1970s undated *Other:* ____	North South East West *Other:* ____

Circle all sample descriptors above that are applicable to the associated sample.
Note: commercial buildings include schools, churches, apartment buildings, and park buildings

Recorded By/Date: Julie Wartes 4/14/11 **Reviewed By/Date:** [signature] 6/9/11

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Sample Composite Form

Project: LDW Survey of Potential PCB-Containing Building Material Sources

Matrix: (circle one) **paint** *or* **caulk** **Composite Sample ID:** DJS-CA16-P3

Sampled By: JW **Date:** 4/13/11

Discrete Sample 1	Building: (circle one) A, B, C, or D	Time: 1310	Comments:		
Color	*Condition*	*Substrate / Location*	*Building Type*	*Building Age*	*Side of Building*
light dark bright beige brown tan black blue green gray red white	slightly very new / fresh chipping peeling good moderate poor	brick concrete metal siding wood Other: ____ window door Other: ____	Industrial Commercial Residential Other: ____	1950s 1960s 1970s undated Other: ____	North South East West Other: ____
Discrete Sample 2	**Building:** (circle one) A, B, C, or D	**Time:** 1315	**Comments:**		
Color	*Condition*	*Substrate / Location*	*Building Type*	*Building Age*	*Side of Building*
light dark bright beige brown tan black blue green gray red white	slightly very new / fresh chipping peeling good moderate poor	brick concrete metal siding wood Other: ____ window door Other: ____	Industrial Commercial Residential Other: ____	1950s 1960s 1970s undated Other: ____	North South East West Other: ____
Discrete Sample 3 N/A ☐	**Building:** (circle one) A, B, C, or D	**Time:** ~~1320~~ 1102	**Comments:**		
Color	*Condition*	*Substrate / Location*	*Building Type*	*Building Age*	*Side of Building*
light dark bright beige brown tan black blue green gray red white	slightly very new / fresh chipping peeling good moderate poor	brick concrete metal siding wood Other: ____ window door Other: Propane Tank	Industrial Commercial Residential Other: ____	1950s 1960s 1970s undated Other: ____	North South East West Other: ____
Discrete Sample 4 N/A ☐	**Building:** (circle one) A, B, C, or D	**Time:** 1104	**Comments:**		
Color	*Condition*	*Substrate / Location*	*Building Type*	*Building Age*	*Side of Building*
light dark bright beige brown tan black blue green gray red white	slightly very new / fresh chipping peeling good moderate poor	brick concrete metal siding wood Other: ____ window door Other: Propane Tank	Industrial Commercial Residential Other: ____	1950s 1960s 1970s undated Other: ____	North South East West Other: ____

Circle all sample descriptors above that are applicable to the associated sample.
Note: commercial buildings include schools, churches, apartment buildings, and park buildings

Recorded By/Date: [signature] 4/14/11 **Reviewed By/Date:** [signature] 6/9/11

Caulk Sample Field Forms

SAIC
From Science to Solutions

Sample Composite Form

Project: LDW Survey of Potential PCB-Containing Building Material Sources

Matrix: (circle one) **paint** or **caulk** **Composite Sample ID:** DAS-CA01-C1

Sampled By: CHW **Date:** 4/13/11

Discrete Sample 1	**Building:** (circle one) A, B, C, or D	**Time:** 1130	**Comments:**		
Color	*Condition*	*Substrate / Location*	*Building Type*	*Building Age*	*Side of Building*
light dark bright beige brown tan black blue green gray red white	slightly very new / fresh chipping peeling good moderate poor	brick concrete metal siding wood Other: ______ window door Other: Joint	Industrial Commercial Residential Other: ______	1950s 1960s 1970s undated Other: ______	North South East West Other: ______
Discrete Sample 2	**Building:** (circle one) A, B, C, or D	**Time:** 1140	**Comments:**		
Color	*Condition*	*Substrate / Location*	*Building Type*	*Building Age*	*Side of Building*
light dark bright beige brown tan black blue green gray red white	slightly very new / fresh chipping peeling good moderate poor	brick concrete metal siding wood Other: ______ window door Other: Joint	Industrial Commercial Residential Other: ______	1950s 1960s 1970s undated Other: ______	North South East West Other: ______
Discrete Sample 3 N/A ☐	**Building:** (circle one) A, B, C, or D	**Time:** 1030	**Comments:**		
Color	*Condition*	*Substrate / Location*	*Building Type*	*Building Age*	*Side of Building*
light dark bright beige brown tan black blue green gray Clear red white	slightly very new / fresh chipping peeling good moderate poor	brick ~~concrete~~ metal siding wood Other: ______ window door Other: ______	Industrial Commercial Residential Other: ______	1950s 1960s 1970s undated Other: 1942	North South East West Other: ______
Discrete Sample 4 N/A ☐	**Building:** (circle one) A, B, C, or D	**Time:** 1036	**Comments:**		
Color	*Condition*	*Substrate / Location*	*Building Type*	*Building Age*	*Side of Building*
light dark bright beige brown tan black blue green gray Clear red white	slightly very new / fresh chipping peeling good moderate poor	brick concrete metal siding wood Other: ______ window door Other: ______	~~Industrial~~ CHW 4/13/11 Commercial Residential Other: ______	1950s 1960s 1970s undated Other: 1942	North South East West Other: ______

Circle all sample descriptors above that are applicable to the associated sample.
Note: commercial buildings include schools, churches, apartment buildings, and park buildings

Recorded By/Date: [signature] 4/13/11 **Reviewed By/Date:** [signature] 6/9/11

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Sample Composite Form

Project: LDW Survey of Potential PCB-Containing Building Material Sources

Matrix: (*circle one*) **paint** *or* **caulk** **Composite Sample ID:** CW 4/12/11 DAS ~~DAS~~ - CA03-C1

Sampled By: CHW **Date:** 4/12/11

Discrete Sample ~~1~~ 3	**Building:** (circle one) A, B, C, or D	**Time:** 0937	**Comments:**		
Color	***Condition***	***Substrate / Location***	***Building Type***	***Building Age***	***Side of Building***
light dark bright	slightly	brick	Industrial	1950s	North
beige brown tan	very	concrete	Commercial	1960s	South
black	new / fresh	metal siding	Residential	1970s	East
blue	chipping	wood	*Other:*	undated	West
green	peeling	*Other:*		*Other:* 1970	*Other:*
gray	good	window			
red	moderate	door			
white	poor	*Other:* Joint			

Discrete Sample ~~2~~ 4	**Building:** (circle one) A, B, C, or D	**Time:** 0946	**Comments:**		
Color	***Condition***	***Substrate / Location***	***Building Type***	***Building Age***	***Side of Building***
light dark bright	slightly	brick	Industrial	1950s	North
beige brown tan	very	concrete	Commercial	1960s	South
black	new / fresh	metal siding	Residential	1970s	East
blue	chipping	wood	*Other:*	undated	West
green	peeling	*Other:*		*Other:* 1970	*Other:*
gray	good	window			
red	moderate	door			
white	poor	*Other:* Joint			

Discrete Sample ~~3~~ 1 N/A ☐	**Building:** (circle one) A, ~~B~~, C, or D	**Time:** 0845	**Comments:**		
Color	***Condition***	***Substrate / Location***	***Building Type***	***Building Age***	***Side of Building***
light dark bright	slightly	brick	Industrial	1950s	North
beige brown tan	very	concrete CW	~~Commercial~~	1960s	South
black	new / fresh	metal siding 4/12/11	Residential	1970s	East
blue	chipping	wood	*Other:*	undated	West
green	peeling	*Other:*		*Other:* 1969	*Other:*
gray	good	window			
red	moderate	door			
white	poor	*Other:*			

Discrete Sample ~~4~~ 2 N/A ☐	**Building:** (circle one) A, ~~B~~, C, or D	**Time:** 0850	**Comments:**		
Color	***Condition***	***Substrate / Location***	***Building Type***	***Building Age***	***Side of Building***
light dark bright	slightly	brick 4/12/11	Industrial	1950s	North
beige brown tan	very	concrete	~~Commercial~~	1960s	South
black	new / fresh	metal siding	Residential	1970s	East
blue	chipping	wood	*Other:*	undated	West
green	peeling	*Other:*		*Other:* 1969	*Other:*
gray	good	window			
red	moderate	door			
white	poor	*Other:*			

Circle all sample descriptors above that are applicable to the associated sample.
Note: commercial buildings include schools, churches, apartment buildings, and park buildings

Recorded By/Date: [signature] 4/12/11 **Reviewed By/Date:** [signature] 4/9/11

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Sample Composite Form

Project: LDW Survey of Potential PCB-Containing Building Material Sources

Matrix: (circle one) **paint** ***or*** **caulk** **Composite Sample ID:** DAS-CA03-C2

Sampled By: CHW **Date:** 4/12/11

Discrete Sample ~~1~~ 3	Building: (circle one) A, B, C, or D	Time: 0954	Comments: Foam Underneath		
Color	***Condition***	***Substrate / Location***	***Building Type***	***Building Age***	***Side of Building***
light dark bright	slightly	brick	Industrial	1950s	North
beige brown tan	very	concrete	Commercial	1960s	South
black	new / fresh	metal siding	Residential	1970s	East
blue	chipping	wood	*Other:*	undated	West
green	peeling	*Other:* ______	______	*Other:*	*Other:*
gray	good	window		______	______
red	moderate	door			
white	poor	*Other:* Joint			

Discrete Sample ~~2~~ 4	Building: (circle one) A, B, C, or D	Time: 1004	Comments:		
Color	***Condition***	***Substrate / Location***	***Building Type***	***Building Age***	***Side of Building***
light dark bright	slightly	brick	Industrial	1950s	North
beige brown tan	very	concrete	Commercial	1960s	South
black	new / fresh	metal siding	Residential	1970s	East
blue	chipping	wood	*Other:*	undated	West
green	peeling	*Other:* ______	______	*Other:*	*Other:*
gray	good	window		______	______
red	moderate	door			
white	poor	*Other:* Joint			

Discrete Sample ~~3~~ 1 N/A ☐	Building: (circle one) A, ~~B~~, C, or D	Time: 0900	Comments:		
Color	***Condition***	***Substrate / Location***	***Building Type***	***Building Age***	***Side of Building***
light dark bright	slightly	brick	Industrial	1950s	North
beige brown tan	very	concrete	Commercial	1960s	South
black	new / fresh	metal siding	Residential	1970s	East
blue	chipping	wood	*Other:*	undated	West
green	peeling	*Other:* ______	______	*Other:* 1969	*Other:*
gray	good	window			______
red	moderate	door			
white	poor	*Other:* ______			

Discrete Sample ~~4~~ 2 N/A ☐	Building: (circle one) A, ~~B~~, C, or D	Time: 0905	Comments:		
Color	***Condition***	***Substrate / Location***	***Building Type***	***Building Age***	***Side of Building***
light dark bright	slightly	brick	Industrial	1950s	North
beige brown tan	very	concrete	Commercial	1960s	South
black	new / fresh	metal siding	Residential	1970s	East
blue	chipping	wood	*Other:*	undated	West
green	peeling	*Other:* ______	______	*Other:* 1969	*Other:*
gray	good	window			______
red	moderate	door			
white	poor	*Other:* ______			

Circle all sample descriptors above that are applicable to the associated sample.
Note: commercial buildings include schools, churches, apartment buildings, and park buildings

Recorded By/Date: [signature] 4/12/11 **Reviewed By/Date:** [signature] 4/9/1

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Sample Composite Form

Project: LDW Survey of Potential PCB-Containing Building Material Sources

Matrix: (circle one) **paint** *or* **caulk** **Composite Sample ID:** DAS-CA03-C3

Sampled By: CHW **Date:** 4/12/11

Discrete Sample ~~1~~ 3 CW 4/12/11	**Building:** (circle one) A, B, C, or D	**Time:** 1008	**Comments:** Foam Underneath		
Color	***Condition***	***Substrate / Location***	***Building Type***	***Building Age***	***Side of Building***
light dark bright	slightly	brick	Industrial	1950s	North
beige brown tan	very	concrete	Commercial	1960s	South
black	new / fresh	metal siding	Residential	1970s	East
blue	chipping	wood	*Other:*	undated	West
green	peeling	*Other:* ______	______	*Other:*	*Other:*
gray	good	window		______	______
red	moderate	door			
white 4/12/11	poor	*Other:* Joint			

Discrete Sample ~~2~~ 4	**Building:** (circle one) A, B, C, or D	**Time:** 1014	**Comments:**		
Color	***Condition***	***Substrate / Location***	***Building Type***	***Building Age***	***Side of Building***
light dark bright	slightly	brick	Industrial	1950s	North
beige brown tan	very	concrete	Commercial	1960s	South
black	new / fresh	metal siding	Residential	1970s	East
blue	chipping	wood	*Other:*	undated	West
green	peeling	*Other:* ______	______	*Other:*	*Other:*
gray	good	window		______	______
red 4/12/11	moderate	door			
white CW	poor	*Other:* Joint			

Discrete Sample ~~3~~ 1 N/A ☐	**Building:** (circle one) A, ~~B,~~ C, or D	**Time:** 0915	**Comments:**		
Color	***Condition***	***Substrate / Location***	***Building Type***	***Building Age***	***Side of Building***
light dark bright	slightly	brick	Industrial	1950s	North
beige brown tan	very	concrete	Commercial	1960s	South
black	new / fresh	metal siding	Residential	1970s	East
blue	chipping	wood	*Other:*	undated	West
green	peeling	*Other:* ______	______	*Other:*	*Other:*
gray	good	window		1969	______
red CW 4/12/11	moderate	door			
white	poor	*Other:* Joint			

Discrete Sample ~~4~~ 2 N/A ☐	**Building:** (circle one) A, ~~B,~~ C, or D	**Time:** 0920	**Comments:**		
Color	***Condition***	***Substrate / Location***	***Building Type***	***Building Age***	***Side of Building***
light dark bright	slightly	brick	Industrial	1950s	North
beige brown tan	very	concrete	Commercial	1960s	South
black	new / fresh	metal siding	Residential	1970s	East
blue	chipping	wood	*Other:*	undated	West
green	peeling	*Other:* ______	______	*Other:*	*Other:*
gray	good	window		1969	______
red	moderate	door			
white	poor	*Other:* Joint			

Circle all sample descriptors above that are applicable to the associated sample.
Note: commercial buildings include schools, churches, apartment buildings, and park buildings

Recorded By/Date: [signature] 4/12/11 **Reviewed By/Date:** [signature] 4/9/11

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Sample Composite Form

Project: LDW Survey of Potential PCB-Containing Building Material Sources

Matrix: (circle one) **paint or caulk** **Composite Sample ID:** DAS-CA04-C1

Sampled By: CHW **Date:** 4/12/11

Discrete Sample 1	**Building:** (circle one) A, B, C, or D	**Time:** 1610	**Comments:**		
Color	*Condition*	*Substrate / Location*	*Building Type*	*Building Age*	*Side of Building*
light dark bright	slightly	brick	Industrial	1950s	North
beige brown tan	very	concrete	Commercial	1960s	South
black	new / fresh	metal siding	Residential	1970s	East
blue	chipping	wood	*Other:*	undated	West
green	peeling	*Other:* ______	______	*Other:*	*Other:*
gray	good	window		______	______
red	moderate	door			
white	poor	*Other:* ______			

Discrete Sample 2	**Building:** (circle one) A, B, C, or D	**Time:** 1615	**Comments:**		
Color	*Condition*	*Substrate / Location*	*Building Type*	*Building Age*	*Side of Building*
light dark bright	slightly	brick	Industrial	1950s	North
beige brown tan	very	concrete	Commercial	1960s	South
black	new / fresh	metal siding	Residential	1970s	East
blue	chipping	wood	*Other:*	undated	West
green	peeling	*Other:* ______	______	*Other:*	*Other:*
gray	good	window		______	______
red	moderate	door			
white	poor	*Other:* ______			

Discrete Sample 3 N/A ☐	**Building:** (circle one) A, B, C, or D	**Time:** 1639	**Comments:**		
Color	*Condition*	*Substrate / Location*	*Building Type*	*Building Age*	*Side of Building*
light dark bright	slightly	brick	Industrial	1950s	North
beige brown tan	very	concrete	Commercial	1960s	South
black	new / fresh	metal siding	Residential	1970s	East
blue	chipping	wood	*Other:*	undated	West
green	peeling	*Other:* ______	______	*Other:*	*Other:*
gray	good	window		______	______
red	moderate	door			
white	poor	*Other:* ______			

Discrete Sample 4 N/A ☐	**Building:** (circle one) A, B, C, or D	**Time:** 1644	**Comments:**		
Color	*Condition*	*Substrate / Location*	*Building Type*	*Building Age*	*Side of Building*
light dark bright	slightly	brick	Industrial	1950s	North
beige brown tan	very	concrete	Commercial	1960s	South
black	new / fresh	metal siding	Residential	1970s	East
blue	chipping	wood	*Other:*	undated	West
green	peeling	*Other:* ______	______	*Other:*	*Other:*
gray	good	window		______	______
red	moderate	door			
white	poor	*Other:* ______			

Circle all sample descriptors above that are applicable to the associated sample.
Note: commercial buildings include schools, churches, apartment buildings, and park buildings

Recorded By/Date: [signature] 4/12/11 **Reviewed By/Date:** [signature] 6/9/11

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From Science to Solutions

Sample Composite Form

Project: LDW Survey of Potential PCB-Containing Building Material Sources

Matrix: (circle one) **paint** or **caulk** **Composite Sample ID:** DAS-CA05-C1

Sampled By: CHW **Date:** 4/12/11

Discrete Sample 1	**Building:** (circle one) A, B, C, or D	**Time:** 1130	**Comments:**		
Color	*Condition*	*Substrate / Location*	*Building Type*	*Building Age*	*Side of Building*
light dark bright	slightly	brick	Industrial	1950s	North
beige brown tan	very	concrete	Commercial	1960s	South
black	new / fresh	metal siding	Residential	1970s	East
blue	chipping	wood	Other:	undated	West
green	peeling	Other: ______	______	Other:	Other:
gray	good	window		______	______
red	moderate	door Metal			
white	poor	Other: Door Jam			

Discrete Sample 2	**Building:** (circle one) A, B, C, or D	**Time:** 1135	**Comments:**		
Color	*Condition*	*Substrate / Location*	*Building Type*	*Building Age*	*Side of Building*
light dark bright	slightly	brick	Industrial	1950s	North
beige brown tan	very	concrete	Commercial	1960s	South
black	new / fresh	metal siding	Residential	1970s	East
blue	chipping	wood	Other:	undated	West
green	peeling	Other: ______	______	Other:	Other:
gray	good	window		______	______
red	moderate	door Metal			
white	poor	Other: Door Jam			

Discrete Sample 3 N/A ☐	**Building:** (circle one) A, B, C, or D	**Time:** 1223	**Comments:**		
Color	*Condition*	*Substrate / Location*	*Building Type*	*Building Age*	*Side of Building*
light dark bright	slightly	brick	Industrial	1950s	North
beige brown tan	very	concrete	Commercial	1960s	South
black	new / fresh	metal siding	Residential	1970s	East
blue	chipping	wood	Other:	undated	West
green	peeling	Other: ______	______	Other:	Other:
gray	good	window		______	______
red	moderate	door			
white	poor	Other: ______			

Discrete Sample 4 N/A ☐	**Building:** (circle one) A, B, C, or D	**Time:** 1230	**Comments:**		
Color	*Condition*	*Substrate / Location*	*Building Type*	*Building Age*	*Side of Building*
light dark bright	slightly	brick	Industrial	1950s	North
beige brown tan	very	concrete	Commercial	1960s	South
black	new / fresh	metal siding	Residential	1970s	East
blue	chipping	wood	Other:	undated	West
green	peeling	Other: ______	______	Other:	Other:
gray	good	window		______	______
red	moderate	door			
white	poor	Other: ______			

Circle all sample descriptors above that are applicable to the associated sample.
Note: commercial buildings include schools, churches, apartment buildings, and park buildings

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Sample Composite Form

Project: LDW Survey of Potential PCB-Containing Building Material Sources

Matrix: (*circle one*) **paint** ***or*** **caulk** **Composite Sample ID:** DAS-CA05-C2

Sampled By: CHW **Date:** 4/12/11

Discrete Sample 1	**Building:** (circle one) A, B, C, or D	**Time:** 1146	**Comments:**		
Color	***Condition***	***Substrate / Location***	***Building Type***	***Building Age***	***Side of Building***
light dark bright	slightly	brick	Industrial	1950s	North
beige brown tan	very	concrete	Commercial	1960s	South
black	new / fresh	metal siding	Residential	1970s	East
blue	chipping	wood	*Other:*	undated	West
green	peeling	*Other:*		*Other:*	*Other:*
gray	good	window			
red	moderate	door			
white	poor	*Other:*			

Discrete Sample 2	**Building:** (circle one) A, B, C, or D	**Time:** 1153	**Comments:**		
Color	***Condition***	***Substrate / Location***	***Building Type***	***Building Age***	***Side of Building***
light dark bright	slightly	brick	Industrial	1950s	North
beige brown tan	very	concrete	Commercial	1960s	South
black	new / fresh	metal siding	Residential	1970s	East
blue	chipping	wood	*Other:*	undated	West
green	peeling	*Other:*		*Other:*	*Other:*
gray	good	window			
red	moderate	door			
white	poor	*Other:*			

Discrete Sample 3 N/A ☐	**Building:** (circle one) A, B, C, or D	**Time:** 1250	**Comments:**		
Color	***Condition***	***Substrate / Location***	***Building Type***	***Building Age***	***Side of Building***
light dark bright	slightly	brick	Industrial	1950s	North
beige brown tan	very	concrete	Commercial	1960s	South
black	new / fresh	metal siding	Residential	1970s	East
blue	chipping	wood	*Other:*	undated	West
green	peeling	*Other:*		*Other:*	*Other:*
gray	good	window			
red	moderate	door			
white	poor	*Other:*			

Discrete Sample 4 N/A ☐	**Building:** (circle one) A, B, C, or D	**Time:** 1238	**Comments:**		
Color	***Condition***	***Substrate / Location***	***Building Type***	***Building Age***	***Side of Building***
light dark bright	slightly	brick	Industrial	1950s	North
beige brown tan	very	concrete	Commercial	1960s	South
black	new / fresh	metal siding	Residential	1970s	East
blue	chipping	wood	*Other:*	undated	West
green	peeling	*Other:*		*Other:*	*Other:*
gray	good	window			
red	moderate	door			
white	poor	*Other:*			

Circle all sample descriptors above that are applicable to the associated sample.
Note: commercial buildings include schools, churches, apartment buildings, and park buildings

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Sample Composite Form

Project: LDW Survey of Potential PCB-Containing Building Material Sources

Matrix: (circle one) **paint** or **caulk** **Composite Sample ID:** DAS-CA05-C3

Sampled By: CHW/JFW **Date:** 4/12/11

Discrete Sample 1	**Building:** (circle one) A, B, C, or D	**Time:** 1203	**Comments:**		
Color	***Condition***	***Substrate / Location***	***Building Type***	***Building Age***	***Side of Building***
light dark bright	slightly	brick	Industrial	1950s	North
beige brown tan	very	concrete	Commercial	1960s	South
black	new / fresh	metal siding	Residential	1970s	East
blue	chipping	wood	Other:	undated	West
green	peeling	Other: ______	______	Other:	Other:
gray	good	window		______	______
red	moderate	door			
white	poor	Other: ______			

Discrete Sample 2	**Building:** (circle one) A, B, C, or D	**Time:** 1215	**Comments:**		
Color	***Condition***	***Substrate / Location***	***Building Type***	***Building Age***	***Side of Building***
light dark bright	slightly	brick	Industrial	1950s	North
beige brown tan	very	concrete	Commercial	1960s	South
black	new / fresh	metal siding	Residential	1970s	East
blue	chipping	wood	Other:	undated	West
green	peeling	Other: ______	______	Other:	Other:
gray	good	window		______	______
red	moderate	door			
white	poor	Other: ______			

Discrete Sample 3 N/A ☐	**Building:** (circle one) A, B, C, or D	**Time:** 1306	**Comments:**		
Color	***Condition***	***Substrate / Location***	***Building Type***	***Building Age***	***Side of Building***
light dark bright	slightly	brick	Industrial	1950s	North
beige brown tan	very	concrete	Commercial	1960s	South
black	new / fresh	metal siding	Residential	1970s	East
blue	chipping	wood	Other:	undated	West
green	peeling	Other: ______	______	Other:	Other:
gray	good	window		______	______
red	moderate	door			
white	poor	Other: ______			

Discrete Sample 4 N/A ☐	**Building:** (circle one) A, B, C, or D	**Time:** 1258	**Comments:**		
Color	***Condition***	***Substrate / Location***	***Building Type***	***Building Age***	***Side of Building***
light dark bright	slightly	brick	Industrial	1950s	North
beige brown tan	very	concrete	Commercial	1960s	South
black	new / fresh	metal siding	Residential	1970s	East
blue	chipping	wood	Other:	undated	West
green	peeling	Other: ______	______	Other:	Other:
gray	good	window		______	______
red	moderate	door			
~~white~~ CW 4/12/11	poor	Other: Joint			

Circle all sample descriptors above that are applicable to the associated sample.

Note: commercial buildings include schools, churches, apartment buildings, and park buildings

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Sample Composite Form

Project: LDW Survey of Potential PCB-Containing Building Material Sources

Matrix: (circle one) **paint** *or* **caulk** **Composite Sample ID:** CAS-CA10-C1

Sampled By: CHW **Date:** 4/13/11

Discrete Sample 1	**Building:** (circle one) A, B, C, or D	**Time:** 1545	**Comments:**		
Color	*Condition*	*Substrate / Location*	*Building Type*	*Building Age*	*Side of Building*
light dark bright beige brown tan black blue green gray red white	slightly very new / fresh chipping peeling good moderate poor	brick concrete metal siding wood Other: ____ window door Other: Joint	Industrial Commercial Residential Other: ____	1950s 1960s 1970s undated Other: ____	North South East West Other: ____
Discrete Sample 2	**Building:** (circle one) A, B, C, or D	**Time:** ____	**Comments:**		
Color	*Condition*	*Substrate / Location*	*Building Type*	*Building Age*	*Side of Building*
light dark bright beige brown tan black blue green gray red white	slightly very new / fresh chipping peeling good moderate poor	brick concrete metal siding wood Other: 1555 window door Other: Joint	Industrial Commercial Residential Other: ____	1950s 1960s 1970s undated Other: ____	North South East West Other: ____
Discrete Sample 3 N/A ☐	**Building:** (circle one) A, B, C, or D	**Time:** 1645	**Comments:**		
Color	*Condition*	*Substrate / Location*	*Building Type*	*Building Age*	*Side of Building*
light dark bright beige brown tan black blue green gray red white	slightly very new / fresh chipping peeling good moderate poor	brick concrete metal siding wood Other: ____ window door Other: Joint	Industrial Commercial Residential Other: ____	1950s 1960s 1970s undated Other: ____	North South East West Other: ____
Discrete Sample 4 N/A ☐	**Building:** (circle one) A, B, C, or D	**Time:** 1655	**Comments:**		
Color	*Condition*	*Substrate / Location*	*Building Type*	*Building Age*	*Side of Building*
light dark bright beige brown tan black blue green gray red white	slightly very new / fresh chipping peeling good moderate poor	brick concrete metal siding wood Other: ____ window door Other: Joint	Industrial Commercial Residential Other: ____	1950s 1960s 1970s undated Other: ____	North South East West Other: ____

Circle all sample descriptors above that are applicable to the associated sample.
Note: commercial buildings include schools, churches, apartment buildings, and park buildings

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Sample Composite Form

Project: LDW Survey of Potential PCB-Containing Building Material Sources

Matrix: (circle one) **paint** ***or*** **caulk** **Composite Sample ID:** DAS - CA10 - C2

Sampled By: CHW **Date:** 4/13/11

Discrete Sample 1	**Building:** (circle one) A, B, C, or D	**Time:** 0934	**Comments:**		
Color	***Condition***	***Substrate / Location***	***Building Type***	***Building Age***	***Side of Building***
light dark bright beige brown tan black blue green gray red white	slightly very new / fresh chipping peeling good moderate poor	brick concrete metal siding wood *Other:* ____ window door *Other:* ____	Industrial Commercial Residential *Other:* ____	1950s 1960s 1970s undated *Other:* ____	North South East West *Other:* ____
Discrete Sample 2	**Building:** (circle one) A, B, C, or D	**Time:** 0934	**Comments:**		
Color	***Condition***	***Substrate / Location***	***Building Type***	***Building Age***	***Side of Building***
light dark bright beige brown tan black blue green gray red white	slightly very new / fresh chipping peeling good moderate poor	brick concrete metal siding wood *Other:* ____ window door *Other:* ____	Industrial Commercial Residential *Other:* ____	1950s 1960s 1970s undated *Other:* ____	North South East West *Other:* ____
Discrete Sample 3 N/A ☐	**Building:** (circle one) A, B, C, or D	**Time:** 1702	**Comments:**		
Color	***Condition***	***Substrate / Location***	***Building Type***	***Building Age***	***Side of Building***
light dark bright beige brown tan black blue green gray red white	slightly very new / fresh chipping peeling good moderate poor	brick concrete metal siding wood *Other:* ____ window door *Other:* ____	Industrial Commercial Residential *Other:* ____	1950s 1960s 1970s undated *Other:* ____	North South East West *Other:* ____
Discrete Sample 4 N/A ☐	**Building:** (circle one) A, B, C, or D	**Time:** 1712	**Comments:**		
Color	***Condition***	***Substrate / Location***	***Building Type***	***Building Age***	***Side of Building***
light dark bright beige brown tan black blue green gray red white	slightly very new / fresh chipping peeling good moderate poor	brick concrete metal siding wood *Other:* ____ window door *Other:* ____	Industrial Commercial Residential *Other:* ____	1950s 1960s 1970s undated *Other:* ____	North South East West *Other:* ____

Circle all sample descriptors above that are applicable to the associated sample.
Note: commercial buildings include schools, churches, apartment buildings, and park buildings

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Sample Composite Form

Project: LDW Survey of Potential PCB-Containing Building Material Sources

Matrix: (*circle one*) **paint** ***or*** **caulk** **Composite Sample ID:** DAS-CA10-C3

Sampled By: CHW **Date:** 4/13/11

Discrete Sample 1	**Building:** (circle one) A, B, C, or D	**Time:** 0952	**Comments:**		
Color	***Condition***	***Substrate / Location***	***Building Type***	***Building Age***	***Side of Building***
light dark bright	slightly	brick	Industrial	1950s	North
beige brown tan	very	concrete	Commercial	1960s	South
black	new / fresh	metal siding	Residential	1970s	East
blue	chipping	wood	*Other:*	undated	West
green	peeling	*Other:* ________	________	*Other:*	*Other:*
gray	good	window		________	________
red	moderate	door			
white	poor	*Other:* ________			

Discrete Sample 2	**Building:** (circle one) A, B, C, or D	**Time:** 0944	**Comments:**		
Color	***Condition***	***Substrate / Location***	***Building Type***	***Building Age***	***Side of Building***
light dark bright	slightly	brick	Industrial	1950s	North
beige brown tan	very	concrete	Commercial	1960s	South
black	new / fresh	metal siding	Residential	1970s	East
blue	chipping	wood	*Other:*	undated	West
green	peeling	*Other:* ________	________	*Other:*	*Other:*
gray	good	window		________	________
red	moderate	door			
white	poor	*Other:* ________			

Discrete Sample 3 N/A ☐	**Building:** (circle one) A, B, C, or D	**Time:** 1722	**Comments:**		
Color	***Condition***	***Substrate / Location***	***Building Type***	***Building Age***	***Side of Building***
light dark bright	slightly	brick	Industrial	1950s	North
beige brown tan	very	concrete	Commercial	1960s	South
black	new / fresh	metal siding	Residential	1970s	East
blue	chipping	wood	*Other:*	undated	West
green	peeling	*Other:* ________	________	*Other:*	*Other:*
gray	good	window		________	________
red	moderate	door			
white	poor	*Other:* ________			

Discrete Sample 4 N/A ☐	**Building:** (circle one) A, B, C, or D	**Time:** 1730	**Comments:**		
Color	***Condition***	***Substrate / Location***	***Building Type***	***Building Age***	***Side of Building***
light dark bright	slightly	brick	Industrial	1950s	North
beige brown tan	very	concrete	Commercial	1960s	South
black	new / fresh	metal siding	Residential	1970s	East
blue	chipping	wood	*Other:*	undated	West
green	peeling	*Other:* ________	________	*Other:*	*Other:*
gray	good	window		________	________
red	moderate	door			
white	poor	*Other:* ________			

Circle all sample descriptors above that are applicable to the associated sample.

Note: commercial buildings include schools, churches, apartment buildings, and park buildings

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Sample Composite Form

Project: LDW Survey of Potential PCB-Containing Building Material Sources

Matrix: (circle one) **paint** or **caulk** **Composite Sample ID:** DAS-CA12-C1

Sampled By: CHW **Date:** 4/14/11

Discrete Sample 1	**Building:** (circle one) A, B, C, or D	**Time:** 1330	**Comments:**		
Color	*Condition*	*Substrate / Location*	*Building Type*	*Building Age*	*Side of Building*
light dark bright beige brown tan black blue green gray red white	slightly very new / fresh chipping peeling good moderate poor	brick concrete metal siding wood Other: ____ window door Other: ____	Industrial Commercial Residential Other: ____	1950s 1960s 1970s undated Other: ____	North South East West Other: ____
Discrete Sample 2	**Building:** (circle one) A, B, C, or D	**Time:** 1334	**Comments:**		
Color	*Condition*	*Substrate / Location*	*Building Type*	*Building Age*	*Side of Building*
light dark bright beige brown tan black blue green gray red white	slightly very new / fresh chipping peeling good moderate poor	brick concrete metal siding wood Other: ____ window door Other: ____	Industrial Commercial Residential Other: ____	1950s 1960s 1970s undated Other: ____	North South East West Other: ____
Discrete Sample 3 N/A ☐	**Building:** (circle one) A, B, C, or D	**Time:** 0930	**Comments:**		
Color	*Condition*	*Substrate / Location*	*Building Type*	*Building Age*	*Side of Building*
light dark bright beige brown tan black blue green gray red white	slightly very new / fresh chipping peeling good moderate poor	brick concrete metal siding wood Other: ____ window door Other: ____	Industrial Commercial Residential Other: ____	1950s 1960s 1970s undated Other: ____	North South East West Other: ____
Discrete Sample 4 N/A ☐	**Building:** (circle one) A, B, C, or D	**Time:** 0935	**Comments:**		
Color	*Condition*	*Substrate / Location*	*Building Type*	*Building Age*	*Side of Building*
light dark bright beige brown tan black blue green gray red white	slightly very new / fresh chipping peeling good moderate poor	brick concrete metal siding wood Other: ____ window door Other: ____	Industrial Commercial Residential Other: ____	1950s 1960s 1970s undated Other: ____	North South East West Other: ____

Circle all sample descriptors above that are applicable to the associated sample.
Note: commercial buildings include schools, churches, apartment buildings, and park buildings

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Sample Composite Form

Project: LDW Survey of Potential PCB-Containing Building Material Sources

Matrix: (circle one) **paint** ***or*** **caulk** **Composite Sample ID:** DAS-CA12-C2

Sampled By: CHW **Date:** 4/14/11

Discrete Sample 1	**Building:** (circle one) A, B, C, or D	**Time:** 1309	**Comments:**		
Color	***Condition***	***Substrate / Location***	***Building Type***	***Building Age***	***Side of Building***
light dark bright	slightly	brick	Industrial	1950s	North
beige brown tan	very	concrete	Commercial	1960s	South
black	new / fresh	metal siding	Residential	1970s	East
blue	chipping	wood	*Other:*	undated	West
green	peeling	*Other:*		*Other:*	*Other:*
gray	good	window			
red	moderate	door			
white	poor	*Other:* Joint			

Discrete Sample 2	**Building:** (circle one) A, B, C, or D	**Time:** 1312	**Comments:**		
Color	***Condition***	***Substrate / Location***	***Building Type***	***Building Age***	***Side of Building***
light dark bright	slightly	brick	Industrial	1950s	North
beige brown tan	very	concrete	Commercial	1960s	South
black	new / fresh	metal siding	Residential	1970s	East
blue	chipping	wood	*Other:*	undated	West
green	peeling	*Other:*		*Other:*	*Other:*
gray	good	window			
red	moderate	door			
white	poor	*Other:* Joint			

Discrete Sample 3 N/A ☐	**Building:** (circle one) A, B, C, or D	**Time:** 0947	**Comments:**		
Color	***Condition***	***Substrate / Location***	***Building Type***	***Building Age***	***Side of Building***
light dark bright	slightly	brick	Industrial	1950s	North
beige brown tan	very	concrete	Commercial	1960s	South
black	new / fresh	metal siding	Residential	1970s	East
blue	chipping	wood	*Other:*	undated	West
green	peeling	*Other:*		*Other:*	*Other:*
gray	good	window			
red	moderate	door			
white	poor	*Other:* Vent			

Discrete Sample 4 N/A ☐	**Building:** (circle one) A, B, C, or D	**Time:** 0951	**Comments:**		
Color	***Condition***	***Substrate / Location***	***Building Type***	***Building Age***	***Side of Building***
light dark bright	slightly	brick	Industrial	1950s	North
beige brown tan	very	concrete	Commercial	1960s	South
black	new / fresh	metal siding	Residential	1970s	East
blue	chipping	wood	*Other:*	undated	West
green	peeling	*Other:*		*Other:*	*Other:*
gray	good	window			
red	moderate	door			
white	poor	*Other:* Vent			

Circle all sample descriptors above that are applicable to the associated sample.
Note: commercial buildings include schools, churches, apartment buildings, and park buildings

Recorded By/Date: [signature] 4/14/11 **Reviewed By/Date:** [signature] 6/9/11

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Sample Composite Form

Project: LDW Survey of Potential PCB-Containing Building Material Sources

Matrix: (circle one) **paint** or **caulk** **Composite Sample ID:** DAS-CA12-C3

Sampled By: CHW **Date:** 4/14/11

Discrete Sample 1	**Building:** (circle one) A, B, C, or D	**Time:** 1320	**Comments:**		
Color	*Condition*	*Substrate / Location*	*Building Type*	*Building Age*	*Side of Building*
light dark bright beige brown tan black blue green gray red white	slightly very new / fresh chipping peeling good moderate poor	brick concrete metal siding wood Other: ______ window door Other: ______	Industrial Commercial Residential Other: ______	1950s 1960s 1970s undated Other: ______	North South East West Other: ______

Discrete Sample 2	**Building:** (circle one) A, B, C, or D	**Time:** 1326	**Comments:**		
Color	*Condition*	*Substrate / Location*	*Building Type*	*Building Age*	*Side of Building*
light dark bright beige brown tan black blue green gray red white	slightly very new / fresh chipping peeling good moderate poor	brick concrete metal siding CHW wood Other: ~~1326~~ window door Other: ______	Industrial Commercial Residential Other: ______	1950s 1960s 1970s undated Other: ______	North South East West Other: ______

Discrete Sample 3 N/A ☐	**Building:** (circle one) A, B, C, or D	**Time:** 1001	**Comments:** Glazing		
Color	*Condition*	*Substrate / Location*	*Building Type*	*Building Age*	*Side of Building*
light dark bright beige brown tan black blue green gray red white	slightly very new / fresh chipping peeling good moderate poor	brick concrete metal siding wood Other: ______ window door Other: ______	Industrial Commercial Residential Other: ______	1950s 1960s 1970s undated Other: ______	North South East West Other: ______

Discrete Sample 4 N/A ☐	**Building:** (circle one) A, B, C, or D	**Time:** 1003	**Comments:** Glazing		
Color	*Condition*	*Substrate / Location*	*Building Type*	*Building Age*	*Side of Building*
light dark bright beige brown tan black blue green gray red white	slightly very new / fresh chipping peeling good moderate poor	brick concrete metal siding wood Other: ______ window door Other: ______	Industrial Commercial Residential Other: ______	1950s 1960s 1970s undated Other: ______	North South East West Other: ______

Circle all sample descriptors above that are applicable to the associated sample.
Note: commercial buildings include schools, churches, apartment buildings, and park buildings

Recorded By/Date: [signature] 4/14/11 **Reviewed By/Date:** [signature] 6/9/11

SAIC
From Science to Solutions

Sample Composite Form

Project: LDW Survey of Potential PCB-Containing Building Material Sources

Matrix: (circle one) **paint** or **caulk** **Composite Sample ID:** DAS-CA15-C1

Sampled By: CHW **Date:** 4/14/11

Discrete Sample 1	**Building:** (circle one) A, B, C, or D	**Time:** 1410	**Comments:**		
Color	*Condition*	*Substrate / Location*	*Building Type*	*Building Age*	*Side of Building*
light dark bright	slightly	brick	Industrial	1950s	North
beige brown tan	very	concrete	Commercial	1960s	South
black	new / fresh	metal siding	Residential	1970s	East
blue	chipping	wood	*Other:*	undated	West
green	peeling	*Other:* Joint		*Other:*	*Other:*
gray	good	window			
red	moderate	door			
white	poor	*Other:*			
Discrete Sample 2	**Building:** (circle one) A, B, C, or D	**Time:** 1445	**Comments:**		
Color	*Condition*	*Substrate / Location*	*Building Type*	*Building Age*	*Side of Building*
light dark bright	slightly	brick	Industrial	1950s	North
beige brown tan	very	concrete	Commercial	1960s	South
black	new / fresh	metal siding	Residential	1970s	East
blue	chipping	wood	*Other:*	undated	West
green	peeling	*Other:* Joint		*Other:*	*Other:*
gray	good	window			
red	moderate	door			
white	poor CHW 4/14/11	*Other:*			
Discrete Sample 3 N/A ☐	**Building:** (circle one) A, B, C, or D	**Time:** 1400	**Comments:** Building 15B CHW 4/14/11		
Color	*Condition*	*Substrate / Location*	*Building Type*	*Building Age*	*Side of Building*
light dark bright	slightly	brick	Industrial	1950s	North
beige brown tan	very	concrete	Commercial	1960s	South
black	new / fresh	metal siding	Residential	1970s	East
blue	chipping	wood	*Other:*	undated	West
green	peeling	*Other:*		*Other:*	*Other:*
gray	good	window			
red	moderate	door			
white	poor CHW	*Other:* Joint			
Discrete Sample 4 N/A ☐	**Building:** (circle one) A, B, C, or D	**Time:** 1404	**Comments:** Building 15B 4/14/11		
Color	*Condition*	*Substrate / Location*	*Building Type*	*Building Age*	*Side of Building*
light dark bright	slightly	brick	Industrial	1950s	North
beige brown tan	very	concrete	Commercial	1960s	South
black	new / fresh	metal siding	Residential	1970s	East
blue	chipping	wood	*Other:*	undated	West
green	peeling	*Other:*		*Other:*	*Other:*
gray	good	window			
red	moderate	door			
white	poor	*Other:* Joint			

Circle all sample descriptors above that are applicable to the associated sample.
Note: commercial buildings include schools, churches, apartment buildings, and park buildings

Recorded By/Date: [signature] 4/14/11 **Reviewed By/Date:** [signature] 6/9/11

SAIC
From Science to Solutions

Sample Composite Form

Project: LDW Survey of Potential PCB-Containing Building Material Sources

Matrix: (circle one) **paint** *or* **caulk** **Composite Sample ID:** ~~DAS-CA09-C1~~ DAS-CA15-C1 CHW 4/14/11

Sampled By: JW/CW **Date:** 4/14/11

Discrete Sample 1	**Building:** (circle one) A, B, C, or D	Time:	Comments:		
Color	*Condition*	*Substrate / Location*	*Building Type*	*Building Age*	*Side of Building*
light dark bright beige brown tan black blue green gray red white	slightly very new / fresh chipping peeling good moderate poor	brick concrete metal siding wood Other: window door Other:	Industrial Commercial Residential Other:	1950s 1960s 1970s undated Other:	North South East West Other:

Discrete Sample 2	**Building:** (circle one) A, B, C, or D	Time:	Comments:		
Color	*Condition*	*Substrate / Location*	*Building Type*	*Building Age*	*Side of Building*
light dark bright beige brown tan black blue green gray red white	slightly very new / fresh chipping peeling good moderate poor CHW	brick concrete metal siding wood Other: window door Other: 4/14/11	Industrial Commercial Residential Other:	1950s 1960s 1970s undated Other:	North South East West Other:

Discrete Sample 3 N/A ☐	**Building:** (circle one) A, ~~B~~, C, or D	Time: 1200	Comments: Building 15C 4/14/11		
Color	*Condition*	*Substrate / Location*	*Building Type*	*Building Age*	*Side of Building*
light dark bright beige brown tan black blue green gray red white	slightly very new / fresh chipping peeling good moderate poor CHW	brick concrete joint metal siding wood Other: window door Other:	Industrial Commercial Residential Other:	1950s 1960s 1970s undated Other:	North South East West Other:

Discrete Sample 4 N/A ☐	**Building:** (circle one) A, ~~B~~, C, or D	Time: 1205	Comments: Building 15c CHW 4/14/11		
Color	*Condition*	*Substrate / Location*	*Building Type*	*Building Age*	*Side of Building*
light dark bright beige brown tan black blue green gray red white	slightly very new / fresh chipping peeling good moderate poor	brick concrete joint metal siding wood Other: window door Other:	Industrial Commercial Residential Other:	1950s 1960s 1970s undated Other:	North South East West Other:

Circle all sample descriptors above that are applicable to the associated sample.
Note: commercial buildings include schools, churches, apartment buildings, and park buildings

Recorded By/Date: [signature] 4/14/11 **Reviewed By/Date:** [signature] 6/9/11

Note: no caulk was found at 2b, so the caulk from 2a was combined with the caulk from 11b to form DAS-CA17-C1. [signature] 6/9/11

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Sample Composite Form

Project: LDW Survey of Potential PCB-Containing Building Material Sources CW 4/13/11

Matrix: (circle one) **paint** or **caulk** **Composite Sample ID:** ~~DAS-~~ CW 4/12/11 ~~DAS-CA02-C1~~ ~~DAS-CA02/11-C1~~ DAS-CA17-C1 mm 6/9/11

Sampled By: CHW **Date:** 4/12/11

Discrete Sample 1	**Building:** (circle one) A, B, C, or D	**Time:** 1435	**Comments:** Course grained sand underneath		
Color	***Condition***	***Substrate / Location***	***Building Type***	***Building Age***	***Side of Building***
light dark bright	slightly	brick	Industrial	1950s	North
beige brown tan	very	concrete	Commercial	1960s	South
black	new / fresh	metal siding	Residential	1970s	East
blue	chipping	wood	*Other:*	undated	West
green	peeling	*Other:* ______	______	*Other:*	*Other:*
gray	good	window		______	______
red	moderate	door			
white	poor	*Other:* Joint			
Discrete Sample 2	**Building:** (circle one) A, B, C, or D	**Time:** 1440	**Comments:**		
Color	***Condition***	***Substrate / Location***	***Building Type***	***Building Age***	***Side of Building***
light dark bright	slightly	brick	Industrial	1950s	North
beige brown tan	very	concrete	Commercial	1960s	South
black	new / fresh	metal siding	Residential	1970s	East
blue	chipping	wood	*Other:*	undated	West
green	peeling	*Other:* ______	______	*Other:*	*Other:*
gray	good	window		______	______
red	moderate	door			
white	poor	*Other:* Joint			
Discrete Sample 3 N/A ☒	**Building:** (circle one) A, B, C, or D	**Time:** ______	**Comments:**		
Color	***Condition***	***Substrate / Location***	***Building Type***	***Building Age***	***Side of Building***
light dark bright	slightly	brick	Industrial	1950s	North
beige brown tan	very	concrete	Commercial	1960s	South
black	new / fresh	metal siding	Residential	1970s	East
blue	chipping	wood	*Other:*	undated	West
green	peeling	*Other:* ______	______	*Other:*	*Other:*
gray	good	window		______	______
red	moderate	door			
white	poor	*Other:* ______			
Discrete Sample 4 N/A ☒	**Building:** (circle one) A, B, C, or D	**Time:** ______	**Comments:**		
Color	***Condition***	***Substrate / Location***	***Building Type***	***Building Age***	***Side of Building***
light dark bright	slightly	brick	Industrial	1950s	North
beige brown tan	very	concrete	Commercial	1960s	South
black	new / fresh	metal siding	Residential	1970s	East
blue	chipping	wood	*Other:*	undated	West
green	peeling	*Other:* ______	______	*Other:*	*Other:*
gray	good	window		______	______
red	moderate	door			
white	poor	*Other:* ______			

Circle all sample descriptors above that are applicable to the associated sample.
Note: commercial buildings include schools, churches, apartment buildings, and park buildings

Recorded By/Date: [signature] 4/12/11 **Reviewed By/Date:** [signature] 6/9/11

Note: No caulk was found at 2b or 11a so the caulk from 2a and 11b was combined to form DAS-CA17-C1.
[signature] 6/9/11

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Sample Composite Form

Project: LDW Survey of Potential PCB-Containing Building Material Sources

Matrix: (*circle one*) **paint** *or* **caulk** **Composite Sample ID:** ~~DAS-CA02/11-C1~~ mm DAS-CA17-C1 6/9/11

Sampled By: CHW **Date:** 4/13/11

Discrete Sample ~~1~~ 3 4/13/11 CHW	**Building:** (circle one) A, B, C, or D	**Time:** 0745	**Comments:**		
Color	*Condition*	*Substrate / Location*	*Building Type*	*Building Age*	*Side of Building*
light dark bright	slightly	brick	Industrial	1950s	North
beige brown tan	very	concrete	Commercial	1960s	South
black	new / fresh	metal siding	Residential	1970s	East
blue	chipping	wood	*Other:* ______	undated	West
green	peeling	*Other:* ______		*Other:* ______	*Other:* ______
gray	good	window			
red	moderate	door			
white	poor	*Other:* Joint			

Discrete Sample ~~2~~ 4 CHW 4/13/11	**Building:** (circle one) A, B, C, or D	**Time:** 0750	**Comments:**		
Color	*Condition*	*Substrate / Location*	*Building Type*	*Building Age*	*Side of Building*
light dark bright	slightly	brick	Industrial	1950s	North
beige brown tan	very	concrete	Commercial	1960s	South
black	new / fresh	metal siding	Residential	1970s	East
blue	chipping	wood	*Other:* ______	undated	West
green	peeling	*Other:* ______		*Other:* ______	*Other:* ______
gray	good	window			
red	moderate	door			
white	poor	*Other:* Joint			

Discrete Sample 3 N/A ☒	**Building:** (circle one) A, B, C, or D	**Time:** ______	**Comments:**		
Color	*Condition*	*Substrate / Location*	*Building Type*	*Building Age*	*Side of Building*
light dark bright	slightly	brick	Industrial	1950s	North
beige brown tan	very	concrete	Commercial	1960s	South
black	new / fresh	metal siding	Residential	1970s	East
blue	chipping	wood	*Other:* ______	undated	West
green	peeling	*Other:* ______		*Other:* ______	*Other:* ______
gray	good	window			
red	moderate	door			
white	poor	*Other:* ______			

Discrete Sample 4 N/A ☒	**Building:** (circle one) A, B, C, or D	**Time:** ______	**Comments:**		
Color	*Condition*	*Substrate / Location*	*Building Type*	*Building Age*	*Side of Building*
light dark bright	slightly	brick	Industrial	1950s	North
beige brown tan	very	concrete	Commercial	1960s	South
black	new / fresh	metal siding	Residential	1970s	East
blue	chipping	wood	*Other:* ______	undated	West
green	peeling	*Other:* ______		*Other:* ______	*Other:* ______
gray	good	window			
red	moderate	door			
white	poor	*Other:* ______			

Circle all sample descriptors above that are applicable to the associated sample.
Note: commercial buildings include schools, churches, apartment buildings, and park buildings

Recorded By/Date: [signature] 4/13/11 **Reviewed By/Date:** [signature] 6/9/11

Appendix E

Laboratory Data Summary Reports

Analytical Resources, Incorporated
Analytical Chemists and Consultants

May 3, 2011

Marina Mitchell
SAIC
18912 North Creek Parkway, Suite 101
Bothell, WA 98011

RE: 196257 LDW Building Materials
ARI Job No: SR40

Dear Marina:

Please find enclosed the Chain-of-Custody (COC) records, sample receipt documentation, and the final data package for samples from the project referenced above.

Sample receipt and details of the analyses are discussed in the Case Narrative.

An electronic copy of this data and associated raw data will be kept on file with ARI. Should you have any questions or problems, please feel free to contact me at any time.

Sincerely,

ANALYTICAL RESOURCES, INC.

Cheronne Oreiro
Project Manager
206-695-6214
cheronneo@arilabs.com

Enclosures

cc: eFile SR40

4611 South 134th Place, Suite 100 • Tukwila WA 98168 • **206-695-6200** • **206-695-6201** fax

Case Narrative, Data Qualifiers, Control Limits

ARI Job ID: SR40

Case Narrative

Client: SAIC
Project: 196257 LDW Building Materials
ARI Job No.: SR40

Sample Receipt

Thirteen solid samples (paint chips) were received April 12, 2011. For details regarding sample receipt, please refer to the Cooler Receipt Form.

On April 13th, 2011 the metals analysis was canceled for sample **DAS-CA05-P3D**. Per email instructions on April 21, 2011, select samples have been reported under a separate cover.

Aroclor PCBs by SW8082

The samples were extracted and analyzed within recommended holding times. Due to limited sample volume, the routine medium level extraction procedure was modified to use a 1.25 g sample taken to a 10 mL final volume, from the routine of a 5 g sample to 40 mL final volume.

Initial and continuing calibrations were within method requirements.

The internal standard areas of Hexabromombiphenyl were outside the control limits high on the second column for samples **DAS-CA05-P3D**, **DAS-CA05-P2**, and **DAS-CA05-P3**. No corrective action was taken.

The surrogate percent recoveries were within control limits, with several results flagged as "NR" or 'not reported' due to matrix interference.

The method blank was clean at the reporting limit. The LCS and LCSD percent recoveries were within control limits.

The undetected results for several samples have been raised and "Y"-flagged due to interference in the matrix. Extracts for select samples were removed from archive and cleaned with silica gel a second time. The extracts were then re-analyzed and all re-analyzed data was comparable to the original runs. Only the original data have been reported for these samples. No further corrective action was taken.

Total Metals and Mercury

The samples were digested and analyzed within method recommended holding times, using internal standards.

The method blank was clean at the reporting limits. The LCS percent recoveries were within control limits.

Sample ID Cross Reference Report

ANALYTICAL RESOURCES INCORPORATED

ARI Job No: SR40
Client: SAIC
Project Event: 196257
Project Name: LDW Building Materials

	Sample ID	ARI Lab ID	ARI LIMS ID	Matrix	Sample Date/Time	VTSR
1.	DAS-CA03-P1	SR40A	11-7978	Paint	04/12/11 10:45	04/12/11 18:15
2.	DAS-CA05-P1	SR40B	11-7979	Paint	04/12/11 13:10	04/12/11 18:15
3.	DAS-CA05-P3D	SR40C	11-7980	Paint	04/12/11 08:00	04/12/11 18:15
4.	DAS-CA02-P1	SR40D	11-7981	Paint	04/12/11 15:35	04/12/11 18:15
5.	DAS-CA04-P1	SR40E	11-7982	Paint	04/12/11 17:35	04/12/11 18:15
6.	DAS-CA03-P2	SR40F	11-7983	Paint	04/12/11 10:50	04/12/11 18:15
7.	DAS-CA03-P3	SR40G	11-7984	Paint	04/12/11 10:55	04/12/11 18:15
8.	DAS-CA05-P2	SR40H	11-7985	Paint	04/12/11 13:15	04/12/11 18:15
9.	DAS-CA05-P3	SR40I	11-7986	Paint	04/12/11 13:20	04/12/11 18:15
10.	DAS-CA02-P2	SR40J	11-7987	Paint	04/12/11 15:40	04/12/11 18:15
11.	DAS-CA02-P3	SR40K	11-7988	Paint	04/12/11 15:45	04/12/11 18:15
12.	DAS-CA04-P2	SR40L	11-7989	Paint	04/12/11 17:30	04/12/11 18:15
13.	DAS-CA04-P3	SR40M	11-7990	Paint	04/12/11 17:40	04/12/11 18:15

Printed 04/13/11

Analytical Resources, Incorporated
Analytical Chemists and Consultants

Data Reporting Qualifiers

Effective 2/14/2011

Inorganic Data

U Indicates that the target analyte was not detected at the reported concentration

* Duplicate RPD is not within established control limits

B Reported value is less than the CRDL but ≥ the Reporting Limit

N Matrix Spike recovery not within established control limits

NA Not Applicable, analyte not spiked

H The natural concentration of the spiked element is so much greater than the concentration spiked that an accurate determination of spike recovery is not possible

L Analyte concentration is ≤5 times the Reporting Limit and the replicate control limit defaults to ±1 RL instead of the normal 20% RPD

Organic Data

U Indicates that the target analyte was not detected at the reported concentration

* Flagged value is not within established control limits

B Analyte detected in an associated Method Blank at a concentration greater than one-half of ARI's Reporting Limit or 5% of the regulatory limit or 5% of the analyte concentration in the sample.

J Estimated concentration when the value is less than ARI's established reporting limits

D The spiked compound was not detected due to sample extract dilution

E Estimated concentration calculated for an analyte response above the valid instrument calibration range. A dilution is required to obtain an accurate quantification of the analyte.

Q Indicates a detected analyte with an initial or continuing calibration that does not meet established acceptance criteria (<20%RSD, <20%Drift or minimum RRF).

S Indicates an analyte response that has saturated the detector. The calculated concentration is not valid; a dilution is required to obtain valid quantification of the analyte

NA The flagged analyte was not analyzed for

NR Spiked compound recovery is not reported due to chromatographic interference

NS The flagged analyte was not spiked into the sample

M Estimated value for an analyte detected and confirmed by an analyst but with low spectral match parameters. This flag is used only for GC-MS analyses

M2 The sample contains PCB congeners that do not match any standard Aroclor pattern. The PCBs are identified and quantified as the Aroclor whose pattern most closely matches that of the sample. The reported value is an estimate.

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

Y The analyte is not detected at or above the reported concentration. The reporting limit is raised due to chromatographic interference. The Y flag is equivalent to the U flag with a raised reporting limit.

EMPC Estimated Maximum Possible Concentration (EMPC) defined in EPA Statement of Work DLM02.2 as a value "calculated for 2,3,7,8-substituted isomers for which the quantitation and /or confirmation ion(s) has signal to noise in excess of 2.5, but does not meet identification criteria" **(Dioxin/Furan analysis only)**

C The analyte was positively identified on only one of two chromatographic columns. Chromatographic interference prevented a positive identification on the second column

P The analyte was detected on both chromatographic columns but the quantified values differ by ≥40% RPD with no obvious chromatographic interference

X Analyte signal includes interference from polychlorinated diphenyl ethers. **(Dioxin/Furan analysis only)**

Z Analyte signal includes interference from the sample matrix or perfluorokerosene ions. **(Dioxin/Furan analysis only)**

Geotechnical Data

A The total of all fines fractions. This flag is used to report total fines when only sieve analysis is requested and balances total grain size with sample weight.

F Samples were frozen prior to particle size determination

SM Sample matrix was not appropriate for the requested analysis. This normally refers to samples contaminated with an organic product that interferes with the sieving process and/or moisture content, porosity and saturation calculations

SS Sample did not contain the proportion of "fines" required to perform the pipette portion of the grain size analysis

W Weight of sample in some pipette aliquots was below the level required for accurate weighting

Analytical Resources,Incorporated
Analytical Chemists and Consultants

Spike Recovery Control Limits - Analysis of PCB / Aroclors in Soil & Sediment Samples - EPA SW-846 Method 8082 Effective 5/1/09						
Control limits are updated periodically. Assure that you have ARI's current control limits by downloading the files at the time of use. http://www.arilabs.com/portal/downloads/ARI-CLs.zip						
	Routine Analysis	**PSDDA**	**Low Level**	**Low level**	**Soxhlet Extraction**	**Medium Level**
Typical Reporting Limit (µg/kg):	**33**	**20**	**10**	**4**	**100**	**800**
Nominal Sample Wet Weight (g):	**12**	**25**	**25**	**25**	**10**	**5**
Final Extract Volume (mL):	**4**	**5**	**2.5**	**1**	**10**	**40**
LCS Spike Recovery (1,2)						
Aroclor 1016	48 - 106	52 - 101	53 - **100**	37 - 106	30 - 160[3]	59 - 108
Aroclor 1260	50 - 121	52 - 126	58 - 112	50 - 116	30 - 160[3]	43 - 177
Method Blank / LCS Surrogate Recovery						
Tetrachloro-*meta*-xylene (TCMX)	46 - 111	47 - 110	43 - 108	35 - 100	30 - 160[3]	49 - 110
Decachlorobiphenyl	51 - 112	48 - 119	48 - 118	40 - 109	30 - 160[3]	51 - 127
Sample Surrogate Recovery						
Tetrachloro-*meta*-xylene (TCMX)	50 - 114	46 - 113	35 - 119	38 - 102	30 - 160[3]	28 - 106
Decachlorobiphenyl	42 - 127	40 - 130	33 - 143	34 - 141	30 - 160[3]	22 - 168

(1) Laboratory Control Sample (LCS) spike recovery control limits also used as advisory control limits for sample matrix spike (MS) analyzes. MS recovery values are advisory and not used to assess the acceptability of an analytical batch.
(2) Highlighted control limits (**bold font**) adjusted to demonstrate that ARI does not use control limits < 10 for the lower limit or < 100 for the upper limit.
(3) 30 – 160 are default, advisory control limits used when there is insufficient data to calculate historic control limits. **DO NOT** use these limits as the sole reason to reject the data from a batch of analyses.

Analytical Resources,Incorporated
Analytical Chemists and Consultants

Summary of Laboratory Control Limits Metals Analyses
(All Methods & Sample Matrices)
Effective 5/1/09

Control limits are updated periodically. Assure that you have ARI's current control limits by downloading the files at the time of use. http://www.arilabs.com/portal/downloads/ARI-CLs.zip

Element	Matrix Spike Recovery	LCS Recovery	Replicate RPD
Aluminum	75 - 125	80 - 120	≤ 20%
Antimony	75 - 125	80 - 120	≤ 20%
Arsenic	75 - 125	80 - 120	≤ 20%
Barium	75 - 125	80 - 120	≤ 20%
Beryllium	75 - 125	80 - 120	≤ 20%
Boron	75 - 125	80 - 120	≤ 20%
Cadmium	75 - 125	80 - 120	≤ 20%
Calcium	75 - 125	80 - 120	≤ 20%
Chromium	75 - 125	80 - 120	≤ 20%
Cobalt	75 - 125	80 - 120	≤ 20%
Copper	75 - 125	80 - 120	≤ 20%
Iron	75 - 125	80 - 120	≤ 20%
Lead	75 - 125	80 - 120	≤ 20%
Magnesium	75 - 125	80 - 120	≤ 20%
Manganese	75 - 125	80 - 120	≤ 20%
Mercury	75 - 125	80 - 120	≤ 20%
Nickel	75 - 125	80 - 120	≤ 20%
Potassium	75 - 125	80 - 120	≤ 20%
Selenium	75 - 125	80 - 120	≤ 20%
Silica	75 - 125	80 - 120	≤ 20%
Silver	75 - 125	80 - 120	≤ 20%
Sodium	75 - 125	80 - 120	≤ 20%
Strontium	75 - 125	80 - 120	≤ 20%
Thallium	75 - 125	80 - 120	≤ 20%
Vanadium	75 - 125	80 - 120	≤ 20%
Zinc	75 - 125	80 - 120	≤ 20%

PCB Analysis
Report and Summary QC Forms

ARI Job ID: SR40

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PCB by GC/ECD Method SW8082

Sample ID: DAS-CA05-P1
SAMPLE

Lab Sample ID: SR40B
LIMS ID: 11-7979
Matrix: Paint
Data Release Authorized:
Reported: 05/04/11

QC Report No: SR40-SAIC
Project: LDW Building Materials
196257
Date Sampled: 04/12/11
Date Received: 04/12/11

Date Extracted: 04/21/11
Date Analyzed: 04/26/11 13:52
Instrument/Analyst: ECD7/YZ
GPC Cleanup: No
Sulfur Cleanup: Yes
Acid Cleanup: Yes

Sample Amount: 1.08 g-as-rec
Final Extract Volume: 10 mL
Dilution Factor: 5.00
Silica Gel: Yes

Percent Moisture: NA

CAS Number	Analyte	MDL	RL	Result
12674-11-2	Aroclor 1016	130	930	< 930 U
53469-21-9	Aroclor 1242	220	930	< 930 U
12672-29-6	Aroclor 1248	220	930	< 930 U
11097-69-1	Aroclor 1254	220	930	< 930 U
11096-82-5	Aroclor 1260	220	930	< 930 U
11104-28-2	Aroclor 1221	220	930	< 930 U
11141-16-5	Aroclor 1232	220	930	< 930 U

Reported in µg/kg (ppb)

PCB Surrogate Recovery

Decachlorobiphenyl	102%
Tetrachlorometaxylene	91.0%

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PCB by GC/ECD Method SW8082

Sample ID: DAS-CA05-P3D
SAMPLE

Lab Sample ID: SR40C
LIMS ID: 11-7980
Matrix: Paint
Data Release Authorized:
Reported: 05/04/11

QC Report No: SR40-SAIC
Project: LDW Building Materials
196257
Date Sampled: 04/12/11
Date Received: 04/12/11

Date Extracted: 04/21/11
Date Analyzed: 04/26/11 14:16
Instrument/Analyst: ECD7/YZ
GPC Cleanup: No
Sulfur Cleanup: Yes
Acid Cleanup: Yes

Sample Amount: 1.33 g-as-rec
Final Extract Volume: 10 mL
Dilution Factor: 5.00
Silica Gel: Yes

Percent Moisture: NA

CAS Number	Analyte	MDL	RL	Result
12674-11-2	Aroclor 1016	100	750	< 750 U
53469-21-9	Aroclor 1242	180	750	< 750 U
12672-29-6	Aroclor 1248	180	750	< 750 U
11097-69-1	Aroclor 1254	180	1,700	< 1,700 Y
11096-82-5	**Aroclor 1260**	**180**	**750**	**32,000**
11104-28-2	Aroclor 1221	180	750	< 750 U
11141-16-5	Aroclor 1232	180	750	< 750 U

Reported in µg/kg (ppb)

PCB Surrogate Recovery

Decachlorobiphenyl	NR
Tetrachlorometaxylene	87.1%

FORM I

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PCB by GC/ECD Method SW8082

Sample ID: DAS-CA02-P1
SAMPLE

Lab Sample ID: SR40D
LIMS ID: 11-7981
Matrix: Paint
Data Release Authorized:
Reported: 05/04/11

QC Report No: SR40-SAIC
Project: LDW Building Materials
196257
Date Sampled: 04/12/11
Date Received: 04/12/11

Date Extracted: 04/21/11
Date Analyzed: 04/26/11 14:40
Instrument/Analyst: ECD7/YZ
GPC Cleanup: No
Sulfur Cleanup: Yes
Acid Cleanup: Yes

Sample Amount: 1.31 g-as-rec
Final Extract Volume: 10 mL
Dilution Factor: 5.00
Silica Gel: Yes

Percent Moisture: NA

CAS Number	Analyte	MDL	RL	Result
12674-11-2	Aroclor 1016	100	760	< 760 U
53469-21-9	Aroclor 1242	180	760	< 760 U
12672-29-6	Aroclor 1248	180	16,000	< 16,000 Y
11097-69-1	Aroclor 1254	180	36,000	< 36,000 Y
11096-82-5	Aroclor 1260	180	760	< 760 U
11104-28-2	Aroclor 1221	180	760	< 760 U
11141-16-5	Aroclor 1232	180	760	< 760 U

Reported in µg/kg (ppb)

PCB Surrogate Recovery

Decachlorobiphenyl	120%
Tetrachlorometaxylene	83.8%

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PCB by GC/ECD Method SW8082

Sample ID: DAS-CA04-P1
SAMPLE

Lab Sample ID: SR40E
LIMS ID: 11-7982
Matrix: Paint
Data Release Authorized:
Reported: 05/04/11

QC Report No: SR40-SAIC
Project: LDW Building Materials
196257
Date Sampled: 04/12/11
Date Received: 04/12/11

Date Extracted: 04/21/11
Date Analyzed: 04/26/11 15:04
Instrument/Analyst: ECD7/YZ
GPC Cleanup: No
Sulfur Cleanup: Yes
Acid Cleanup: Yes

Sample Amount: 1.31 g-as-rec
Final Extract Volume: 10 mL
Dilution Factor: 5.00
Silica Gel: Yes

Percent Moisture: NA

CAS Number	Analyte	MDL	RL	Result
12674-11-2	Aroclor 1016	100	760	< 760 U
53469-21-9	Aroclor 1242	180	760	< 760 U
12672-29-6	Aroclor 1248	180	2,500	< 2,500 Y
11097-69-1	Aroclor 1254	180	760	< 760 U
11096-82-5	Aroclor 1260	180	760	< 760 U
11104-28-2	Aroclor 1221	180	760	< 760 U
11141-16-5	Aroclor 1232	180	760	< 760 U

Reported in µg/kg (ppb)

PCB Surrogate Recovery

Decachlorobiphenyl	94.2%
Tetrachlorometaxylene	84.8%

FORM I

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PCB by GC/ECD Method SW8082

Sample ID: DAS-CA05-P2
SAMPLE

Lab Sample ID: SR40H
LIMS ID: 11-7985
Matrix: Paint
Data Release Authorized:
Reported: 05/04/11

QC Report No: SR40-SAIC
Project: LDW Building Materials
196257
Date Sampled: 04/12/11
Date Received: 04/12/11

Date Extracted: 04/21/11
Date Analyzed: 04/26/11 15:28
Instrument/Analyst: ECD7/YZ
GPC Cleanup: No
Sulfur Cleanup: Yes
Acid Cleanup: Yes

Sample Amount: 1.32 g-as-rec
Final Extract Volume: 10 mL
Dilution Factor: 5.00
Silica Gel: Yes

Percent Moisture: NA

CAS Number	Analyte	MDL	RL	Result
12674-11-2	Aroclor 1016	100	760	< 760 U
53469-21-9	Aroclor 1242	180	760	< 760 U
12672-29-6	Aroclor 1248	180	760	< 760 U
11097-69-1	Aroclor 1254	180	2,100	< 2,100 Y
11096-82-5	**Aroclor 1260**	**180**	**760**	**29,000**
11104-28-2	Aroclor 1221	180	760	< 760 U
11141-16-5	Aroclor 1232	180	760	< 760 U

Reported in µg/kg (ppb)

PCB Surrogate Recovery

Decachlorobiphenyl	NR
Tetrachlorometaxylene	90.1%

FORM I

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PCB by GC/ECD Method SW8082

Sample ID: DAS-CA05-P3
SAMPLE

Lab Sample ID: SR40I
LIMS ID: 11-7986
Matrix: Paint
Data Release Authorized:
Reported: 05/04/11

QC Report No: SR40-SAIC
Project: LDW Building Materials
196257
Date Sampled: 04/12/11
Date Received: 04/12/11

Date Extracted: 04/21/11
Date Analyzed: 04/26/11 15:52
Instrument/Analyst: ECD7/YZ
GPC Cleanup: No
Sulfur Cleanup: Yes
Acid Cleanup: Yes

Sample Amount: 1.30 g-as-rec
Final Extract Volume: 10 mL
Dilution Factor: 5.00
Silica Gel: Yes

Percent Moisture: NA

CAS Number	Analyte	MDL	RL	Result
12674-11-2	Aroclor 1016	100	770	< 770 U
53469-21-9	Aroclor 1242	180	770	< 770 U
12672-29-6	Aroclor 1248	180	770	< 770 U
11097-69-1	Aroclor 1254	180	1,800	< 1,800 Y
11096-82-5	**Aroclor 1260**	**180**	**770**	**32,000**
11104-28-2	Aroclor 1221	180	770	< 770 U
11141-16-5	Aroclor 1232	180	770	< 770 U

Reported in µg/kg (ppb)

PCB Surrogate Recovery

Decachlorobiphenyl	NR
Tetrachlorometaxylene	86.0%

FORM I

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PCB by GC/ECD Method SW8082
Page 1 of 1

Sample ID: DAS-CA02-P3
SAMPLE

Lab Sample ID: SR40K
LIMS ID: 11-7988
Matrix: Paint
Data Release Authorized:
Reported: 05/04/11

QC Report No: SR40-SAIC
Project: LDW Building Materials
196257
Date Sampled: 04/12/11
Date Received: 04/12/11

Date Extracted: 04/21/11
Date Analyzed: 04/26/11 16:15
Instrument/Analyst: ECD7/YZ
GPC Cleanup: No
Sulfur Cleanup: Yes
Acid Cleanup: Yes

Sample Amount: 1.30 g-as-rec
Final Extract Volume: 10 mL
Dilution Factor: 5.00
Silica Gel: Yes

Percent Moisture: NA

CAS Number	Analyte	MDL	RL	Result
12674-11-2	Aroclor 1016	100	770	< 770 U
53469-21-9	Aroclor 1242	180	770	< 770 U
12672-29-6	Aroclor 1248	180	770	< 770 U
11097-69-1	Aroclor 1254	180	770	< 770 U
11096-82-5	Aroclor 1260	180	770	< 770 U
11104-28-2	Aroclor 1221	180	770	< 770 U
11141-16-5	Aroclor 1232	180	770	< 770 U

Reported in µg/kg (ppb)

PCB Surrogate Recovery

Decachlorobiphenyl	107%
Tetrachlorometaxylene	85.1%

FORM I

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PCB by GC/ECD Method SW8082

Sample ID: DAS-CA04-P2
SAMPLE

Lab Sample ID: SR40L
LIMS ID: 11-7989
Matrix: Paint
Data Release Authorized:
Reported: 05/04/11

QC Report No: SR40-SAIC
Project: LDW Building Materials
196257
Date Sampled: 04/12/11
Date Received: 04/12/11

Date Extracted: 04/21/11
Date Analyzed: 04/26/11 16:39
Instrument/Analyst: ECD7/YZ
GPC Cleanup: No
Sulfur Cleanup: Yes
Acid Cleanup: Yes

Sample Amount: 1.30 g-as-rec
Final Extract Volume: 10 mL
Dilution Factor: 5.00
Silica Gel: Yes

Percent Moisture: NA

CAS Number	Analyte	MDL	RL	Result
12674-11-2	Aroclor 1016	100	770	< 770 U
53469-21-9	Aroclor 1242	180	770	< 770 U
12672-29-6	Aroclor 1248	180	770	< 770 U
11097-69-1	Aroclor 1254	180	770	< 770 U
11096-82-5	Aroclor 1260	180	770	< 770 U
11104-28-2	Aroclor 1221	180	770	< 770 U
11141-16-5	Aroclor 1232	180	770	< 770 U

Reported in µg/kg (ppb)

PCB Surrogate Recovery

Decachlorobiphenyl	93.9%
Tetrachlorometaxylene	86.1%

FORM I

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PCB by GC/ECD Method SW8082

Sample ID: DAS-CA04-P3
SAMPLE

Lab Sample ID: SR40M
LIMS ID: 11-7990
Matrix: Paint
Data Release Authorized:
Reported: 05/04/11

QC Report No: SR40-SAIC
Project: LDW Building Materials
196257
Date Sampled: 04/12/11
Date Received: 04/12/11

Date Extracted: 04/21/11
Date Analyzed: 04/26/11 17:03
Instrument/Analyst: ECD7/YZ
GPC Cleanup: No
Sulfur Cleanup: Yes
Acid Cleanup: Yes

Sample Amount: 1.39 g-as-rec
Final Extract Volume: 10 mL
Dilution Factor: 5.00
Silica Gel: Yes

Percent Moisture: NA

CAS Number	Analyte	MDL	RL	Result
12674-11-2	Aroclor 1016	98	720	< 720 U
53469-21-9	Aroclor 1242	170	720	< 720 U
12672-29-6	Aroclor 1248	170	720	< 720 U
11097-69-1	Aroclor 1254	170	720	< 720 U
11096-82-5	Aroclor 1260	170	720	< 720 U
11104-28-2	Aroclor 1221	170	720	< 720 U
11141-16-5	Aroclor 1232	170	720	< 720 U

Reported in µg/kg (ppb)

PCB Surrogate Recovery

Decachlorobiphenyl	96.8%
Tetrachlorometaxylene	86.5%

ANALYTICAL RESOURCES INCORPORATED

SW8082/PCB SOIL/SEDIMENT SURROGATE RECOVERY SUMMARY

Matrix: Paint

QC Report No: SR40-SAIC
Project: LDW Building Materials
196257

Client ID	DCBP % REC	DCBP LCL-UCL	TCMX % REC	TCMX LCL-UCL	TOT OUT
MB-042111	96.6%	51-127	83.4%	49-110	0
LCS-042111	99.4%	51-127	83.5%	49-110	0
LCSD-042111	101%	51-127	84.4%	49-110	0
DAS-CA05-P1	102%	22-168	91.0%	28-106	0
DAS-CA05-P3D	NR	22-168	87.1%	28-106	0
DAS-CA02-P1	120%	22-168	83.8%	28-106	0
DAS-CA04-P1	94.2%	22-168	84.8%	28-106	0
DAS-CA05-P2	NR	22-168	90.1%	28-106	0
DAS-CA05-P3	NR	22-168	86.0%	28-106	0
DAS-CA02-P3	107%	22-168	85.1%	28-106	0
DAS-CA04-P2	93.9%	22-168	86.1%	28-106	0
DAS-CA04-P3	96.8%	22-168	86.5%	28-106	0

Medium Level Control Limits
Prep Method: SW3580A
Log Number Range: 11-7979 to 11-7990

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PCB by GC/ECD Method SW8082
Page 1 of 1

Sample ID: LCS-042111
LCS/LCSD

Lab Sample ID: LCS-042111
LIMS ID: 11-7979
Matrix: Paint
Data Release Authorized:
Reported: 05/04/11

QC Report No: SR40-SAIC
Project: LDW Building Materials
196257
Date Sampled: NA
Date Received: NA

Date Extracted LCS/LCSD: 04/21/11

Date Analyzed LCS: 04/26/11 13:05
LCSD: 04/26/11 13:29
Instrument/Analyst LCS: ECD7/YZ
LCSD: ECD7/YZ
GPC Cleanup: No
Sulfur Cleanup: Yes
Acid Cleanup: Yes
Florisil Cleanup: No

Sample Amount LCS: 1.25 g-as-rec
LCSD: 1.25 g-as-rec
Final Extract Volume LCS: 10 mL
LCSD: 10 mL
Dilution Factor LCS: 5.00
LCSD: 5.00
Silica Gel: Yes

Percent Moisture: NA

Analyte	**LCS**	**Spike Added-LCS**	**LCS Recovery**	**LCSD**	**Spike Added-LCSD**	**LCSD Recovery**	**RPD**
Aroclor 1016	3470	4000	86.8%	3640	4000	91.0%	4.8%
Aroclor 1260	3580	4000	89.5%	3690	4000	92.2%	3.0%

PCB Surrogate Recovery

	LCS	**LCSD**
Decachlorobiphenyl	99.4%	101%
Tetrachlorometaxylene	83.5%	84.4%

Results reported in µg/kg (ppb)
RPD calculated using sample concentrations per SW846.

FORM III

PCB METHOD BLANK SUMMARY

BLANK NO.

SR40MBS1

Lab Name: ANALYTICAL RESOURCES, INC   Client: SAIC

ARI Job No.: SR40   Project: LDW BUILDING MATERIA

Lab Sample ID: SR40MBS1   Lab File ID: 0426A010

Date Extracted: 04/21/11   Matrix: SOLID

Date Analyzed: 04/26/11   Instrument ID: ECD7

Time Analyzed: 1241   GC Columns: ZB5/ZB35

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

	CLIENT SAMPLE NO.	LAB SAMPLE ID	DATE ANALYZED
01	SR40LCSS1	SR40LCSS1	04/26/11
02	SR40LCSDS1	SR40LCSDS1	04/26/11
03	DAS-CA05-P1	SR40B	04/26/11
04	DAS-CA05-P3D	SR40C	04/26/11
05	DAS-CA02-P1	SR40D	04/26/11
06	DAS-CA04-P1	SR40E	04/26/11
07	DAS-CA05-P2	SR40H	04/26/11
08	DAS-CA05-P3	SR40I	04/26/11
09	DAS-CA02-P3	SR40K	04/26/11
10	DAS-CA04-P2	SR40L	04/26/11
11	DAS-CA04-P3	SR40M	04/26/11

ALL RUNS ARE DUAL COLUMN

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PCB by GC/ECD Method SW8082

Sample ID: MB-042111
METHOD BLANK

Lab Sample ID: MB-042111
LIMS ID: 11-7979
Matrix: Paint
Data Release Authorized:
Reported: 05/04/11

QC Report No: SR40-SAIC
Project: LDW Building Materials
196257
Date Sampled: NA
Date Received: NA

Date Extracted: 04/21/11
Date Analyzed: 04/26/11 12:41
Instrument/Analyst: ECD7/YZ
GPC Cleanup: No
Sulfur Cleanup: Yes
Acid Cleanup: Yes

Sample Amount: 1.25 g
Final Extract Volume: 10 mL
Dilution Factor: 5.00
Silica Gel: Yes

Percent Moisture: NA

CAS Number	Analyte	MDL	RL	Result
12674-11-2	Aroclor 1016	110	800	< 800 U
53469-21-9	Aroclor 1242	190	800	< 800 U
12672-29-6	Aroclor 1248	190	800	< 800 U
11097-69-1	Aroclor 1254	190	800	< 800 U
11096-82-5	Aroclor 1260	190	800	< 800 U
11104-28-2	Aroclor 1221	190	800	< 800 U
11141-16-5	Aroclor 1232	190	800	< 800 U

Reported in µg/kg (ppb)

PCB Surrogate Recovery

Decachlorobiphenyl	96.6%
Tetrachlorometaxylene	83.4%

FORM I

Metals Analysis
Report and Summary QC Forms

ARI Job ID: SR40

Cover Page

INORGANIC ANALYSIS DATA PACKAGE

ANALYTICAL RESOURCES INCORPORATED

CLIENT: SAIC

PROJECT: LDW Building Materia

SDG: SR40

CLIENT ID	ARI ID	ARI LIMS ID	REPREP
DAS-CA02-P1	SR40D	11-7981	
PBW	SR40MB1	11-7981	
LCSS	SR40MB1SPK	11-7981	
DAS-CA04-P1	SR40E	11-7982	
DAS-CA05-P2	SR40H	11-7985	

Were ICP interelement corrections applied ?	Yes/No	YES
Were ICP background corrections applied ?	Yes/No	YES
If yes - were raw data generated before application of background corrections ?	Yes/No	NO

Comments:

THIS DATA PACKAGE HAS BEEN REVIEWED AND AUTHORIZED FOR RELEASE BY:

Signature: Jay Kuhn Name: Jay Kuhn

Date: 4/26/11 Title: Inorganics Director

COVER PAGE

ANALYTICAL RESOURCES INCORPORATED

INORGANICS ANALYSIS DATA SHEET
TOTAL METALS
Page 1 of 1

Sample ID: DAS-CA02-P1
SAMPLE

Lab Sample ID: SR40D
LIMS ID: 11-7981
Matrix: Paint
Data Release Authorized:
Reported: 04/26/11

QC Report No: SR40-SAIC
Project: LDW Building Materials
196257
Date Sampled: 04/12/11
Date Received: 04/12/11

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	MDL	RL	Result	Q
3050B	04/22/11	6010B	04/25/11	7440-38-2	Arsenic	0.87	9	9	U
3050B	04/22/11	6010B	04/25/11	**7440-43-9**	**Cadmium**	0.21	0.4	**4.0**	
3050B	04/22/11	6010B	04/25/11	**7440-47-3**	**Chromium**	0.51	0.9	**115**	
3050B	04/22/11	6010B	04/25/11	**7440-50-8**	**Copper**	0.095	0.4	**86.7**	
3050B	04/22/11	6010B	04/25/11	**7439-92-1**	**Lead**	0.25	4	**14,200**	
CLP	04/22/11	7471A	04/22/11	**7439-97-6**	**Mercury**	0.0057	0.1	**3.4**	
3050B	04/22/11	6010B	04/25/11	**7440-22-4**	**Silver**	0.057	0.6	**0.6**	
3050B	04/22/11	6010B	04/25/11	**7440-66-6**	**Zinc**	0.23	2	**5,620**	

Reported in mg/kg-as-rec (ppm).
U-Analyte undetected at given RL
RL-Reporting Limit

FORM-I

ANALYTICAL RESOURCES INCORPORATED

INORGANICS ANALYSIS DATA SHEET
TOTAL METALS
Page 1 of 1

Sample ID: DAS-CA04-P1
SAMPLE

Lab Sample ID: SR40E
LIMS ID: 11-7982
Matrix: Paint
Data Release Authorized:
Reported: 04/26/11

QC Report No: SR40-SAIC
Project: LDW Building Materials
196257
Date Sampled: 04/12/11
Date Received: 04/12/11

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	MDL	RL	Result	Q
3050B	04/22/11	6010B	04/25/11	7440-38-2	Arsenic	0.82	9	9	U
3050B	04/22/11	6010B	04/25/11	**7440-43-9**	**Cadmium**	0.20	0.4	**1.1**	
3050B	04/22/11	6010B	04/25/11	**7440-47-3**	**Chromium**	0.48	0.9	**3,870**	
3050B	04/22/11	6010B	04/25/11	**7440-50-8**	**Copper**	0.089	0.4	**265**	
3050B	04/22/11	6010B	04/25/11	**7439-92-1**	**Lead**	0.23	4	**261**	
CLP	04/22/11	7471A	04/22/11	**7439-97-6**	**Mercury**	0.12	2	**50**	
3050B	04/22/11	6010B	04/25/11	7440-22-4	Silver	0.054	0.5	0.5	U
3050B	04/22/11	6010B	04/25/11	**7440-66-6**	**Zinc**	0.21	2	**6,720**	

Reported in mg/kg-as-rec (ppm).
U-Analyte undetected at given RL
RL-Reporting Limit

FORM-I

ANALYTICAL RESOURCES INCORPORATED

INORGANICS ANALYSIS DATA SHEET
TOTAL METALS

Sample ID: DAS-CA05-P2
SAMPLE

Lab Sample ID: SR40H
LIMS ID: 11-7985
Matrix: Paint
Data Release Authorized:
Reported: 04/26/11

QC Report No: SR40-SAIC
Project: LDW Building Materials
196257
Date Sampled: 04/12/11
Date Received: 04/12/11

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	MDL	RL	Result	Q
3050B	04/22/11	6010B	04/25/11	7440-38-2	Arsenic	4.2	50	50	U
3050B	04/22/11	6010B	04/25/11	**7440-43-9**	**Cadmium**	1.0	2	**6**	
3050B	04/22/11	6010B	04/25/11	**7440-47-3**	**Chromium**	2.5	5	**418**	
3050B	04/22/11	6010B	04/25/11	**7440-50-8**	**Copper**	0.46	2	**49**	
3050B	04/22/11	6010B	04/25/11	**7439-92-1**	**Lead**	1.2	20	**740**	
CLP	04/22/11	7471A	04/22/11	**7439-97-6**	**Mercury**	0.094	2	**28**	
3050B	04/22/11	6010B	04/25/11	7440-22-4	Silver	0.27	3	3	U
3050B	04/22/11	6010B	04/25/11	**7440-66-6**	**Zinc**	1.1	9	**56,200**	

Reported in mg/kg-as-rec (ppm).
U-Analyte undetected at given RL
RL-Reporting Limit

ANALYTICAL RESOURCES INCORPORATED

INORGANICS ANALYSIS DATA SHEET
TOTAL METALS
Page 1 of 1

Sample ID: LAB CONTROL

Lab Sample ID: SR40LCS
LIMS ID: 11-7981
Matrix: Paint
Data Release Authorized:
Reported: 04/26/11

QC Report No: SR40-SAIC
Project: LDW Building Materials
196257
Date Sampled: NA
Date Received: NA

BLANK SPIKE QUALITY CONTROL REPORT

Analyte	Analysis Method	Spike Found	Spike Added	% Recovery	Q
Arsenic	6010B	207	200	104%	
Cadmium	6010B	50.7	50.0	101%	
Chromium	6010B	49.1	50.0	98.2%	
Copper	6010B	49.0	50.0	98.0%	
Lead	6010B	201	200	100%	
Mercury	7471A	0.51	0.50	102%	
Silver	6010B	51.2	50.0	102%	
Zinc	6010B	55	50	110%	

Reported in mg/kg-wet

N-Control limit not met
NA-Not Applicable, Analyte Not Spiked
Control Limits: 80-120%

ANALYTICAL RESOURCES INCORPORATED

INORGANICS ANALYSIS DATA SHEET
TOTAL METALS
Page 1 of 1

Sample ID: METHOD BLANK

Lab Sample ID: SR40MB
LIMS ID: 11-7981
Matrix: Paint
Data Release Authorized:
Reported: 04/26/11

QC Report No: SR40-SAIC
Project: LDW Building Materials
196257
Date Sampled: NA
Date Received: NA

Percent Total Solids: NA

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	MDL	RL	Result	Q
3050B	04/22/11	6010B	04/25/11	7440-38-2	Arsenic	0.46	5	5	U
3050B	04/22/11	6010B	04/25/11	7440-43-9	Cadmium	0.11	0.2	0.2	U
3050B	04/22/11	6010B	04/25/11	7440-47-3	Chromium	0.27	0.5	0.5	U
3050B	04/22/11	6010B	04/25/11	7440-50-8	Copper	0.050	0.2	0.2	U
3050B	04/22/11	6010B	04/25/11	7439-92-1	Lead	0.13	2	2	U
CLP	04/22/11	7471A	04/22/11	7439-97-6	Mercury	0.0013	0.02	0.02	U
3050B	04/22/11	6010B	04/25/11	7440-22-4	Silver	0.030	0.3	0.3	U
3050B	04/22/11	6010B	04/25/11	7440-66-6	Zinc	0.12	1	1	U

Reported in mg/kg (ppm).
U-Analyte undetected at given RL
RL-Reporting Limit

FORM-I

Analytical Resources, Incorporated
Analytical Chemists and Consultants

May 6, 2011

Marina Mitchell
SAIC
18912 North Creek Parkway, Suite 101
Bothell, WA 98011

RE: 196257 LDW Building Materials
ARI Job No: SR41

Dear Marina:

Please find enclosed the Chain-of-Custody (COC) record, sample receipt documentation, and the final data package for samples from the project referenced above.

Sample receipt and details of the analyses are discussed in the Case Narrative.

An electronic copy of this data and associated raw data will be kept on file with ARI. Should you have any questions or problems, please feel free to contact me at any time.

Sincerely,

ANALYTICAL RESOURCES, INC.

Cheronne Oreiro
Project Manager
206-695-6214
cheronneo@arilabs.com

Enclosures

cc: eFile SR41

4611 South 134th Place, Suite 100 • Tukwila WA 98168 • **206-695-6200** • **206-695-6201** fax

Case Narrative, Data Qualifiers, Control Limits

ARI Job ID: SR41

ANALYTICAL
RESOURCES
INCORPORATED

Case Narrative

Client: SAIC
Project: 196257 LDW Building Materials
ARI Job No.: SR41

Sample Receipt

Eight solid samples (caulk) were received April 12, 2011. For details regarding sample receipt, please refer to the Cooler Receipt Form.

On April 19th, 2011 the PCB analysis was canceled for sample **DAS-CA05-C3D**.

Aroclor PCBs by SW8082

The samples were extracted and analyzed within recommended holding times. Due to limited sample volume, the routine medium level extraction procedure was modified to use a 1.25 g sample taken to a 10 mL final volume, from the routine of a 5 g sample to 40 mL final volume.

Initial and continuing calibrations were within method requirements. Internal standard areas were within limits.

The surrogate percent recoveries were within control limits.

The method blank was clean at the reporting limit. The LCS percent recoveries were within control limits.

The matrix spike and matrix spike duplicate percent recoveries were within advisory control limits.

The undetected results for several samples have been raised and "Y"-flagged due to interference in the matrix. Samples **DAS-CA03-C1**, **DAS-CA03-C2**, and **DAS-CA03-C3** were reported at dilutions due to the matrix. Remaining sample volume for **DAS-CA03-C3** was re-extracted. Other samples had insufficient volume to re-extract. All data have been reported as is. No further corrective action was taken.

Sample ID Cross Reference Report

ANALYTICAL RESOURCES INCORPORATED

ARI Job No: SR41
Client: SAIC
Project Event: 196257
Project Name: LDW Building Materials

	Sample ID	ARI Lab ID	ARI LIMS ID	Matrix	Sample Date/Time	VTSR
1.	DAS-CA03-C1	SR41A	11-7992	Caulk	04/12/11 10:45	04/12/11 18:15
2.	DAS-CA03-C2	SR41B	11-7993	Caulk	04/12/11 10:50	04/12/11 18:15
3.	DAS-CA03-C3	SR41C	11-7994	Caulk	04/12/11 10:55	04/12/11 18:15
4.	DAS-CA05-C3	SR41D	11-7995	Caulk	04/12/11 13:25	04/12/11 18:15
5.	DAS-CA05-C3D	SR41E	11-7996	Caulk	04/12/11 13:30	04/12/11 18:15
6.	DAS-CA05-C1	SR41F	11-7997	Caulk	04/12/11 13:35	04/12/11 18:15
7.	DAS-CA05-C2	SR41G	11-7998	Caulk	04/12/11 13:40	04/12/11 18:15
8.	DAS-CA04-C1	SR41H	11-7999	Caulk	04/12/11 16:56	04/12/11 18:15

Printed 04/13/11

Analytical Resources, Incorporated
Analytical Chemists and Consultants

Data Reporting Qualifiers

Effective 2/14/2011

Inorganic Data

U Indicates that the target analyte was not detected at the reported concentration

* Duplicate RPD is not within established control limits

B Reported value is less than the CRDL but ≥ the Reporting Limit

N Matrix Spike recovery not within established control limits

NA Not Applicable, analyte not spiked

H The natural concentration of the spiked element is so much greater than the concentration spiked that an accurate determination of spike recovery is not possible

L Analyte concentration is ≤5 times the Reporting Limit and the replicate control limit defaults to ±1 RL instead of the normal 20% RPD

Organic Data

U Indicates that the target analyte was not detected at the reported concentration

* Flagged value is not within established control limits

B Analyte detected in an associated Method Blank at a concentration greater than one-half of ARI's Reporting Limit or 5% of the regulatory limit or 5% of the analyte concentration in the sample.

J Estimated concentration when the value is less than ARI's established reporting limits

D The spiked compound was not detected due to sample extract dilution

E Estimated concentration calculated for an analyte response above the valid instrument calibration range. A dilution is required to obtain an accurate quantification of the analyte.

Q Indicates a detected analyte with an initial or continuing calibration that does not meet established acceptance criteria (<20%RSD, <20%Drift or minimum RRF).

S Indicates an analyte response that has saturated the detector. The calculated concentration is not valid; a dilution is required to obtain valid quantification of the analyte

NA The flagged analyte was not analyzed for

NR Spiked compound recovery is not reported due to chromatographic interference

NS The flagged analyte was not spiked into the sample

M Estimated value for an analyte detected and confirmed by an analyst but with low spectral match parameters. This flag is used only for GC-MS analyses

M2 The sample contains PCB congeners that do not match any standard Aroclor pattern. The PCBs are identified and quantified as the Aroclor whose pattern most closely matches that of the sample. The reported value is an estimate.

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

Y The analyte is not detected at or above the reported concentration. The reporting limit is raised due to chromatographic interference. The Y flag is equivalent to the U flag with a raised reporting limit.

EMPC Estimated Maximum Possible Concentration (EMPC) defined in EPA Statement of Work DLM02.2 as a value "calculated for 2,3,7,8-substituted isomers for which the quantitation and /or confirmation ion(s) has signal to noise in excess of 2.5, but does not meet identification criteria" **(Dioxin/Furan analysis only)**

C The analyte was positively identified on only one of two chromatographic columns. Chromatographic interference prevented a positive identification on the second column

P The analyte was detected on both chromatographic columns but the quantified values differ by ≥40% RPD with no obvious chromatographic interference

X Analyte signal includes interference from polychlorinated diphenyl ethers. **(Dioxin/Furan analysis only)**

Z Analyte signal includes interference from the sample matrix or perfluorokerosene ions. **(Dioxin/Furan analysis only)**

Analytical Resources, Incorporated
Analytical Chemists and Consultants

Geotechnical Data

A The total of all fines fractions. This flag is used to report total fines when only sieve analysis is requested and balances total grain size with sample weight.

F Samples were frozen prior to particle size determination

SM Sample matrix was not appropriate for the requested analysis. This normally refers to samples contaminated with an organic product that interferes with the sieving process and/or moisture content, porosity and saturation calculations

SS Sample did not contain the proportion of "fines" required to perform the pipette portion of the grain size analysis

W Weight of sample in some pipette aliquots was below the level required for accurate weighting

PCB Analysis
Report and Summary QC Forms

ARI Job ID: SR41

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PCB by GC/ECD Method SW8082
Page 1 of 1

Sample ID: DAS-CA03-C1
SAMPLE

Lab Sample ID: SR41A
LIMS ID: 11-7992
Matrix: Caulk
Data Release Authorized:
Reported: 05/05/11

QC Report No: SR41-SAIC
Project: LDW Building Materials
196257
Date Sampled: 04/12/11
Date Received: 04/12/11

Date Extracted: 04/18/11
Date Analyzed: 04/23/11 19:55
Instrument/Analyst: ECD7/JGR
GPC Cleanup: No
Sulfur Cleanup: Yes
Acid Cleanup: Yes

Sample Amount: 1.30 g-as-rec
Final Extract Volume: 10 mL
Dilution Factor: 100
Silica Gel: Yes

Percent Moisture: NA

CAS Number	Analyte	MDL	RL	Result
12674-11-2	Aroclor 1016	2,100	15,000	< 15,000 U
53469-21-9	Aroclor 1242	3,700	15,000	< 15,000 U
12672-29-6	Aroclor 1248	3,700	15,000	< 15,000 U
11097-69-1	Aroclor 1254	3,700	19,000	< 19,000 Y
11096-82-5	Aroclor 1260	3,700	19,000	< 19,000 Y
11104-28-2	Aroclor 1221	3,700	15,000	< 15,000 U
11141-16-5	Aroclor 1232	3,700	15,000	< 15,000 U

Reported in µg/kg (ppb)

PCB Surrogate Recovery

Decachlorobiphenyl	D
Tetrachlorometaxylene	D

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PCB by GC/ECD Method SW8082

Sample ID: DAS-CA03-C2
SAMPLE

Lab Sample ID: SR41B
LIMS ID: 11-7993
Matrix: Caulk
Data Release Authorized:
Reported: 05/05/11

QC Report No: SR41-SAIC
Project: LDW Building Materials
196257
Date Sampled: 04/12/11
Date Received: 04/12/11

Date Extracted: 04/18/11
Date Analyzed: 04/23/11 20:19
Instrument/Analyst: ECD7/JGR
GPC Cleanup: No
Sulfur Cleanup: Yes
Acid Cleanup: Yes

Sample Amount: 1.30 g-as-rec
Final Extract Volume: 10 mL
Dilution Factor: 100
Silica Gel: Yes

Percent Moisture: NA

CAS Number	Analyte	MDL	RL	Result
12674-11-2	Aroclor 1016	2,100	15,000	< 15,000 U
53469-21-9	Aroclor 1242	3,700	15,000	< 15,000 U
12672-29-6	Aroclor 1248	3,700	23,000	< 23,000 Y
11097-69-1	Aroclor 1254	3,700	31,000	< 31,000 Y
11096-82-5	Aroclor 1260	3,700	19,000	< 19,000 Y
11104-28-2	Aroclor 1221	3,700	15,000	< 15,000 U
11141-16-5	Aroclor 1232	3,700	15,000	< 15,000 U

Reported in µg/kg (ppb)

PCB Surrogate Recovery

Decachlorobiphenyl	D
Tetrachlorometaxylene	D

FORM I

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PCB by GC/ECD Method SW8082

Sample ID: DAS-CA03-C3
SAMPLE

Lab Sample ID: SR41C
LIMS ID: 11-7994
Matrix: Caulk
Data Release Authorized:
Reported: 05/05/11

QC Report No: SR41-SAIC
Project: LDW Building Materials
196257
Date Sampled: 04/12/11
Date Received: 04/12/11

Date Extracted: 04/18/11
Date Analyzed: 04/23/11 20:43
Instrument/Analyst: ECD7/JGR
GPC Cleanup: No
Sulfur Cleanup: Yes
Acid Cleanup: Yes

Sample Amount: 1.37 g-as-rec
Final Extract Volume: 10 mL
Dilution Factor: 100
Silica Gel: Yes

Percent Moisture: NA

CAS Number	Analyte	MDL	RL	Result
12674-11-2	Aroclor 1016	2,000	15,000	< 15,000 U
53469-21-9	Aroclor 1242	3,500	15,000	< 15,000 U
12672-29-6	Aroclor 1248	3,500	36,000	< 36,000 Y
11097-69-1	Aroclor 1254	3,500	36,000	< 36,000 Y
11096-82-5	Aroclor 1260	3,500	29,000	< 29,000 Y
11104-28-2	Aroclor 1221	3,500	15,000	< 15,000 U
11141-16-5	Aroclor 1232	3,500	15,000	< 15,000 U

Reported in µg/kg (ppb)

PCB Surrogate Recovery

Decachlorobiphenyl	D
Tetrachlorometaxylene	D

FORM I

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PCB by GC/ECD Method SW8082

Sample ID: DAS-CA05-C3
SAMPLE

Lab Sample ID: SR41D
LIMS ID: 11-7995
Matrix: Caulk
Data Release Authorized:
Reported: 05/05/11

QC Report No: SR41-SAIC
Project: LDW Building Materials
196257
Date Sampled: 04/12/11
Date Received: 04/12/11

Date Extracted: 04/18/11
Date Analyzed: 04/23/11 21:06
Instrument/Analyst: ECD7/JGR
GPC Cleanup: No
Sulfur Cleanup: Yes
Acid Cleanup: Yes

Sample Amount: 1.30 g-as-rec
Final Extract Volume: 10 mL
Dilution Factor: 5.00
Silica Gel: Yes

Percent Moisture: NA

CAS Number	Analyte	MDL	RL	Result
12674-11-2	Aroclor 1016	100	770	< 770 U
53469-21-9	Aroclor 1242	180	770	< 770 U
12672-29-6	Aroclor 1248	180	1,900	< 1,900 Y
11097-69-1	**Aroclor 1254**	**180**	**770**	**4,700**
11096-82-5	**Aroclor 1260**	**180**	**770**	**1,100**
11104-28-2	Aroclor 1221	180	770	< 770 U
11141-16-5	Aroclor 1232	180	770	< 770 U

Reported in µg/kg (ppb)

PCB Surrogate Recovery

Decachlorobiphenyl	111%
Tetrachlorometaxylene	91.8%

FORM I

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PCB by GC/ECD Method SW8082

Sample ID: DAS-CA05-C1
SAMPLE

Lab Sample ID: SR41F
LIMS ID: 11-7997
Matrix: Caulk
Data Release Authorized:
Reported: 05/05/11

QC Report No: SR41-SAIC
Project: LDW Building Materials
196257
Date Sampled: 04/12/11
Date Received: 04/12/11

Date Extracted: 04/18/11
Date Analyzed: 04/23/11 22:42
Instrument/Analyst: ECD7/JGR
GPC Cleanup: No
Sulfur Cleanup: Yes
Acid Cleanup: Yes

Sample Amount: 1.31 g-as-rec
Final Extract Volume: 10 mL
Dilution Factor: 5.00
Silica Gel: Yes

Percent Moisture: NA

CAS Number	Analyte	MDL	RL	Result
12674-11-2	Aroclor 1016	100	760	< 760 U
53469-21-9	Aroclor 1242	180	760	< 760 U
12672-29-6	Aroclor 1248	180	1,300	< 1,300 Y
11097-69-1	**Aroclor 1254**	**180**	**760**	**3,600**
11096-82-5	Aroclor 1260	180	760	< 760 U
11104-28-2	Aroclor 1221	180	760	< 760 U
11141-16-5	Aroclor 1232	180	760	< 760 U

Reported in µg/kg (ppb)

PCB Surrogate Recovery

Decachlorobiphenyl	94.6%
Tetrachlorometaxylene	93.9%

FORM I

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PCB by GC/ECD Method SW8082
Page 1 of 1

Sample ID: DAS-CA05-C2
SAMPLE

Lab Sample ID: SR41G
LIMS ID: 11-7998
Matrix: Caulk
Data Release Authorized:
Reported: 05/05/11

QC Report No: SR41-SAIC
Project: LDW Building Materials
196257
Date Sampled: 04/12/11
Date Received: 04/12/11

Date Extracted: 04/18/11
Date Analyzed: 04/23/11 23:06
Instrument/Analyst: ECD7/JGR
GPC Cleanup: No
Sulfur Cleanup: Yes
Acid Cleanup: Yes

Sample Amount: 1.32 g-as-rec
Final Extract Volume: 10 mL
Dilution Factor: 5.00
Silica Gel: Yes

Percent Moisture: NA

CAS Number	Analyte	MDL	RL	Result
12674-11-2	Aroclor 1016	100	760	< 760 U
53469-21-9	Aroclor 1242	180	760	< 760 U
12672-29-6	Aroclor 1248	180	760	< 760 U
11097-69-1	**Aroclor 1254**	**180**	**760**	**770**
11096-82-5	Aroclor 1260	180	760	< 760 U
11104-28-2	Aroclor 1221	180	760	< 760 U
11141-16-5	Aroclor 1232	180	760	< 760 U

Reported in µg/kg (ppb)

PCB Surrogate Recovery

Decachlorobiphenyl	93.2%
Tetrachlorometaxylene	83.2%

FORM I

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PCB by GC/ECD Method SW8082
Page 1 of 1

Sample ID: DAS-CA04-C1
SAMPLE

Lab Sample ID: SR41H
LIMS ID: 11-7999
Matrix: Caulk
Data Release Authorized: JB
Reported: 05/05/11

QC Report No: SR41-SAIC
Project: LDW Building Materials
196257
Date Sampled: 04/12/11
Date Received: 04/12/11

Date Extracted: 04/18/11
Date Analyzed: 04/23/11 23:29
Instrument/Analyst: ECD7/JGR
GPC Cleanup: No
Sulfur Cleanup: Yes
Acid Cleanup: Yes

Sample Amount: 1.32 g-as-rec
Final Extract Volume: 10 mL
Dilution Factor: 5.00
Silica Gel: Yes

Percent Moisture: NA

CAS Number	Analyte	MDL	RL	Result
12674-11-2	Aroclor 1016	100	760	< 760 U
53469-21-9	Aroclor 1242	180	760	< 760 U
12672-29-6	Aroclor 1248	180	760	< 760 U
11097-69-1	Aroclor 1254	180	760	< 760 U
11096-82-5	Aroclor 1260	180	760	< 760 U
11104-28-2	Aroclor 1221	180	760	< 760 U
11141-16-5	Aroclor 1232	180	760	< 760 U

Reported in µg/kg (ppb)

PCB Surrogate Recovery

Decachlorobiphenyl	98.1%
Tetrachlorometaxylene	86.5%

FORM I

SW8082/PCB SOIL/SEDIMENT SURROGATE RECOVERY SUMMARY

Matrix: Caulk

QC Report No: SR41-SAIC
Project: LDW Building Materials
196257

Client ID	DCBP % REC	DCBP LCL-UCL	TCMX % REC	TCMX LCL-UCL	TOT OUT
DAS-CA03-C1	D	22-168	D	28-106	0
DAS-CA03-C2	D	22-168	D	28-106	0
MB-042811	81.5%	51-127	66.5%	49-110	0
LCS-042811	70.5%	51-127	57.5%	49-110	0
DAS-CA03-C3	D	22-168	D	28-106	0
DAS-CA03-C3 RE	78.8%	22-168	76.2%	28-106	0
DAS-CA05-C3	111%	22-168	91.8%	28-106	0
DAS-CA05-C1	94.6%	22-168	93.9%	28-106	0
DAS-CA05-C2	93.2%	22-168	83.2%	28-106	0
MB-041811	97.4%	51-127	85.2%	49-110	0
LCS-041811	95.8%	51-127	82.0%	49-110	0
DAS-CA04-C1	98.1%	22-168	86.5%	28-106	0
DAS-CA04-C1 MS	96.9%	22-168	88.4%	28-106	0
DAS-CA04-C1 MSD	98.4%	22-168	90.5%	28-106	0

Medium Level Control Limits
Prep Method: SW3580A
Log Number Range: 11-7992 to 11-7999

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PCB by GC/ECD Method SW8082
Page 1 of 1

Sample ID: DAS-CA04-C1
MS/MSD

Lab Sample ID: SR41H
LIMS ID: 11-7999
Matrix: Caulk
Data Release Authorized:
Reported: 04/26/11

QC Report No: SR41-SAIC
Project: LDW Building Materials
196257
Date Sampled: 04/12/11
Date Received: 04/12/11

Date Extracted MS/MSD: 04/18/11

Date Analyzed MS: 04/23/11 23:53
MSD: 04/24/11 00:17
Instrument/Analyst MS: ECD7/JGR
MSD: ECD7/JGR
GPC Cleanup: No
Sulfur Cleanup: Yes
Acid Cleanup: Yes
Florisil Cleanup: No

Sample Amount MS: 1.35 g-as-rec
MSD: 1.31 g-as-rec
Final Extract Volume MS: 10 mL
MSD: 10 mL
Dilution Factor MS: 5.00
MSD: 5.00
Silica Gel: Yes

Percent Moisture: NA

Analyte	Sample	MS	Spike Added-MS	MS Recovery	MSD	Spike Added-MSD	MSD Recovery	RPD
Aroclor 1016	< 758 U	3560	3700	96.2%	3780	3820	99.0%	6.0%
Aroclor 1260	< 758 U	3310	3700	89.5%	3410	3820	89.3%	3.0%

Results reported in µg/kg (ppb)
RPD calculated using sample concentrations per SW846.

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PCB by GC/ECD Method SW8082
Page 1 of 1

Sample ID: DAS-CA04-C1
MATRIX SPIKE

Lab Sample ID: SR41H
LIMS ID: 11-7999
Matrix: Caulk
Data Release Authorized:
Reported: 05/05/11

QC Report No: SR41-SAIC
Project: LDW Building Materials
196257
Date Sampled: 04/12/11
Date Received: 04/12/11

Date Extracted: 04/18/11
Date Analyzed: 04/23/11 23:53
Instrument/Analyst: ECD7/JGR
GPC Cleanup: No
Sulfur Cleanup: Yes
Acid Cleanup: Yes

Sample Amount: 1.35 g-as-rec
Final Extract Volume: 10 mL
Dilution Factor: 5.00
Silica Gel: Yes

Percent Moisture: NA

CAS Number	Analyte	MDL	RL	Result
12674-11-2	Aroclor 1016	100	740	---
53469-21-9	Aroclor 1242	180	740	< 740 U
12672-29-6	Aroclor 1248	180	740	< 740 U
11097-69-1	Aroclor 1254	180	740	< 740 U
11096-82-5	Aroclor 1260	180	740	---
11104-28-2	Aroclor 1221	180	740	< 740 U
11141-16-5	Aroclor 1232	180	740	< 740 U

Reported in µg/kg (ppb)

PCB Surrogate Recovery

Decachlorobiphenyl	96.9%
Tetrachlorometaxylene	88.4%

FORM I

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PCB by GC/ECD Method SW8082

Sample ID: DAS-CA04-C1
MATRIX SPIKE DUP

Lab Sample ID: SR41H
LIMS ID: 11-7999
Matrix: Caulk
Data Release Authorized:
Reported: 05/05/11

QC Report No: SR41-SAIC
Project: LDW Building Materials
196257
Date Sampled: 04/12/11
Date Received: 04/12/11

Date Extracted: 04/18/11
Date Analyzed: 04/24/11 00:17
Instrument/Analyst: ECD7/JGR
GPC Cleanup: No
Sulfur Cleanup: Yes
Acid Cleanup: Yes

Sample Amount: 1.31 g-as-rec
Final Extract Volume: 10 mL
Dilution Factor: 5.00
Silica Gel: Yes

Percent Moisture: NA

CAS Number	Analyte	MDL	RL	Result
12674-11-2	Aroclor 1016	100	760	---
53469-21-9	Aroclor 1242	180	760	< 760 U
12672-29-6	Aroclor 1248	180	760	< 760 U
11097-69-1	Aroclor 1254	180	760	< 760 U
11096-82-5	Aroclor 1260	180	760	---
11104-28-2	Aroclor 1221	180	760	< 760 U
11141-16-5	Aroclor 1232	180	760	< 760 U

Reported in µg/kg (ppb)

PCB Surrogate Recovery	
Decachlorobiphenyl	98.4%
Tetrachlorometaxylene	90.5%

FORM I

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PCB by GC/ECD Method SW8082

Sample ID: LCS-041811
LAB CONTROL

Lab Sample ID: LCS-041811
LIMS ID: 11-7999
Matrix: Caulk
Data Release Authorized:
Reported: 04/26/11

QC Report No: SR41-SAIC
Project: LDW Building Materials
196257
Date Sampled: NA
Date Received: NA

Date Extracted: 04/18/11
Date Analyzed: 04/23/11 19:31
Instrument/Analyst: ECD7/JGR
GPC Cleanup: No
Sulfur Cleanup: Yes
Acid Cleanup: Yes
Florisil Cleanup: No

Sample Amount: 1.25 g-as-rec
Final Extract Volume: 10 mL
Dilution Factor: 5.00
Silica Gel: Yes

Percent Moisture: NA

Analyte	**Lab Control**	**Spike Added**	**Recovery**
Aroclor 1016	3540	4000	88.5%
Aroclor 1260	3680	4000	92.0%

PCB Surrogate Recovery

Decachlorobiphenyl	95.8%
Tetrachlorometaxylene	82.0%

Results reported in µg/kg (ppb)

FORM III

PCB METHOD BLANK SUMMARY

BLANK NO.

SR41MBS1

Lab Name: ANALYTICAL RESOURCES, INC

Client: SAIC

ARI Job No.: SR41

Project: LDW BUILDING MATERIA

Lab Sample ID: SR41MBS1

Lab File ID: 0422A075

Date Extracted: 04/18/11

Matrix: SOLID

Date Analyzed: 04/23/11

Instrument ID: ECD7

Time Analyzed: 1907

GC Columns: ZB5/ZB35

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

	CLIENT SAMPLE NO.	LAB SAMPLE ID	DATE ANALYZED
01	SR41LCSS1	SR41LCSS1	04/23/11
02	DAS-CA03-C1	SR41A	04/23/11
03	DAS-CA03-C2	SR41B	04/23/11
04	DAS-CA03-C3	SR41C	04/23/11
05	DAS-CA05-C3	SR41D	04/23/11
06	DAS-CA05-C1	SR41F	04/23/11
07	DAS-CA05-C2	SR41G	04/23/11
08	DAS-CA04-C1	SR41H	04/23/11
09	DAS-CA04-C1 MS	SR41HMS	04/23/11
10	DAS-CA04-C1 MSD	SR41HMSD	04/24/11

ALL RUNS ARE DUAL COLUMN

FORM IV PCB

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PCB by GC/ECD Method SW8082

Sample ID: MB-041811
METHOD BLANK

Lab Sample ID: MB-041811
LIMS ID: 11-7999
Matrix: Caulk
Data Release Authorized:
Reported: 05/05/11

QC Report No: SR41-SAIC
Project: LDW Building Materials
196257
Date Sampled: NA
Date Received: NA

Date Extracted: 04/18/11
Date Analyzed: 04/23/11 19:07
Instrument/Analyst: ECD7/JGR
GPC Cleanup: No
Sulfur Cleanup: Yes
Acid Cleanup: Yes

Sample Amount: 1.25 g
Final Extract Volume: 10 mL
Dilution Factor: 5.00
Silica Gel: Yes

Percent Moisture: NA

CAS Number	Analyte	MDL	RL	Result
12674-11-2	Aroclor 1016	110	800	< 800 U
53469-21-9	Aroclor 1242	190	800	< 800 U
12672-29-6	Aroclor 1248	190	800	< 800 U
11097-69-1	Aroclor 1254	190	800	< 800 U
11096-82-5	Aroclor 1260	190	800	< 800 U
11104-28-2	Aroclor 1221	190	800	< 800 U
11141-16-5	Aroclor 1232	190	800	< 800 U

Reported in µg/kg (ppb)

PCB Surrogate Recovery

Decachlorobiphenyl	97.4%
Tetrachlorometaxylene	85.2%

FORM I

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PCB by GC/ECD Method SW8082

Sample ID: DAS-CA03-C3
REEXTRACT

Lab Sample ID: SR41C
LIMS ID: 11-7994
Matrix: Caulk
Data Release Authorized:
Reported: 05/05/11

QC Report No: SR41-SAIC
Project: LDW Building Materials
196257
Date Sampled: 04/12/11
Date Received: 04/12/11

Date Extracted: 04/28/11
Date Analyzed: 04/29/11 22:17
Instrument/Analyst: ECD7/AAR
GPC Cleanup: No
Sulfur Cleanup: Yes
Acid Cleanup: Yes

Sample Amount: 0.25 g-as-rec
Final Extract Volume: 10 mL
Dilution Factor: 1.00
Silica Gel: Yes

Percent Moisture: NA

CAS Number	Analyte	MDL	RL	Result
12674-11-2	Aroclor 1016	110	800	< 800 U
53469-21-9	Aroclor 1242	190	800	< 800 U
12672-29-6	Aroclor 1248	190	19,000	< 19,000 Y
11097-69-1	**Aroclor 1254**	**190**	**800**	**20,000**
11096-82-5	Aroclor 1260	190	12,000	< 12,000 Y
11104-28-2	Aroclor 1221	190	800	< 800 U
11141-16-5	Aroclor 1232	190	800	< 800 U

Reported in µg/kg (ppb)

PCB Surrogate Recovery

Decachlorobiphenyl	78.8%
Tetrachlorometaxylene	76.2%

FORM I

ANALYTICAL RESOURCES INCORPORATED

SW8082/PCB SOIL/SEDIMENT SURROGATE RECOVERY SUMMARY

Matrix: Caulk

QC Report No: SR41-SAIC
Project: LDW Building Materials
196257

Client ID	DCBP % REC	DCBP LCL-UCL	TCMX % REC	TCMX LCL-UCL	TOT OUT
MB-042811	81.5%	51-127	66.5%	49-110	0
LCS-042811	70.5%	51-127	57.5%	49-110	0
DAS-CA03-C3	D	22-168	D	28-106	0
DAS-CA03-C3 RE	78.8%	22-168	76.2%	28-106	0

Medium Level Control Limits
Prep Method: SW3580A
Log Number Range: 11-7994 to 11-7994

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PCB by GC/ECD Method SW8082

Sample ID: LCS-042811
LAB CONTROL

Lab Sample ID: LCS-042811
LIMS ID: 11-7994
Matrix: Caulk
Data Release Authorized:
Reported: 05/04/11

QC Report No: SR41-SAIC
Project: LDW Building Materials
196257
Date Sampled: NA
Date Received: NA

Date Extracted: 04/28/11
Date Analyzed: 04/29/11 21:53
Instrument/Analyst: ECD7/AAR
GPC Cleanup: No
Sulfur Cleanup: Yes
Acid Cleanup: Yes
Florisil Cleanup: No

Sample Amount: 1.25 g-as-rec
Final Extract Volume: 10 mL
Dilution Factor: 1.00
Silica Gel: Yes

Percent Moisture: NA

Analyte	Lab Control	Spike Added	Recovery
Aroclor 1016	2600	4000	65.0%
Aroclor 1260	2690	4000	67.2%

PCB Surrogate Recovery

Decachlorobiphenyl	70.5%
Tetrachlorometaxylene	57.5%

Results reported in µg/kg (ppb)

FORM III

PCB METHOD BLANK SUMMARY

BLANK NO.

SR41MBS1

Lab Name: ANALYTICAL RESOURCES, INC   Client: SAIC

ARI Job No.: SR41   Project: LDW BUILDING MATERIA

Lab Sample ID: SR41MBS1   Lab File ID: 0429A015

Date Extracted: 04/28/11   Matrix: SOLID

Date Analyzed: 04/29/11   Instrument ID: ECD7

Time Analyzed: 2129   GC Columns: ZB5/ZB35

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

	CLIENT SAMPLE NO.	LAB SAMPLE ID	DATE ANALYZED
01	SR41LCSS1	SR41LCSS1	04/29/11
02	SR41CRE	DAS-CA03-03	04/29/11

ALL RUNS ARE DUAL COLUMN

FORM IV PCB

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PCB by GC/ECD Method SW8082

Sample ID: MB-042811
METHOD BLANK

Lab Sample ID: MB-042811
LIMS ID: 11-7994
Matrix: Caulk
Data Release Authorized:
Reported: 05/05/11

QC Report No: SR41-SAIC
Project: LDW Building Materials
196257
Date Sampled: NA
Date Received: NA

Date Extracted: 04/28/11
Date Analyzed: 04/29/11 21:29
Instrument/Analyst: ECD7/AAR
GPC Cleanup: No
Sulfur Cleanup: Yes
Acid Cleanup: Yes

Sample Amount: 1.25 g
Final Extract Volume: 10 mL
Dilution Factor: 1.00
Silica Gel: Yes

Percent Moisture: NA

CAS Number	Analyte	MDL	RL	Result
12674-11-2	Aroclor 1016	22	160	< 160 U
53469-21-9	Aroclor 1242	38	160	< 160 U
12672-29-6	Aroclor 1248	38	160	< 160 U
11097-69-1	Aroclor 1254	38	160	< 160 U
11096-82-5	Aroclor 1260	38	160	< 160 U
11104-28-2	Aroclor 1221	38	160	< 160 U
11141-16-5	Aroclor 1232	38	160	< 160 U

Reported in µg/kg (ppb)

PCB Surrogate Recovery

Decachlorobiphenyl	81.5%
Tetrachlorometaxylene	66.5%

FORM I

Analytical Resources, Incorporated
Analytical Chemists and Consultants

April 29, 2011

Marina Mitchell
SAIC
18912 North Creek Parkway, Suite 101
Bothell, WA 98011

RE: 196257 LDW Building Materials
ARI Job No: SR89

Dear Marina:

Please find enclosed the Chain-of-Custody (COC) record, sample receipt documentation, and the final data package for samples from the project referenced above.

Sample receipt and details of the analyses are discussed in the Case Narrative.

An electronic copy of this data and associated raw data will be kept on file with ARI. Should you have any questions or problems, please feel free to contact me at any time.

Sincerely,

ANALYTICAL RESOURCES, INC.

Cheronne Oreiro
Project Manager
206-695-6214
cheronneo@arilabs.com

Enclosures

cc: eFile SR89

4611 South 134th Place, Suite 100 • Tukwila WA 98168 • **206-695-6200** • **206-695-6201** fax

Case Narrative, Data Qualifiers, Control Limits

ARI Job ID: SR89

Case Narrative

Client: SAIC
Project: 096257 LDW Building Materials
ARI Job No.: SR89

Sample Receipt

Eighteen solids samples (paint chips and caulk) were received April 14, 2011. For details regarding sample receipt, please refer to the Cooler Receipt Form.

On April 19, analysis for sampl DAS-CA12-C3-D was cancelled by SAIC.

Aroclor PCBs by SW8082

The samples were extracted and analyzed within recommended holding times. Due to limited sample volume, the routine medium level extraction procedure was modified to use a 1.25 g sample taken to a 10 mL final volume, from the routine of a 5 g sample to 40 mL final volume. Sample **DAS-CAS12-C1** absorbed solvent; additional solvent was added for the extraction phase before exchange and cleanup.

Initial and continuing calibrations were within method requirements. Internal standard areas were within limits.

The surrogate percent recoveries were within control limits, with several results flagged as "NR" or 'not reported' due to matrix interference.

The method blank was clean at the reporting limit. The LCS and LCSD percent recoveries and RPD were within control limits.

The matrix spike and matrix spike duplicate had recoveries of Aroclor 1016 within control limits. The recovery calculation for Aroclor 1260 is invalid due to interference from Aroclor 1254 present in the parent sample.

The undetected results for several samples have been raised and "Y"-flagged due to interference in the matrix, with no recognizable aroclor pattern or individual aroclor peaks.

Total Metals and Mercury

The sample was digested and analyzed within method recommended holding times, using internal standards.

The method blank was clean at the reporting limits. The LCS percent recoveries were within control limits.

Sample ID Cross Reference Report

ANALYTICAL RESOURCES INCORPORATED

ARI Job No: SR89
Client: SAIC
Project Event: 196257
Project Name: LDW Building Materials

	Sample ID	ARI Lab ID	ARI LIMS ID	Matrix	Sample Date/Time	VTSR
1.	DAS-CA08-P1	SR89A	11-8198	Paint	04/14/11 09:00	04/14/11 18:32
2.	DAS-CA12-P1	SR89B	11-8199	Paint	04/14/11 16:30	04/14/11 18:32
3.	DAS-CA16-P1	SR89C	11-8200	Paint	04/14/11 17:25	04/14/11 18:32
4.	DAS-CA14-P1	SR89D	11-8201	Paint	04/14/11 17:30	04/14/11 18:32
5.	DAS-CA09-P1	SR89E	11-8202	Paint	04/14/11 17:45	04/14/11 18:32
6.	DAS-CA08-P2	SR89F	11-8203	Paint	04/14/11 08:55	04/14/11 18:32
7.	DAS-CA12-P2	SR89G	11-8204	Paint	04/14/11 16:50	04/14/11 18:32
8.	DAS-CA12-P3	SR89H	11-8205	Paint	04/14/11 17:10	04/14/11 18:32
9.	DAS-CA16-P3	SR89I	11-8206	Paint	04/14/11 11:10	04/14/11 18:32
10.	DAS-CA16-P2	SR89J	11-8207	Paint	04/14/11 17:31	04/14/11 18:32
11.	DAS-CA14-P2	SR89K	11-8208	Paint	04/14/11 17:35	04/14/11 18:32
12.	DAS-CA09-P2	SR89L	11-8209	Paint	04/14/11 17:50	04/14/11 18:32
13.	DAS-CA09-P3	SR89M	11-8210	Paint	04/14/11 18:00	04/14/11 18:32
14.	DAS-CA12-C1	SR89N	11-8211	Caulk	04/14/11 15:20	04/14/11 18:32
15.	DAS-CA12-C2	SR89O	11-8212	Caulk	04/14/11 16:06	04/14/11 18:32
16.	DAS-CA12-C3	SR89P	11-8213	Caulk	04/14/11 16:49	04/14/11 18:32
17.	DAS-CA12-C3-D	SR89Q	11-8214	Caulk	04/14/11 16:51	04/14/11 18:32
18.	DAS-CA15-C1	SR89R	11-8215	Caulk	04/14/11 15:07	04/14/11 18:32

Printed 04/15/11

Data Reporting Qualifiers

Effective 2/14/2011

Inorganic Data

U Indicates that the target analyte was not detected at the reported concentration

* Duplicate RPD is not within established control limits

B Reported value is less than the CRDL but ≥ the Reporting Limit

N Matrix Spike recovery not within established control limits

NA Not Applicable, analyte not spiked

H The natural concentration of the spiked element is so much greater than the concentration spiked that an accurate determination of spike recovery is not possible

L Analyte concentration is ≤5 times the Reporting Limit and the replicate control limit defaults to ±1 RL instead of the normal 20% RPD

Organic Data

U Indicates that the target analyte was not detected at the reported concentration

* Flagged value is not within established control limits

B Analyte detected in an associated Method Blank at a concentration greater than one-half of ARI's Reporting Limit or 5% of the regulatory limit or 5% of the analyte concentration in the sample.

J Estimated concentration when the value is less than ARI's established reporting limits

D The spiked compound was not detected due to sample extract dilution

E Estimated concentration calculated for an analyte response above the valid instrument calibration range. A dilution is required to obtain an accurate quantification of the analyte.

Q Indicates a detected analyte with an initial or continuing calibration that does not meet established acceptance criteria (<20%RSD, <20%Drift or minimum RRF).

S Indicates an analyte response that has saturated the detector. The calculated concentration is not valid; a dilution is required to obtain valid quantification of the analyte

NA The flagged analyte was not analyzed for

NR Spiked compound recovery is not reported due to chromatographic interference

NS The flagged analyte was not spiked into the sample

M Estimated value for an analyte detected and confirmed by an analyst but with low spectral match parameters. This flag is used only for GC-MS analyses

M2 The sample contains PCB congeners that do not match any standard Aroclor pattern. The PCBs are identified and quantified as the Aroclor whose pattern most closely matches that of the sample. The reported value is an estimate.

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

Y The analyte is not detected at or above the reported concentration. The reporting limit is raised due to chromatographic interference. The Y flag is equivalent to the U flag with a raised reporting limit.

EMPC Estimated Maximum Possible Concentration (EMPC) defined in EPA Statement of Work DLM02.2 as a value "calculated for 2,3,7,8-substituted isomers for which the quantitation and /or confirmation ion(s) has signal to noise in excess of 2.5, but does not meet identification criteria" **(Dioxin/Furan analysis only)**

C The analyte was positively identified on only one of two chromatographic columns. Chromatographic interference prevented a positive identification on the second column

P The analyte was detected on both chromatographic columns but the quantified values differ by ≥40% RPD with no obvious chromatographic interference

X Analyte signal includes interference from polychlorinated diphenyl ethers. **(Dioxin/Furan analysis only)**

Z Analyte signal includes interference from the sample matrix or perfluorokerosene ions. **(Dioxin/Furan analysis only)**

Geotechnical Data

A	The total of all fines fractions. This flag is used to report total fines when only sieve analysis is requested and balances total grain size with sample weight.
F	Samples were frozen prior to particle size determination
SM	Sample matrix was not appropriate for the requested analysis. This normally refers to samples contaminated with an organic product that interferes with the sieving process and/or moisture content, porosity and saturation calculations
SS	Sample did not contain the proportion of "fines" required to perform the pipette portion of the grain size analysis
W	Weight of sample in some pipette aliquots was below the level required for accurate weighting

Analytical Resources,Incorporated
Analytical Chemists and Consultants

Quality Control Criteria for Analysis of Solid Matrix Samples for Aroclors (Polychlorinated Biphenyls – PCB) EPA Method 8082B

Analysis Code	Target RL	Extraction	LOQ[1]	Analyte	LOD[2]	Spike Recovery Control Limits[5]			RPD[4]
						LCS	MB/LCS Surrogate	Sample Surrogate	
PCBSMI	33 µg/L	12g to 4 mL	33 µg/L	Aroclor 1016	9.83	48 – 106	--	--	±30%
				Aroclor 1260	7.06	50 – 121	--	--	
				TCMX	--	--	46 – 111	50 – 114	
				DCBP	--	--	51 – 112	42 – 127	
PCBSMP	20 µg/L	25 g to 5 mL[7]	20 µg/L	Aroclor 1016	9.33	52 – 101	--	--	±30%
				Aroclor 1260	10.82	52 – 126	--	--	
				TCMX	--	--	47 – 110	46 – 113	
				DCBP	--	--	48 – 119	40 – 130	
PCBSMM	10 µg/L	25 g to 5 mL[7]	10 µg/L	Aroclor 1016	0.759	53 – **100**	--	--	±30%
				Aroclor 1260	1.066	58 – 112	--	--	
				TCMX	--	--	43 – 108	35 – 119	
				DCBP	--	--	48 – 118	33 – 143	
PCBSMM	4 µg/L	25 g to 5 mL[7]	4 µg/L	Aroclor 1016	0.577	37 – 106	--	--	±30%
				Aroclor 1260	0.610	50 – 116	--	--	
				TCMX	--	--	35 – 100	38 – 102	
				DCBP	--	--	40 – 109	34 – 141	
PCBSVX	800 µg/kg	5 g to 40 mL	800 µg/kg	Aroclor 1016	63.3	59 – 108	--	--	±30%
				Aroclor 1260	123	43 – 177	--	--	
				TCMX	--	--	49 – 110	28 – 106	
				DCBP	--	--	51 – 127	22 – 168	
PCBOVX	1 mg/L	2 g to 20 mL	1 mg/L	Aroclor 1016	(6)	30 – 160	--	--	±30%
				Aroclor 1260	(6)	30 – 160	--	--	
				TCMX	--	--	30 – 160	30 – 160	
				DCBP	--	--	30 – 160	30 – 160	
PCBIVX	1 µg/Wipe	10 mL	1 µg/Wipe	Aroclor 1016	(6)	30 – 160	--	--	±30%
				Aroclor 1260	(6)	30 – 160	--	--	
				TCMX	--	--	30 – 160	30 – 160	
				DCBP	--	--	30 – 160	30 – 160	

(1) Limit of Quantitation as defined in ARI SOP 1018S. The concentration
(2) Limit of Detection as defined in ARI SOP 1018S
(3) Highlighted control limits (**bold font**) are adjusted from the calculated values to reflect that ARI does not use control limits < 10 for the lower limit or < 100 for the upper limit.
(4) Acceptance criteria for the relative percent difference (RPD) between analytes in replicate analyzes. If C_O and C_D are the concentrations of the original and duplicate respectively then

$$RPD = \frac{|C_O - C_D|}{\frac{C_O + C_D}{2}} x100$$

(5) 30 – 160 are default limits used when there is insufficient data to calculate historic control limits
(6) LOD studies in process.
(7) LOQ determined by lowest concentration used to calibrate the instrument (GC-ECD).

Summary of Laboratory Control Limits Metals Analyses
(All Methods & Sample Matrices)

Effective 5/1/09

Control limits are updated periodically. Assure that you have ARI's current control limits by downloading the files at the time of use. http://www.arilabs.com/portal/downloads/ARI-CLs.zip

Element	Matrix Spike Recovery	LCS Recovery	Replicate RPD
Aluminum	75 - 125	80 - 120	≤ 20%
Antimony	75 - 125	80 - 120	≤ 20%
Arsenic	75 - 125	80 - 120	≤ 20%
Barium	75 - 125	80 - 120	≤ 20%
Beryllium	75 - 125	80 - 120	≤ 20%
Boron	75 - 125	80 - 120	≤ 20%
Cadmium	75 - 125	80 - 120	≤ 20%
Calcium	75 - 125	80 - 120	≤ 20%
Chromium	75 - 125	80 - 120	≤ 20%
Cobalt	75 - 125	80 - 120	≤ 20%
Copper	75 - 125	80 - 120	≤ 20%
Iron	75 - 125	80 - 120	≤ 20%
Lead	75 - 125	80 - 120	≤ 20%
Magnesium	75 - 125	80 - 120	≤ 20%
Manganese	75 - 125	80 - 120	≤ 20%
Mercury	75 - 125	80 - 120	≤ 20%
Nickel	75 - 125	80 - 120	≤ 20%
Potassium	75 - 125	80 - 120	≤ 20%
Selenium	75 - 125	80 - 120	≤ 20%
Silica	75 - 125	80 - 120	≤ 20%
Silver	75 - 125	80 - 120	≤ 20%
Sodium	75 - 125	80 - 120	≤ 20%
Strontium	75 - 125	80 - 120	≤ 20%
Thallium	75 - 125	80 - 120	≤ 20%
Vanadium	75 - 125	80 - 120	≤ 20%
Zinc	75 - 125	80 - 120	≤ 20%

PCB Analysis
Report and Summary QC Forms

ARI Job ID: SR89

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PCB by GC/ECD Method SW8082
Page 1 of 1

Sample ID: DAS-CA12-P1
SAMPLE

Lab Sample ID: SR89B
LIMS ID: 11-8199
Matrix: Paint
Data Release Authorized:
Reported: 04/29/11

QC Report No: SR89-SAIC
Project: LDW Building Materials
196257
Date Sampled: 04/14/11
Date Received: 04/14/11

Date Extracted: 04/21/11
Date Analyzed: 04/27/11 02:58
Instrument/Analyst: ECD7/YZ
GPC Cleanup: No
Sulfur Cleanup: Yes
Acid Cleanup: Yes

Sample Amount: 1.31 g-as-rec
Final Extract Volume: 10 mL
Dilution Factor: 5.00
Silica Gel: No

Percent Moisture: NA

CAS Number	Analyte	MDL	RL	Result
12674-11-2	Aroclor 1016	100	760	< 760 U
53469-21-9	Aroclor 1242	180	760	< 760 U
12672-29-6	Aroclor 1248	180	760	< 760 U
11097-69-1	**Aroclor 1254**	**180**	**760**	**2,100**
11096-82-5	Aroclor 1260	180	760	< 760 U
11104-28-2	Aroclor 1221	180	760	< 760 U
11141-16-5	Aroclor 1232	180	760	< 760 U

Reported in µg/kg (ppb)

PCB Surrogate Recovery

Decachlorobiphenyl	92.8%
Tetrachlorometaxylene	77.9%

FORM I

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PCB by GC/ECD Method SW8082
Page 1 of 1

Sample ID: DAS-CA16-P1
SAMPLE

Lab Sample ID: SR89C
LIMS ID: 11-8200
Matrix: Paint
Data Release Authorized:
Reported: 04/29/11

QC Report No: SR89-SAIC
Project: LDW Building Materials
196257
Date Sampled: 04/14/11
Date Received: 04/14/11

Date Extracted: 04/21/11
Date Analyzed: 04/27/11 03:21
Instrument/Analyst: ECD7/YZ
GPC Cleanup: No
Sulfur Cleanup: Yes
Acid Cleanup: Yes

Sample Amount: 1.32 g-as-rec
Final Extract Volume: 10 mL
Dilution Factor: 5.00
Silica Gel: No

Percent Moisture: NA

CAS Number	Analyte	MDL	RL	Result
12674-11-2	Aroclor 1016	100	760	< 760 U
53469-21-9	Aroclor 1242	180	760	< 760 U
12672-29-6	Aroclor 1248	180	760	< 760 U
11097-69-1	Aroclor 1254	180	760	< 760 U
11096-82-5	Aroclor 1260	180	760	< 760 U
11104-28-2	Aroclor 1221	180	760	< 760 U
11141-16-5	Aroclor 1232	180	760	< 760 U

Reported in µg/kg (ppb)

PCB Surrogate Recovery

Decachlorobiphenyl	92.5%
Tetrachlorometaxylene	85.4%

FORM I

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PCB by GC/ECD Method SW8082

Sample ID: DAS-CA14-P1
SAMPLE

Lab Sample ID: SR89D
LIMS ID: 11-8201
Matrix: Paint
Data Release Authorized:
Reported: 04/29/11

QC Report No: SR89-SAIC
Project: LDW Building Materials
196257
Date Sampled: 04/14/11
Date Received: 04/14/11

Date Extracted: 04/21/11
Date Analyzed: 04/27/11 03:45
Instrument/Analyst: ECD7/YZ
GPC Cleanup: No
Sulfur Cleanup: Yes
Acid Cleanup: Yes

Sample Amount: 1.36 g-as-rec
Final Extract Volume: 10 mL
Dilution Factor: 5.00
Silica Gel: No

Percent Moisture: NA

CAS Number	Analyte	MDL	RL	Result
12674-11-2	Aroclor 1016	100	740	< 740 U
53469-21-9	Aroclor 1242	180	740	< 740 U
12672-29-6	Aroclor 1248	180	740	< 740 U
11097-69-1	Aroclor 1254	180	740	< 740 U
11096-82-5	Aroclor 1260	180	740	< 740 U
11104-28-2	Aroclor 1221	180	740	< 740 U
11141-16-5	Aroclor 1232	180	740	< 740 U

Reported in µg/kg (ppb)

PCB Surrogate Recovery

Decachlorobiphenyl	92.1%
Tetrachlorometaxylene	75.1%

FORM I

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PCB by GC/ECD Method SW8082

Sample ID: DAS-CA09-P1
SAMPLE

Lab Sample ID: SR89E
LIMS ID: 11-8202
Matrix: Paint
Data Release Authorized:
Reported: 04/29/11

QC Report No: SR89-SAIC
Project: LDW Building Materials
196257
Date Sampled: 04/14/11
Date Received: 04/14/11

Date Extracted: 04/21/11
Date Analyzed: 04/27/11 04:09
Instrument/Analyst: ECD7/YZ
GPC Cleanup: No
Sulfur Cleanup: Yes
Acid Cleanup: Yes

Sample Amount: 1.36 g-as-rec
Final Extract Volume: 10 mL
Dilution Factor: 5.00
Silica Gel: No

Percent Moisture: NA

CAS Number	Analyte	MDL	RL	Result
12674-11-2	Aroclor 1016	100	740	< 740 U
53469-21-9	Aroclor 1242	180	740	< 740 U
12672-29-6	Aroclor 1248	180	740	< 740 U
11097-69-1	**Aroclor 1254**	**180**	**740**	**3,100**
11096-82-5	Aroclor 1260	180	740	< 740 U
11104-28-2	Aroclor 1221	180	740	< 740 U
11141-16-5	Aroclor 1232	180	740	< 740 U

Reported in µg/kg (ppb)

PCB Surrogate Recovery

Decachlorobiphenyl	92.4%
Tetrachlorometaxylene	84.9%

FORM I

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PCB by GC/ECD Method SW8082
Page 1 of 1

Sample ID: DAS-CA08-P2
SAMPLE

Lab Sample ID: SR89F
LIMS ID: 11-8203
Matrix: Paint
Data Release Authorized:
Reported: 04/29/11

QC Report No: SR89-SAIC
Project: LDW Building Materials
196257
Date Sampled: 04/14/11
Date Received: 04/14/11

Date Extracted: 04/21/11
Date Analyzed: 04/27/11 04:33
Instrument/Analyst: ECD7/YZ
GPC Cleanup: No
Sulfur Cleanup: Yes
Acid Cleanup: Yes

Sample Amount: 1.25 g-as-rec
Final Extract Volume: 10 mL
Dilution Factor: 5.00
Silica Gel: No

Percent Moisture: NA

CAS Number	Analyte	MDL	RL	Result
12674-11-2	Aroclor 1016	110	800	< 800 U
53469-21-9	Aroclor 1242	190	800	< 800 U
12672-29-6	Aroclor 1248	190	800	< 800 U
11097-69-1	Aroclor 1254	190	800	< 800 U
11096-82-5	Aroclor 1260	190	800	< 800 U
11104-28-2	Aroclor 1221	190	800	< 800 U
11141-16-5	Aroclor 1232	190	800	< 800 U

Reported in µg/kg (ppb)

PCB Surrogate Recovery

Decachlorobiphenyl	103%
Tetrachlorometaxylene	93.8%

FORM I

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PCB by GC/ECD Method SW8082
Page 1 of 1

Sample ID: DAS-CA12-P2
SAMPLE

Lab Sample ID: SR89G
LIMS ID: 11-8204
Matrix: Paint
Data Release Authorized:
Reported: 04/29/11

QC Report No: SR89-SAIC
Project: LDW Building Materials
196257
Date Sampled: 04/14/11
Date Received: 04/14/11

Date Extracted: 04/21/11
Date Analyzed: 04/27/11 04:57
Instrument/Analyst: ECD7/YZ
GPC Cleanup: No
Sulfur Cleanup: Yes
Acid Cleanup: Yes

Sample Amount: 1.39 g-as-rec
Final Extract Volume: 10 mL
Dilution Factor: 5.00
Silica Gel: No

Percent Moisture: NA

CAS Number	Analyte	MDL	RL	Result
12674-11-2	Aroclor 1016	98	720	< 720 U
53469-21-9	Aroclor 1242	170	720	< 720 U
12672-29-6	Aroclor 1248	170	720	< 720 U
11097-69-1	Aroclor 1254	170	720	< 720 U
11096-82-5	Aroclor 1260	170	720	< 720 U
11104-28-2	Aroclor 1221	170	720	< 720 U
11141-16-5	Aroclor 1232	170	720	< 720 U

Reported in µg/kg (ppb)

PCB Surrogate Recovery

Decachlorobiphenyl	95.8%
Tetrachlorometaxylene	87.5%

FORM I

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PCB by GC/ECD Method SW8082

Sample ID: DAS-CA12-P3
SAMPLE

Lab Sample ID: SR89H
LIMS ID: 11-8205
Matrix: Paint
Data Release Authorized:
Reported: 04/29/11

QC Report No: SR89-SAIC
Project: LDW Building Materials
196257
Date Sampled: 04/14/11
Date Received: 04/14/11

Date Extracted: 04/21/11
Date Analyzed: 04/27/11 05:20
Instrument/Analyst: ECD7/YZ
GPC Cleanup: No
Sulfur Cleanup: Yes
Acid Cleanup: Yes

Sample Amount: 1.30 g-as-rec
Final Extract Volume: 10 mL
Dilution Factor: 5.00
Silica Gel: No

Percent Moisture: NA

CAS Number	Analyte	MDL	RL	Result
12674-11-2	Aroclor 1016	100	770	< 770 U
53469-21-9	Aroclor 1242	180	770	< 770 U
12672-29-6	Aroclor 1248	180	770	< 770 U
11097-69-1	**Aroclor 1254**	**180**	**770**	**850**
11096-82-5	Aroclor 1260	180	770	< 770 U
11104-28-2	Aroclor 1221	180	770	< 770 U
11141-16-5	Aroclor 1232	180	770	< 770 U

Reported in µg/kg (ppb)

PCB Surrogate Recovery

Decachlorobiphenyl	NR
Tetrachlorometaxylene	86.5%

FORM I

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PCB by GC/ECD Method SW8082
Page 1 of 1

Sample ID: DAS-CA16-P3
SAMPLE

Lab Sample ID: SR89I
LIMS ID: 11-8206
Matrix: Paint
Data Release Authorized:
Reported: 04/29/11

QC Report No: SR89-SAIC
Project: LDW Building Materials
196257
Date Sampled: 04/14/11
Date Received: 04/14/11

Date Extracted: 04/21/11
Date Analyzed: 04/27/11 06:32
Instrument/Analyst: ECD7/YZ
GPC Cleanup: No
Sulfur Cleanup: Yes
Acid Cleanup: Yes

Sample Amount: 1.35 g-as-rec
Final Extract Volume: 10 mL
Dilution Factor: 5.00
Silica Gel: No

Percent Moisture: NA

CAS Number	Analyte	MDL	RL	Result
12674-11-2	Aroclor 1016	100	740	< 740 U
53469-21-9	Aroclor 1242	180	740	< 740 U
12672-29-6	Aroclor 1248	180	740	< 740 U
11097-69-1	Aroclor 1254	180	740	< 740 U
11096-82-5	Aroclor 1260	180	740	< 740 U
11104-28-2	Aroclor 1221	180	740	< 740 U
11141-16-5	Aroclor 1232	180	740	< 740 U

Reported in µg/kg (ppb)

PCB Surrogate Recovery

Decachlorobiphenyl	99.0%
Tetrachlorometaxylene	93.1%

FORM I

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PCB by GC/ECD Method SW8082

Sample ID: DAS-CA14-P2
SAMPLE

Lab Sample ID: SR89K
LIMS ID: 11-8208
Matrix: Paint
Data Release Authorized:
Reported: 04/29/11

QC Report No: SR89-SAIC
Project: LDW Building Materials
196257
Date Sampled: 04/14/11
Date Received: 04/14/11

Date Extracted: 04/21/11
Date Analyzed: 04/27/11 06:55
Instrument/Analyst: ECD7/YZ
GPC Cleanup: No
Sulfur Cleanup: Yes
Acid Cleanup: Yes

Sample Amount: 1.31 g-as-rec
Final Extract Volume: 10 mL
Dilution Factor: 5.00
Silica Gel: No

Percent Moisture: NA

CAS Number	Analyte	MDL	RL	Result
12674-11-2	Aroclor 1016	100	760	< 760 U
53469-21-9	Aroclor 1242	180	760	< 760 U
12672-29-6	Aroclor 1248	180	760	< 760 U
11097-69-1	Aroclor 1254	180	760	< 760 U
11096-82-5	Aroclor 1260	180	760	< 760 U
11104-28-2	Aroclor 1221	180	760	< 760 U
11141-16-5	Aroclor 1232	180	760	< 760 U

Reported in µg/kg (ppb)

PCB Surrogate Recovery

Decachlorobiphenyl	96.8%
Tetrachlorometaxylene	85.4%

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PCB by GC/ECD Method SW8082

Sample ID: DAS-CA09-P2
SAMPLE

Lab Sample ID: SR89L
LIMS ID: 11-8209
Matrix: Paint
Data Release Authorized:
Reported: 04/29/11

QC Report No: SR89-SAIC
Project: LDW Building Materials
196257
Date Sampled: 04/14/11
Date Received: 04/14/11

Date Extracted: 04/21/11
Date Analyzed: 04/27/11 07:19
Instrument/Analyst: ECD7/YZ
GPC Cleanup: No
Sulfur Cleanup: Yes
Acid Cleanup: Yes

Sample Amount: 1.34 g-as-rec
Final Extract Volume: 10 mL
Dilution Factor: 10.0
Silica Gel: No

Percent Moisture: NA

CAS Number	Analyte	MDL	RL	Result
12674-11-2	Aroclor 1016	200	1,500	< 1,500 U
53469-21-9	Aroclor 1242	360	1,500	< 1,500 U
12672-29-6	Aroclor 1248	360	1,500	< 1,500 U
11097-69-1	**Aroclor 1254**	**360**	**1,500**	**61,000**
11096-82-5	Aroclor 1260	360	15,000	< 15,000 Y
11104-28-2	Aroclor 1221	360	1,500	< 1,500 U
11141-16-5	Aroclor 1232	360	1,500	< 1,500 U

Reported in µg/kg (ppb)

PCB Surrogate Recovery

Decachlorobiphenyl	NR
Tetrachlorometaxylene	92.2%

FORM I

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PCB by GC/ECD Method SW8082
Page 1 of 1

Sample ID: DAS-CA09-P3
SAMPLE

Lab Sample ID: SR89M
LIMS ID: 11-8210
Matrix: Paint
Data Release Authorized:
Reported: 04/29/11

QC Report No: SR89-SAIC
Project: LDW Building Materials
196257
Date Sampled: 04/14/11
Date Received: 04/14/11

Date Extracted: 04/21/11
Date Analyzed: 04/27/11 07:43
Instrument/Analyst: ECD7/YZ
GPC Cleanup: No
Sulfur Cleanup: Yes
Acid Cleanup: Yes

Sample Amount: 1.34 g-as-rec
Final Extract Volume: 10 mL
Dilution Factor: 5.00
Silica Gel: No

Percent Moisture: NA

CAS Number	Analyte	MDL	RL	Result
12674-11-2	Aroclor 1016	100	750	< 750 U
53469-21-9	Aroclor 1242	180	750	< 750 U
12672-29-6	Aroclor 1248	180	750	< 750 U
11097-69-1	**Aroclor 1254**	**180**	**750**	**2,900**
11096-82-5	Aroclor 1260	180	2,000	< 2,000 Y
11104-28-2	Aroclor 1221	180	750	< 750 U
11141-16-5	Aroclor 1232	180	750	< 750 U

Reported in µg/kg (ppb)

PCB Surrogate Recovery

Decachlorobiphenyl	113%
Tetrachlorometaxylene	86.5%

FORM I

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PCB by GC/ECD Method SW8082

Sample ID: DAS-CA12-C1
SAMPLE

Lab Sample ID: SR89N
LIMS ID: 11-8211
Matrix: Caulk
Data Release Authorized:
Reported: 04/29/11

QC Report No: SR89-SAIC
Project: LDW Building Materials
196257
Date Sampled: 04/14/11
Date Received: 04/14/11

Date Extracted: 04/21/11
Date Analyzed: 04/27/11 08:07
Instrument/Analyst: ECD7/YZ
GPC Cleanup: No
Sulfur Cleanup: Yes
Acid Cleanup: Yes

Sample Amount: 1.38 g-as-rec
Final Extract Volume: 10 mL
Dilution Factor: 5.00
Silica Gel: No

Percent Moisture: NA

CAS Number	Analyte	MDL	RL	Result
12674-11-2	Aroclor 1016	99	720	< 720 U
53469-21-9	Aroclor 1242	170	720	< 720 U
12672-29-6	Aroclor 1248	170	1,200	< 1,200 Y
11097-69-1	Aroclor 1254	170	720	< 720 U
11096-82-5	Aroclor 1260	170	720	< 720 U
11104-28-2	Aroclor 1221	170	720	< 720 U
11141-16-5	Aroclor 1232	170	720	< 720 U

Reported in µg/kg (ppb)

PCB Surrogate Recovery

Decachlorobiphenyl	77.8%
Tetrachlorometaxylene	77.8%

FORM I

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PCB by GC/ECD Method SW8082

Sample ID: DAS-CA12-C2
SAMPLE

Lab Sample ID: SR89O
LIMS ID: 11-8212
Matrix: Caulk
Data Release Authorized:
Reported: 04/29/11

QC Report No: SR89-SAIC
Project: LDW Building Materials
196257
Date Sampled: 04/14/11
Date Received: 04/14/11

Date Extracted: 04/21/11
Date Analyzed: 04/27/11 08:31
Instrument/Analyst: ECD7/YZ
GPC Cleanup: No
Sulfur Cleanup: Yes
Acid Cleanup: Yes

Sample Amount: 1.31 g-as-rec
Final Extract Volume: 10 mL
Dilution Factor: 5.00
Silica Gel: No

Percent Moisture: NA

CAS Number	Analyte	MDL	RL	Result
12674-11-2	Aroclor 1016	100	760	< 760 U
53469-21-9	Aroclor 1242	180	760	< 760 U
12672-29-6	Aroclor 1248	180	5,500	< 5,500 Y
11097-69-1	Aroclor 1254	180	6,100	< 6,100 Y
11096-82-5	Aroclor 1260	180	760	< 760 U
11104-28-2	Aroclor 1221	180	760	< 760 U
11141-16-5	Aroclor 1232	180	760	< 760 U

Reported in µg/kg (ppb)

PCB Surrogate Recovery

Decachlorobiphenyl	NR
Tetrachlorometaxylene	93.2%

FORM I

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PCB by GC/ECD Method SW8082

Sample ID: DAS-CA12-C3
SAMPLE

Lab Sample ID: SR89P
LIMS ID: 11-8213
Matrix: Caulk
Data Release Authorized:
Reported: 04/29/11

QC Report No: SR89-SAIC
Project: LDW Building Materials
196257
Date Sampled: 04/14/11
Date Received: 04/14/11

Date Extracted: 04/21/11
Date Analyzed: 04/27/11 08:54
Instrument/Analyst: ECD7/YZ
GPC Cleanup: No
Sulfur Cleanup: Yes
Acid Cleanup: Yes

Sample Amount: 1.34 g-as-rec
Final Extract Volume: 10 mL
Dilution Factor: 5.00
Silica Gel: No

Percent Moisture: NA

CAS Number	Analyte	MDL	RL	Result
12674-11-2	Aroclor 1016	100	750	< 750 U
53469-21-9	Aroclor 1242	180	750	< 750 U
12672-29-6	Aroclor 1248	180	750	< 750 U
11097-69-1	Aroclor 1254	180	750	< 750 U
11096-82-5	Aroclor 1260	180	750	< 750 U
11104-28-2	Aroclor 1221	180	750	< 750 U
11141-16-5	Aroclor 1232	180	750	< 750 U

Reported in µg/kg (ppb)

PCB Surrogate Recovery

Decachlorobiphenyl	105%
Tetrachlorometaxylene	94.4%

FORM I

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PCB by GC/ECD Method SW8082

Sample ID: DAS-CA15-C1
SAMPLE

Lab Sample ID: SR89R
LIMS ID: 11-8215
Matrix: Caulk
Data Release Authorized:
Reported: 04/29/11

QC Report No: SR89-SAIC
Project: LDW Building Materials
196257
Date Sampled: 04/14/11
Date Received: 04/14/11

Date Extracted: 04/21/11
Date Analyzed: 04/27/11 09:18
Instrument/Analyst: ECD7/YZ
GPC Cleanup: No
Sulfur Cleanup: Yes
Acid Cleanup: Yes

Sample Amount: 1.37 g-as-rec
Final Extract Volume: 10 mL
Dilution Factor: 10.0
Silica Gel: No

Percent Moisture: NA

CAS Number	Analyte	MDL	RL	Result
12674-11-2	Aroclor 1016	200	1,500	< 1,500 U
53469-21-9	Aroclor 1242	350	1,500	< 1,500 U
12672-29-6	Aroclor 1248	350	1,500	< 1,500 U
11097-69-1	**Aroclor 1254**	**350**	**1,500**	**860,000 E**
11096-82-5	Aroclor 1260	350	98,000	< 98,000 Y
11104-28-2	Aroclor 1221	350	1,500	< 1,500 U
11141-16-5	Aroclor 1232	350	1,500	< 1,500 U

Reported in µg/kg (ppb)

PCB Surrogate Recovery

Decachlorobiphenyl	113%
Tetrachlorometaxylene	96.0%

FORM I

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PCB by GC/ECD Method SW8082
Page 1 of 1

Sample ID: DAS-CA15-C1
DILUTION

Lab Sample ID: SR89R
LIMS ID: 11-8215
Matrix: Caulk
Data Release Authorized:
Reported: 04/29/11

QC Report No: SR89-SAIC
Project: LDW Building Materials
196257
Date Sampled: 04/14/11
Date Received: 04/14/11

Date Extracted: 04/21/11
Date Analyzed: 04/27/11 12:53
Instrument/Analyst: ECD7/YZ
GPC Cleanup: No
Sulfur Cleanup: Yes
Acid Cleanup: Yes

Sample Amount: 1.37 g-as-rec
Final Extract Volume: 10 mL
Dilution Factor: 200
Silica Gel: No

Percent Moisture: NA

CAS Number	Analyte	MDL	RL	Result
12674-11-2	Aroclor 1016	29,000	29,000	< 29,000 U
53469-21-9	Aroclor 1242	29,000	29,000	< 29,000 U
12672-29-6	Aroclor 1248	29,000	29,000	< 29,000 U
11097-69-1	**Aroclor 1254**	**29,000**	**29,000**	**920,000**
11096-82-5	Aroclor 1260	44,000	110,000	< 110,000 Y
11104-28-2	Aroclor 1221	29,000	29,000	< 29,000 U
11141-16-5	Aroclor 1232	29,000	29,000	< 29,000 U

Reported in µg/kg (ppb)

PCB Surrogate Recovery

Decachlorobiphenyl	D
Tetrachlorometaxylene	D

FORM I

ANALYTICAL RESOURCES INCORPORATED

SW8082/PCB SOIL/SEDIMENT SURROGATE RECOVERY SUMMARY

Matrix: Paint

QC Report No: SR89-SAIC
Project: LDW Building Materials
196257

Client ID	DCBP % REC	DCBP LCL-UCL	TCMX % REC	TCMX LCL-UCL	TOT OUT
DAS-CA12-P1	92.8%	22-168	77.9%	28-106	0
DAS-CA16-P1	92.5%	22-168	85.4%	28-106	0
DAS-CA14-P1	92.1%	22-168	75.1%	28-106	0
DAS-CA09-P1	92.4%	22-168	84.9%	28-106	0
DAS-CA08-P2	103%	22-168	93.8%	28-106	0
DAS-CA12-P2	95.8%	22-168	87.5%	28-106	0
DAS-CA12-P3	NR	22-168	86.5%	28-106	0
DAS-CA16-P3	99.0%	22-168	93.1%	28-106	0
DAS-CA14-P2	96.8%	22-168	85.4%	28-106	0
DAS-CA09-P2	NR	22-168	92.2%	28-106	0
DAS-CA09-P3	113%	22-168	86.5%	28-106	0
DAS-CA12-C1	77.8%	22-168	77.8%	28-106	0
DAS-CA12-C2	NR	22-168	93.2%	28-106	0
DAS-CA12-C3	105%	22-168	94.4%	28-106	0
MB-042111	107%	51-127	90.1%	49-110	0
LCS-042111	103%	51-127	80.9%	49-110	0
LCSD-042111	103%	51-127	82.1%	49-110	0
DAS-CA15-C1	113%	22-168	96.0%	28-106	0
DAS-CA15-C1 DL	D	22-168	D	28-106	0
DAS-CA15-C1 MS	113%	22-168	97.8%	28-106	0
DAS-CA15-C1 MSD	126%	22-168	102%	28-106	0

Medium Level Control Limits
Prep Method: SW3580A
Log Number Range: 11-8199 to 11-8215

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PCB by GC/ECD Method SW8082

Sample ID: DAS-CA15-C1
MS/MSD

Lab Sample ID: SR89R
LIMS ID: 11-8215
Matrix: Caulk
Data Release Authorized:
Reported: 04/29/11

QC Report No: SR89-SAIC
Project: LDW Building Materials
196257
Date Sampled: 04/14/11
Date Received: 04/14/11

Date Extracted MS/MSD: 04/21/11

Date Analyzed MS: 04/27/11 09:42
MSD: 04/27/11 10:06
Instrument/Analyst MS: ECD7/YZ
MSD: ECD7/YZ
GPC Cleanup: No
Sulfur Cleanup: Yes
Acid Cleanup: Yes
Florisil Cleanup: No

Sample Amount MS: 1.30 g-as-rec
MSD: 1.33 g-as-rec
Final Extract Volume MS: 10 mL
MSD: 10 mL
Dilution Factor MS: 10.0
MSD: 10.0
Silica Gel: No

Percent Moisture: NA

Analyte	**Sample**	**MS**	**Spike Added-MS**	**MS Recovery**	**MSD**	**Spike Added-MSD**	**MSD Recovery**	**RPD**
Aroclor 1016	< 1460 U	26300	3850	683%	33900	3760	902%	25.2%
Aroclor 1260	< 98500 Y	41800	3850	1090%	52200	3760	1390%	22.1%

Results reported in µg/kg (ppb)
RPD calculated using sample concentrations per SW846.

FORM III

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PCB by GC/ECD Method SW8082
Page 1 of 1

Sample ID: DAS-CA15-C1
MATRIX SPIKE

Lab Sample ID: SR89R
LIMS ID: 11-8215
Matrix: Caulk
Data Release Authorized:
Reported: 04/29/11

QC Report No: SR89-SAIC
Project: LDW Building Materials
196257
Date Sampled: 04/14/11
Date Received: 04/14/11

Date Extracted: 04/21/11
Date Analyzed: 04/27/11 09:42
Instrument/Analyst: ECD7/YZ
GPC Cleanup: No
Sulfur Cleanup: Yes
Acid Cleanup: Yes

Sample Amount: 1.30 g-as-rec
Final Extract Volume: 10 mL
Dilution Factor: 10.0
Silica Gel: No

Percent Moisture: NA

CAS Number	Analyte	MDL	RL	Result
12674-11-2	Aroclor 1016	1,500	1,500	---
53469-21-9	Aroclor 1242	1,500	1,500	< 1,500 U
12672-29-6	Aroclor 1248	1,500	1,500	< 1,500 U
11097-69-1	**Aroclor 1254**	**1,500**	**1,500**	**250,000 E**
11096-82-5	Aroclor 1260	1,500	1,500	---
11104-28-2	Aroclor 1221	1,500	1,500	< 1,500 U
11141-16-5	Aroclor 1232	1,500	1,500	< 1,500 U

Reported in µg/kg (ppb)

PCB Surrogate Recovery

Decachlorobiphenyl	113%
Tetrachlorometaxylene	97.8%

FORM I

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PCB by GC/ECD Method SW8082

Sample ID: DAS-CA15-C1
MATRIX SPIKE DUP

Lab Sample ID: SR89R
LIMS ID: 11-8215
Matrix: Caulk
Data Release Authorized:
Reported: 04/29/11

QC Report No: SR89-SAIC
Project: LDW Building Materials
196257
Date Sampled: 04/14/11
Date Received: 04/14/11

Date Extracted: 04/21/11
Date Analyzed: 04/27/11 10:06
Instrument/Analyst: ECD7/YZ
GPC Cleanup: No
Sulfur Cleanup: Yes
Acid Cleanup: Yes

Sample Amount: 1.33 g-as-rec
Final Extract Volume: 10 mL
Dilution Factor: 10.0
Silica Gel: No

Percent Moisture: NA

CAS Number	Analyte	MDL	RL	Result
12674-11-2	Aroclor 1016	1,500	1,500	---
53469-21-9	Aroclor 1242	1,500	1,500	< 1,500 U
12672-29-6	Aroclor 1248	1,500	1,500	< 1,500 U
11097-69-1	**Aroclor 1254**	**1,500**	**1,500**	**380,000 E**
11096-82-5	Aroclor 1260	1,500	1,500	---
11104-28-2	Aroclor 1221	1,500	1,500	< 1,500 U
11141-16-5	Aroclor 1232	1,500	1,500	< 1,500 U

Reported in µg/kg (ppb)

PCB Surrogate Recovery

Decachlorobiphenyl	126%
Tetrachlorometaxylene	102%

FORM I

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PCB by GC/ECD Method SW8082
Page 1 of 1

Sample ID: LCS-042111
LCS/LCSD

Lab Sample ID: LCS-042111
LIMS ID: 11-8215
Matrix: Caulk
Data Release Authorized:
Reported: 04/29/11

QC Report No: SR89-SAIC
Project: LDW Building Materials
196257
Date Sampled: NA
Date Received: NA

Date Extracted LCS/LCSD: 04/21/11

Date Analyzed LCS: 04/27/11 02:10
LCSD: 04/27/11 02:34
Instrument/Analyst LCS: ECD7/YZ
LCSD: ECD7/YZ
GPC Cleanup: No
Sulfur Cleanup: Yes
Acid Cleanup: Yes
Florisil Cleanup: No

Sample Amount LCS: 1.25 g-as-rec
LCSD: 1.25 g-as-rec
Final Extract Volume LCS: 10 mL
LCSD: 10 mL
Dilution Factor LCS: 5.00
LCSD: 5.00
Silica Gel: No

Percent Moisture: NA

Analyte	**LCS**	**Spike Added-LCS**	**LCS Recovery**	**LCSD**	**Spike Added-LCSD**	**LCSD Recovery**	**RPD**
Aroclor 1016	3650	4000	91.2%	3610	4000	90.2%	1.1%
Aroclor 1260	3570	4000	89.2%	3490	4000	87.2%	2.3%

PCB Surrogate Recovery

	LCS	**LCSD**
Decachlorobiphenyl	103%	103%
Tetrachlorometaxylene	80.9%	82.1%

Results reported in µg/kg (ppb)
RPD calculated using sample concentrations per SW846.

FORM III

4
PCB METHOD BLANK SUMMARY

BLANK NO.

SR89MBS1

Lab Name: ANALYTICAL RESOURCES, INC | Client: SAIC

ARI Job No.: SR89 | Project: LDW BUILDING MATERIALS

Lab Sample ID: SR89MBS1 | Lab File ID: 0426A043

Date Extracted: 04/21/11 | Matrix: SOLID

Date Analyzed: 04/27/11 | Instrument ID: ECD7

Time Analyzed: 0146 | GC Columns: ZB5/ZB35

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

	CLIENT SAMPLE NO.	LAB SAMPLE ID	DATE ANALYZED
01	SR89LCSS1	SR89LCSS1	04/27/11
02	SR89LCSDS1	SR89LCSDS1	04/27/11
03	DAS-CA12-P1	SR89B	04/27/11
04	DAS-CA16-P1	SR89C	04/27/11
05	DAS-CA14-P1	SR89D	04/27/11
06	DAS-CA09-P1	SR89E	04/27/11
07	DAS-CA08-P2	SR89F	04/27/11
08	DAS-CA12-P2	SR89G	04/27/11
09	DAS-CA12-P3	SR89H	04/27/11
10	DAS-CA16-P3	SR89I	04/27/11
11	DAS-CA14-P2	SR89K	04/27/11
12	DAS-CA09-P2	SR89L	04/27/11
13	DAS-CA09-P3	SR89M	04/27/11
14	DAS-CA12-C1	SR89N	04/27/11
15	DAS-CA12-C2	SR89O	04/27/11
16	DAS-CA12-C3	SR89P	04/27/11
17	DAS-CA15-C1	SR89R	04/27/11
18	DAS-CA15-C1 MS	SR89RMS	04/27/11
19	DAS-CA15-C1 MSD	SR89RMSD	04/27/11
20	DAS-CA15-C1	SR89R	04/27/11

ALL RUNS ARE DUAL COLUMN

FORM IV PCB

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PCB by GC/ECD Method SW8082
Page 1 of 1

Sample ID: MB-042111
METHOD BLANK

Lab Sample ID: MB-042111
LIMS ID: 11-8215
Matrix: Caulk
Data Release Authorized:
Reported: 04/29/11

QC Report No: SR89-SAIC
Project: LDW Building Materials
196257
Date Sampled: NA
Date Received: NA

Date Extracted: 04/21/11
Date Analyzed: 04/27/11 01:46
Instrument/Analyst: ECD7/YZ
GPC Cleanup: No
Sulfur Cleanup: Yes
Acid Cleanup: Yes

Sample Amount: 1.25 g
Final Extract Volume: 10 mL
Dilution Factor: 5.00
Silica Gel: No

Percent Moisture: NA

CAS Number	Analyte	MDL	RL	Result
12674-11-2	Aroclor 1016	110	800	< 800 U
53469-21-9	Aroclor 1242	190	800	< 800 U
12672-29-6	Aroclor 1248	190	800	< 800 U
11097-69-1	Aroclor 1254	190	800	< 800 U
11096-82-5	Aroclor 1260	190	800	< 800 U
11104-28-2	Aroclor 1221	190	800	< 800 U
11141-16-5	Aroclor 1232	190	800	< 800 U

Reported in µg/kg (ppb)

PCB Surrogate Recovery

Decachlorobiphenyl	107%
Tetrachlorometaxylene	90.1%

FORM I

Metals Analysis
Report and Summary QC Forms

ARI Job ID: SR89

Cover Page

INORGANIC ANALYSIS DATA PACKAGE

ANALYTICAL RESOURCES INCORPORATED

CLIENT: SAIC

PROJECT: LDW Building Materia

SDG: SR89

CLIENT ID	ARI ID	ARI LIMS ID	REPREP
DAS-CA12-P1	SR89B	11-8199	
PBW	SR89MB1	11-8199	
LCSS	SR89MB1SPK	11-8199	
DAS-CA16-P1	SR89C	11-8200	
DAS-CA14-P1	SR89D	11-8201	
DAS-CA09-P1	SR89E	11-8202	

Were ICP interelement corrections applied ? Yes/No YES

Were ICP background corrections applied ? Yes/No YES
If yes - were raw data generated before
application of background corrections ? Yes/No NO

Comments: ______

THIS DATA PACKAGE HAS BEEN REVIEWED AND AUTHORIZED FOR RELEASE BY:

Signature: Jay Kuhn Name: Jay Kuhn

Date: 4/26/11 Title: Inorganics Director

COVER PAGE

ANALYTICAL RESOURCES INCORPORATED

INORGANICS ANALYSIS DATA SHEET
TOTAL METALS

Sample ID: DAS-CA12-P1
SAMPLE

Lab Sample ID: SR89B
LIMS ID: 11-8199
Matrix: Paint
Data Release Authorized:
Reported: 04/26/11

QC Report No: SR89-SAIC
Project: LDW Building Materials
196257
Date Sampled: 04/14/11
Date Received: 04/14/11

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	MDL	RL	Result	Q
3050B	04/22/11	6010B	04/25/11	**7440-38-2**	**Arsenic**	0.46	5	**5**	
3050B	04/22/11	6010B	04/25/11	**7440-43-9**	**Cadmium**	0.11	0.2	**3.8**	
3050B	04/22/11	6010B	04/25/11	**7440-47-3**	**Chromium**	0.27	0.5	**37.6**	
3050B	04/22/11	6010B	04/25/11	**7440-50-8**	**Copper**	0.050	0.2	**1,380**	
3050B	04/22/11	6010B	04/25/11	**7439-92-1**	**Lead**	0.13	2	**324**	
CLP	04/22/11	7471A	04/22/11	**7439-97-6**	**Mercury**	0.088	2	**44**	
3050B	04/22/11	6010B	04/25/11	7440-22-4	Silver	0.030	0.3	0.3	U
3050B	04/22/11	6010B	04/25/11	**7440-66-6**	**Zinc**	0.12	1	**3,540**	

Reported in mg/kg-as-rec (ppm).
U-Analyte undetected at given RL
RL-Reporting Limit

FORM-I

ANALYTICAL RESOURCES INCORPORATED

INORGANICS ANALYSIS DATA SHEET
TOTAL METALS
Page 1 of 1

Sample ID: DAS-CA16-P1
SAMPLE

Lab Sample ID: SR89C
LIMS ID: 11-8200
Matrix: Paint
Data Release Authorized:
Reported: 04/26/11

QC Report No: SR89-SAIC
Project: LDW Building Materials
196257
Date Sampled: 04/14/11
Date Received: 04/14/11

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	MDL	RL	Result	Q
3050B	04/22/11	6010B	04/25/11	7440-38-2	Arsenic	0.45	5	5	U
3050B	04/22/11	6010B	04/25/11	**7440-43-9**	**Cadmium**	0.11	0.2	**1.4**	
3050B	04/22/11	6010B	04/25/11	**7440-47-3**	**Chromium**	0.26	0.5	**217**	
3050B	04/22/11	6010B	04/25/11	**7440-50-8**	**Copper**	0.049	0.2	**19.8**	
3050B	04/22/11	6010B	04/25/11	**7439-92-1**	**Lead**	0.13	2	**944**	
CLP	04/22/11	7471A	04/22/11	**7439-97-6**	**Mercury**	0.053	1	**33**	
3050B	04/22/11	6010B	04/25/11	**7440-22-4**	**Silver**	0.029	0.3	**0.8**	
3050B	04/22/11	6010B	04/25/11	**7440-66-6**	**Zinc**	0.12	1	**5,540**	

Reported in mg/kg-as-rec (ppm).
U-Analyte undetected at given RL
RL-Reporting Limit

ANALYTICAL RESOURCES INCORPORATED

INORGANICS ANALYSIS DATA SHEET
TOTAL METALS

Sample ID: DAS-CA14-P1
SAMPLE

Lab Sample ID: SR89D
LIMS ID: 11-8201
Matrix: Paint
Data Release Authorized:
Reported: 04/26/11

QC Report No: SR89-SAIC
Project: LDW Building Materials
196257
Date Sampled: 04/14/11
Date Received: 04/14/11

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	MDL	RL	Result	Q
3050B	04/22/11	6010B	04/25/11	7440-38-2	Arsenic	1.6	20	20	U
3050B	04/22/11	6010B	04/25/11	**7440-43-9**	**Cadmium**	0.39	0.7	**21.7**	
3050B	04/22/11	6010B	04/25/11	**7440-47-3**	**Chromium**	0.95	2	**31**	
3050B	04/22/11	6010B	04/25/11	**7440-50-8**	**Copper**	0.18	0.7	**63.4**	
3050B	04/22/11	6010B	04/25/11	**7439-92-1**	**Lead**	0.46	7	**98**	
CLP	04/22/11	7471A	04/22/11	**7439-97-6**	**Mercury**	0.0021	0.04	**4.02**	
3050B	04/22/11	6010B	04/25/11	**7440-22-4**	**Silver**	0.11	1	**3**	
3050B	04/22/11	6010B	04/25/11	**7440-66-6**	**Zinc**	0.42	4	**2,930**	

Reported in mg/kg-as-rec (ppm).
U-Analyte undetected at given RL
RL-Reporting Limit

ANALYTICAL RESOURCES INCORPORATED

INORGANICS ANALYSIS DATA SHEET
TOTAL METALS
Page 1 of 1

Sample ID: DAS-CA09-P1
SAMPLE

Lab Sample ID: SR89E
LIMS ID: 11-8202
Matrix: Paint
Data Release Authorized:
Reported: 04/26/11

QC Report No: SR89-SAIC
Project: LDW Building Materials
196257
Date Sampled: 04/14/11
Date Received: 04/14/11

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	MDL	RL	Result	Q
3050B	04/22/11	6010B	04/25/11	7440-38-2	Arsenic	0.80	9	9	U
3050B	04/22/11	6010B	04/25/11	**7440-43-9**	**Cadmium**	0.19	0.3	**1.3**	
3050B	04/22/11	6010B	04/25/11	**7440-47-3**	**Chromium**	0.47	0.9	**2,140**	
3050B	04/22/11	6010B	04/25/11	**7440-50-8**	**Copper**	0.087	0.3	**41.8**	
3050B	04/22/11	6010B	04/25/11	**7439-92-1**	**Lead**	0.23	3	**13,400**	
CLP	04/22/11	7471A	04/22/11	**7439-97-6**	**Mercury**	0.010	0.2	**7.2**	
3050B	04/22/11	6010B	04/25/11	**7440-22-4**	**Silver**	0.052	0.5	**3.8**	
3050B	04/22/11	6010B	04/25/11	**7440-66-6**	**Zinc**	0.21	2	**6,450**	

Reported in mg/kg-as-rec (ppm).
U-Analyte undetected at given RL
RL-Reporting Limit

ANALYTICAL RESOURCES INCORPORATED

INORGANICS ANALYSIS DATA SHEET
TOTAL METALS

Sample ID: LAB CONTROL

Lab Sample ID: SR89LCS
LIMS ID: 11-8199
Matrix: Paint
Data Release Authorized:
Reported: 04/26/11

QC Report No: SR89-SAIC
Project: LDW Building Materials
196257
Date Sampled: NA
Date Received: NA

BLANK SPIKE QUALITY CONTROL REPORT

Analyte	Analysis Method	Spike Found	Spike Added	% Recovery	Q
Arsenic	6010B	203	200	102%	
Cadmium	6010B	50.2	50.0	100%	
Chromium	6010B	48.7	50.0	97.4%	
Copper	6010B	48.5	50.0	97.0%	
Lead	6010B	198	200	99.0%	
Mercury	7471A	0.50	0.50	100%	
Silver	6010B	50.9	50.0	102%	
Zinc	6010B	53	50	106%	

Reported in mg/kg-wet

N-Control limit not met
NA-Not Applicable, Analyte Not Spiked
Control Limits: 80-120%

ANALYTICAL RESOURCES INCORPORATED

INORGANICS ANALYSIS DATA SHEET
TOTAL METALS
Page 1 of 1

Sample ID: METHOD BLANK

Lab Sample ID: SR89MB
LIMS ID: 11-8199
Matrix: Paint
Data Release Authorized:
Reported: 04/26/11

Percent Total Solids: NA

QC Report No: SR89-SAIC
Project: LDW Building Materials
196257
Date Sampled: NA
Date Received: NA

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	MDL	RL	Result	Q
3050B	04/22/11	6010B	04/25/11	7440-38-2	Arsenic	0.46	5	5	U
3050B	04/22/11	6010B	04/25/11	7440-43-9	Cadmium	0.11	0.2	0.2	U
3050B	04/22/11	6010B	04/25/11	7440-47-3	Chromium	0.27	0.5	0.5	U
3050B	04/22/11	6010B	04/25/11	7440-50-8	Copper	0.050	0.2	0.2	U
3050B	04/22/11	6010B	04/25/11	7439-92-1	Lead	0.13	2	2	U
CLP	04/22/11	7471A	04/22/11	7439-97-6	Mercury	0.0013	0.02	0.02	U
3050B	04/22/11	6010B	04/25/11	7440-22-4	Silver	0.030	0.3	0.3	U
3050B	04/22/11	6010B	04/25/11	7440-66-6	Zinc	0.12	1	1	U

Reported in mg/kg (ppm).
U-Analyte undetected at given RL
RL-Reporting Limit

FORM-I

Analytical Resources, Incorporated
Analytical Chemists and Consultants

May 6, 2011

Marina Mitchell
SAIC
18912 North Creek Parkway, Suite 101
Bothell, WA 98011

RE: 196257 LDW Building Materials
ARI Job No: SR92

Dear Marina:

Please find enclosed the Chain-of-Custody (COC) records, sample receipt documentation, and the final data package for samples from the project referenced above.

Sample receipt and details of the analyses are discussed in the Case Narrative.

An electronic copy of this data and associated raw data will be kept on file with ARI. Should you have any questions or problems, please feel free to contact me at any time.

Sincerely,

ANALYTICAL RESOURCES, INC.

Cheronne Oreiro
Project Manager
206-695-6214
cheronneo@arilabs.com

Enclosures

cc: eFile SR92

4611 South 134th Place, Suite 100 • Tukwila WA 98168 • **206-695-6200** • **206-695-6201** fax

Case Narrative, Data Qualifiers, Control Limits

ARI Job ID: SR92

ANALYTICAL
RESOURCES
INCORPORATED

Case Narrative

Client: SAIC
Project: 196257 LDW Building Materials
ARI Job No.: SR92

Sample Receipt

Eighteen solid samples (paint chips and caulk) were received April 142, 2011. For details regarding sample receipt, please refer to the Cooler Receipt Form.

Per email instructions on April 21, 2011, select samples have been reported under a separate cover.

Aroclor PCBs by SW8082

The samples were extracted and analyzed within recommended holding times. Due to limited sample volume, the routine medium level extraction procedure was modified to use a 1.25 g sample taken to a 10 mL final volume, from the routine of a 5 g sample to 40 mL final volume.

Initial calibrations were within method requirements.

The continuing calibration (CCAL) on 4/26/11 at 16:47 fell outside the 15% control limit low on both columns for Aroclor 1016 and 1260. The associated samples were re-analyzed with similar CCAL failures. Only the original data have been reported. No corrective action was taken.

Internal standard areas were within limits.

The surrogate percent recovery of Tetrachlorometaxylene was outside the control limits high for sample **DAS-CA17-C1**. All other surrogate percent recoveries were within control limits. No corrective action was taken.

The method blank was clean at the reporting limit. The LCS percent recoveries were within control limits.

The undetected results for several samples have been raised and "Y"-flagged due to interference in the matrix.

Total Metals and Mercury

The samples were digested and analyzed within method recommended holding times, using internal standards.

The method blanks were clean at the reporting limits. The LCS percent recoveries were within control limits.

Sample ID Cross Reference Report

ANALYTICAL RESOURCES INCORPORATED

ARI Job No: SR92
Client: SAIC
Project Event: 196257
Project Name: LDW Building Materials

	Sample ID	ARI Lab ID	ARI LIMS ID	Matrix	Sample Date/Time	VTSR
1.	DAS-CA11-P1	SR92A	11-8220	Paint	04/13/11 08:50	04/14/11 07:12
2.	DAS-CA01-P1	SR92B	11-8221	Paint	04/13/11 12:10	04/14/11 07:12
3.	DAS-CA10-P1	SR92C	11-8222	Paint	04/13/11 17:10	04/14/11 07:12
4.	DAS-CA10-P1D	SR92D	11-8223	Paint	04/13/11 08:00	04/14/11 07:12
5.	DAS-CA07-P1	SR92E	11-8224	Paint	04/13/11 17:45	04/14/11 07:12
6.	DAS-CA06-P1	SR92F	11-8225	Paint	04/13/11 17:55	04/14/11 07:12
7.	DAS-CA11-P2	SR92G	11-8226	Paint	04/13/11 08:40	04/14/11 07:12
8.	DAS-CA11-P3	SR92H	11-8227	Paint	04/13/11 08:45	04/14/11 07:12
9.	DAS-CA01-P2	SR92I	11-8228	Paint	04/13/11 12:15	04/14/11 07:12
10.	DAS-CA01-P3	SR92J	11-8229	Paint	04/13/11 12:10	04/14/11 07:12
11.	DAS-CA10-P2	SR92K	11-8230	Paint	04/13/11 17:20	04/14/11 07:12
12.	DAS-CA10-P3	SR92L	11-8231	Paint	04/13/11 17:15	04/14/11 07:12
13.	DAS-CA02/11-C1	SR92M	11-8232	Caulk	04/13/11 08:00	04/14/11 07:12
14.	DAS-CA01-C1	SR92N	11-8233	Caulk	04/13/11 11:55	04/14/11 07:12
15.	DAS-CA10-C1	SR92O	11-8234	Caulk	04/13/11 17:47	04/14/11 07:12
16.	DAS-CA10-C1-D	SR92P	11-8235	Caulk	04/13/11 17:49	04/14/11 07:12
17.	DAS-CA10-C2	SR92Q	11-8236	Caulk	04/13/11 18:05	04/14/11 07:12
18.	DAS-CA10-C3	SR92R	11-8237	Caulk	04/13/11 18:00	04/14/11 07:12

Printed 04/15/11

Analytical Resources, Incorporated
Analytical Chemists and Consultants

Data Reporting Qualifiers

Effective 2/14/2011

Inorganic Data

U	Indicates that the target analyte was not detected at the reported concentration
*	Duplicate RPD is not within established control limits
B	Reported value is less than the CRDL but ≥ the Reporting Limit
N	Matrix Spike recovery not within established control limits
NA	Not Applicable, analyte not spiked
H	The natural concentration of the spiked element is so much greater than the concentration spiked that an accurate determination of spike recovery is not possible
L	Analyte concentration is ≤5 times the Reporting Limit and the replicate control limit defaults to ±1 RL instead of the normal 20% RPD

Organic Data

U	Indicates that the target analyte was not detected at the reported concentration
*	Flagged value is not within established control limits
B	Analyte detected in an associated Method Blank at a concentration greater than one-half of ARI's Reporting Limit or 5% of the regulatory limit or 5% of the analyte concentration in the sample.
J	Estimated concentration when the value is less than ARI's established reporting limits
D	The spiked compound was not detected due to sample extract dilution
E	Estimated concentration calculated for an analyte response above the valid instrument calibration range. A dilution is required to obtain an accurate quantification of the analyte.
Q	Indicates a detected analyte with an initial or continuing calibration that does not meet established acceptance criteria (<20%RSD, <20%Drift or minimum RRF).

S	Indicates an analyte response that has saturated the detector. The calculated concentration is not valid; a dilution is required to obtain valid quantification of the analyte
NA	The flagged analyte was not analyzed for
NR	Spiked compound recovery is not reported due to chromatographic interference
NS	The flagged analyte was not spiked into the sample
M	Estimated value for an analyte detected and confirmed by an analyst but with low spectral match parameters. This flag is used only for GC-MS analyses
M2	The sample contains PCB congeners that do not match any standard Aroclor pattern. The PCBs are identified and quantified as the Aroclor whose pattern most closely matches that of the sample. The reported value is an estimate.
N	The analysis indicates the presence of an analyte for which there is presumptive evidence to make a "tentative identification"
Y	The analyte is not detected at or above the reported concentration. The reporting limit is raised due to chromatographic interference. The Y flag is equivalent to the U flag with a raised reporting limit.
EMPC	Estimated Maximum Possible Concentration (EMPC) defined in EPA Statement of Work DLM02.2 as a value "calculated for 2,3,7,8-substituted isomers for which the quantitation and /or confirmation ion(s) has signal to noise in excess of 2.5, but does not meet identification criteria" **(Dioxin/Furan analysis only)**
C	The analyte was positively identified on only one of two chromatographic columns. Chromatographic interference prevented a positive identification on the second column
P	The analyte was detected on both chromatographic columns but the quantified values differ by ≥40% RPD with no obvious chromatographic interference
X	Analyte signal includes interference from polychlorinated diphenyl ethers. **(Dioxin/Furan analysis only)**
Z	Analyte signal includes interference from the sample matrix or perfluorokerosene ions. **(Dioxin/Furan analysis only)**

Geotechnical Data

A The total of all fines fractions. This flag is used to report total fines when only sieve analysis is requested and balances total grain size with sample weight.

F Samples were frozen prior to particle size determination

SM Sample matrix was not appropriate for the requested analysis. This normally refers to samples contaminated with an organic product that interferes with the sieving process and/or moisture content, porosity and saturation calculations

SS Sample did not contain the proportion of "fines" required to perform the pipette portion of the grain size analysis

W Weight of sample in some pipette aliquots was below the level required for accurate weighting

Analytical Resources,Incorporated
Analytical Chemists and Consultants

Quality Control Criteria for Analysis of Solid Matrix Samples for Aroclors (Polychlorinated Biphenyls – PCB) EPA Method 8082B

Analysis Code	Target RL	Extraction	LOQ[1]	Analyte	LOD[2]	Spike Recovery Control Limits[5]			RPD[4]
						LCS	MB/LCS Surrogate	Sample Surrogate	
Soil / Sediment Samples (Microwave Extraction – EPA Method 3546)									
PCBSMI	33 µg/L	12g to 4 mL	33 µg/kg	Aroclor 1016	9.83	48 – 106	--	--	±30%
				Aroclor 1260	7.06	50 – 121	--	--	
				TCMX	--	--	46 – 111	50 – 114	
				DCBP	--	--	51 – 112	42 – 127	
PCBSMP	20 µg/L	25 g to 5 mL[7]	20 µg/kg	Aroclor 1016	9.33	52 – 101	--	--	±30%
				Aroclor 1260	10.82	52 – 126	--	--	
				TCMX	--	--	47 – 110	46 – 113	
				DCBP	--	--	48 – 119	40 – 130	
PCBSMM	10 µg/L	25 g to 5 mL[7]	10 µg/kg	Aroclor 1016	0.759	53 – **100**	--	--	±30%
				Aroclor 1260	1.066	58 – 112	--	--	
				TCMX	--	--	43 – 108	35 – 119	
				DCBP	--	--	48 – 118	33 – 143	
PCBSMM	4 µg/L	25 g to 5 mL[7]	4 µg/kg	Aroclor 1016	0.577	37 – 106	--	--	±30%
				Aroclor 1260	0.610	50 – 116	--	--	
				TCMX	--	--	35 – 100	38 – 102	
				DCBP	--	--	40 – 109	34 – 141	
Medium Level – Solids, Product, Paint Chips, etc (Vortex Extraction – EPA Method 3580A)-reported on an "as received" basis									
PCBSVX	800 µg/kg	5 g to 40 mL	800 µg/kg	Aroclor 1016	63.3	59 – 108	--	--	±30%
				Aroclor 1260	123	43 – 177	--	--	
				TCMX	--	--	49 – 110	28 – 106	
				DCBP	--	--	51 – 127	22 – 168	
Oil (Vortex Extraction – EPA method 3580A) -reported on an "as received" basis									
PCBOVX	1 mg/L	2 g to 20 mL	1 mg/kg	Aroclor 1016	(6)	30 – 160	--	--	±30%
				Aroclor 1260	(6)	30 – 160	--	--	
				TCMX	--	--	30 – 160	30 – 160	
				DCBP	--	--	30 – 160	30 – 160	
Wipe (Vortex Extraction – EPA method 3580A) -reported as µg per wipe "as received"									
PCBIVX	1 µg/Wipe	10 mL	1 µg/Wipe	Aroclor 1016	(6)	30 – 160	--	--	±30%
				Aroclor 1260	(6)	30 – 160	--	--	
				TCMX	--	--	30 – 160	30 – 160	
				DCBP	--	--	30 – 160	30 – 160	

(1) Limit of Quantitation as defined in ARI SOP 1018S. The concentration
(2) Limit of Detection as defined in ARI SOP 1018S
(3) Highlighted control limits (**bold font**) are adjusted from the calculated values to reflect that ARI does not use control limits < 10 for the lower limit or < 100 for the upper limit.
(4) Acceptance criteria for the relative percent difference (RPD) between analytes in replicate analyzes. If C_O and C_D are the concentrations of the original and duplicate respectively then

$$RPD = \frac{|C_O - C_D|}{\frac{C_O + C_D}{2}} x100$$

(5) 30 – 160 are default limits used when there is insufficient data to calculate historic control limits
(6) LOD studies in process.
(7) LOQ determined by lowest concentration used to calibrate the instrument (GC-ECD).

Analytical Resources,Incorporated
Analytical Chemists and Consultants

Summary of Laboratory Control Limits Metals Analyses
(All Methods & Sample Matrices)

Effective 5/1/09

Control limits are updated periodically. Assure that you have ARI's current control limits by downloading the files at the time of use. http://www.arilabs.com/portal/downloads/ARI-CLs.zip

Element	Matrix Spike Recovery	LCS Recovery	Replicate RPD
Aluminum	75 - 125	80 - 120	≤ 20%
Antimony	75 - 125	80 - 120	≤ 20%
Arsenic	75 - 125	80 - 120	≤ 20%
Barium	75 - 125	80 - 120	≤ 20%
Beryllium	75 - 125	80 - 120	≤ 20%
Boron	75 - 125	80 - 120	≤ 20%
Cadmium	75 - 125	80 - 120	≤ 20%
Calcium	75 - 125	80 - 120	≤ 20%
Chromium	75 - 125	80 - 120	≤ 20%
Cobalt	75 - 125	80 - 120	≤ 20%
Copper	75 - 125	80 - 120	≤ 20%
Iron	75 - 125	80 - 120	≤ 20%
Lead	75 - 125	80 - 120	≤ 20%
Magnesium	75 - 125	80 - 120	≤ 20%
Manganese	75 - 125	80 - 120	≤ 20%
Mercury	75 - 125	80 - 120	≤ 20%
Nickel	75 - 125	80 - 120	≤ 20%
Potassium	75 - 125	80 - 120	≤ 20%
Selenium	75 - 125	80 - 120	≤ 20%
Silica	75 - 125	80 - 120	≤ 20%
Silver	75 - 125	80 - 120	≤ 20%
Sodium	75 - 125	80 - 120	≤ 20%
Strontium	75 - 125	80 - 120	≤ 20%
Thallium	75 - 125	80 - 120	≤ 20%
Vanadium	75 - 125	80 - 120	≤ 20%
Zinc	75 - 125	80 - 120	≤ 20%

PCB Analysis
Report and Summary QC Forms

ARI Job ID: SR92

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PCB by GC/ECD Method SW8082

Sample ID: DAS-CA11-P1
SAMPLE

Lab Sample ID: SR92A
LIMS ID: 11-8220
Matrix: Paint
Data Release Authorized:
Reported: 05/05/11

QC Report No: SR92-SAIC
Project: LDW Building Materials
196257
Date Sampled: 04/13/11
Date Received: 04/14/11

Date Extracted: 04/21/11
Date Analyzed: 04/26/11 11:07
Instrument/Analyst: ECD5/AAR
GPC Cleanup: No
Sulfur Cleanup: Yes
Acid Cleanup: Yes

Sample Amount: 1.33 g-as-rec
Final Extract Volume: 10 mL
Dilution Factor: 5.00
Silica Gel: Yes

Percent Moisture: NA

CAS Number	Analyte	MDL	RL	Result
12674-11-2	Aroclor 1016	100	750	< 750 U
53469-21-9	Aroclor 1242	180	750	< 750 U
12672-29-6	Aroclor 1248	180	750	< 750 U
11097-69-1	**Aroclor 1254**	**180**	**750**	**1,100**
11096-82-5	Aroclor 1260	180	750	< 750 U
11104-28-2	Aroclor 1221	180	750	< 750 U
11141-16-5	Aroclor 1232	180	750	< 750 U

Reported in µg/kg (ppb)

PCB Surrogate Recovery

Decachlorobiphenyl	91.4%
Tetrachlorometaxylene	88.8%

FORM I

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PCB by GC/ECD Method SW8082

Sample ID: DAS-CA01-P1
SAMPLE

Lab Sample ID: SR92B
LIMS ID: 11-8221
Matrix: Paint
Data Release Authorized:
Reported: 05/05/11

QC Report No: SR92-SAIC
Project: LDW Building Materials
196257
Date Sampled: 04/13/11
Date Received: 04/14/11

Date Extracted: 04/21/11
Date Analyzed: 04/26/11 11:27
Instrument/Analyst: ECD5/AAR
GPC Cleanup: No
Sulfur Cleanup: Yes
Acid Cleanup: Yes

Sample Amount: 1.33 g-as-rec
Final Extract Volume: 10 mL
Dilution Factor: 5.00
Silica Gel: Yes

Percent Moisture: NA

CAS Number	Analyte	MDL	RL	Result
12674-11-2	Aroclor 1016	100	750	< 750 U
53469-21-9	Aroclor 1242	180	750	< 750 U
12672-29-6	Aroclor 1248	180	750	< 750 U
11097-69-1	Aroclor 1254	180	750	< 750 U
11096-82-5	Aroclor 1260	180	750	< 750 U
11104-28-2	Aroclor 1221	180	750	< 750 U
11141-16-5	Aroclor 1232	180	750	< 750 U

Reported in µg/kg (ppb)

PCB Surrogate Recovery

Decachlorobiphenyl	89.5%
Tetrachlorometaxylene	87.5%

FORM I

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PCB by GC/ECD Method SW8082
Page 1 of 1

Sample ID: DAS-CA07-P1
SAMPLE

Lab Sample ID: SR92E
LIMS ID: 11-8224
Matrix: Paint
Data Release Authorized:
Reported: 05/05/11

QC Report No: SR92-SAIC
Project: LDW Building Materials
196257
Date Sampled: 04/13/11
Date Received: 04/14/11

Date Extracted: 04/21/11
Date Analyzed: 04/26/11 11:47
Instrument/Analyst: ECD5/AAR
GPC Cleanup: No
Sulfur Cleanup: Yes
Acid Cleanup: Yes

Sample Amount: 1.33 g-as-rec
Final Extract Volume: 10 mL
Dilution Factor: 10.0
Silica Gel: Yes

Percent Moisture: NA

CAS Number	Analyte	MDL	RL	Result
12674-11-2	Aroclor 1016	200	1,500	< 1,500 U
53469-21-9	Aroclor 1242	360	1,500	< 1,500 U
12672-29-6	Aroclor 1248	360	1,500	< 3,100 Y
11097-69-1	**Aroclor 1254**	**360**	**1,500**	**27,000**
11096-82-5	**Aroclor 1260**	**360**	**1,500**	**7,000**
11104-28-2	Aroclor 1221	360	1,500	< 1,500 U
11141-16-5	Aroclor 1232	360	1,500	< 1,500 U

Reported in µg/kg (ppb)

PCB Surrogate Recovery

Decachlorobiphenyl	100%
Tetrachlorometaxylene	93.5%

FORM I

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PCB by GC/ECD Method SW8082

Sample ID: DAS-CA06-P1
SAMPLE

Lab Sample ID: SR92F
LIMS ID: 11-8225
Matrix: Paint
Data Release Authorized:
Reported: 05/05/11

QC Report No: SR92-SAIC
Project: LDW Building Materials
196257
Date Sampled: 04/13/11
Date Received: 04/14/11

Date Extracted: 04/21/11
Date Analyzed: 04/26/11 12:07
Instrument/Analyst: ECD5/AAR
GPC Cleanup: No
Sulfur Cleanup: Yes
Acid Cleanup: Yes

Sample Amount: 1.30 g-as-rec
Final Extract Volume: 10 mL
Dilution Factor: 5.00
Silica Gel: Yes

Percent Moisture: NA

CAS Number	Analyte	MDL	RL	Result
12674-11-2	Aroclor 1016	100	770	< 770 U
53469-21-9	Aroclor 1242	180	770	< 770 U
12672-29-6	Aroclor 1248	180	770	< 770 U
11097-69-1	Aroclor 1254	180	770	< 770 U
11096-82-5	Aroclor 1260	180	770	< 770 U
11104-28-2	Aroclor 1221	180	770	< 770 U
11141-16-5	Aroclor 1232	180	770	< 770 U

Reported in µg/kg (ppb)

PCB Surrogate Recovery

Decachlorobiphenyl	81.1%
Tetrachlorometaxylene	79.1%

FORM I

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PCB by GC/ECD Method SW8082
Page 1 of 1

Sample ID: DAS-CA11-P2
SAMPLE

Lab Sample ID: SR92G
LIMS ID: 11-8226
Matrix: Paint
Data Release Authorized:
Reported: 05/05/11

QC Report No: SR92-SAIC
Project: LDW Building Materials
196257
Date Sampled: 04/13/11
Date Received: 04/14/11

Date Extracted: 04/21/11
Date Analyzed: 04/26/11 13:07
Instrument/Analyst: ECD5/AAR
GPC Cleanup: No
Sulfur Cleanup: Yes
Acid Cleanup: Yes

Sample Amount: 1.30 g-as-rec
Final Extract Volume: 10 mL
Dilution Factor: 5.00
Silica Gel: Yes

Percent Moisture: NA

CAS Number	Analyte	MDL	RL	Result
12674-11-2	Aroclor 1016	100	770	< 770 U
53469-21-9	Aroclor 1242	180	770	< 770 U
12672-29-6	Aroclor 1248	180	770	< 770 U
11097-69-1	**Aroclor 1254**	**180**	**770**	**1,500**
11096-82-5	Aroclor 1260	180	770	< 770 U
11104-28-2	Aroclor 1221	180	770	< 770 U
11141-16-5	Aroclor 1232	180	770	< 770 U

Reported in µg/kg (ppb)

PCB Surrogate Recovery

Decachlorobiphenyl	93.6%
Tetrachlorometaxylene	90.4%

FORM I

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PCB by GC/ECD Method SW8082

Sample ID: DAS-CA11-P3
SAMPLE

Lab Sample ID: SR92H
LIMS ID: 11-8227
Matrix: Paint
Data Release Authorized:
Reported: 05/05/11

QC Report No: SR92-SAIC
Project: LDW Building Materials
196257
Date Sampled: 04/13/11
Date Received: 04/14/11

Date Extracted: 04/21/11
Date Analyzed: 04/26/11 13:27
Instrument/Analyst: ECD5/AAR
GPC Cleanup: No
Sulfur Cleanup: Yes
Acid Cleanup: Yes

Sample Amount: 1.30 g-as-rec
Final Extract Volume: 10 mL
Dilution Factor: 100
Silica Gel: Yes

Percent Moisture: NA

CAS Number	Analyte	MDL	RL	Result
12674-11-2	Aroclor 1016	2,100	15,000	< 15,000 U
53469-21-9	Aroclor 1242	3,700	15,000	< 15,000 U
12672-29-6	Aroclor 1248	3,700	15,000	< 15,000 U
11097-69-1	Aroclor 1254	3,700	15,000	< 15,000 U
11096-82-5	**Aroclor 1260**	**3,700**	**15,000**	**46,000**
11104-28-2	Aroclor 1221	3,700	15,000	< 15,000 U
11141-16-5	Aroclor 1232	3,700	20,000	< 20,000 Y

Reported in µg/kg (ppb)

PCB Surrogate Recovery

Decachlorobiphenyl	D
Tetrachlorometaxylene	D

FORM I

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PCB by GC/ECD Method SW8082
Page 1 of 1

Sample ID: DAS-CA01-P2
SAMPLE

Lab Sample ID: SR92I
LIMS ID: 11-8228
Matrix: Paint
Data Release Authorized:
Reported: 05/05/11

QC Report No: SR92-SAIC
Project: LDW Building Materials
196257
Date Sampled: 04/13/11
Date Received: 04/14/11

Date Extracted: 04/21/11
Date Analyzed: 04/26/11 13:47
Instrument/Analyst: ECD5/AAR
GPC Cleanup: No
Sulfur Cleanup: Yes
Acid Cleanup: Yes

Sample Amount: 1.31 g-as-rec
Final Extract Volume: 10 mL
Dilution Factor: 5.00
Silica Gel: Yes

Percent Moisture: NA

CAS Number	Analyte	MDL	RL	Result
12674-11-2	Aroclor 1016	100	760	< 760 U
53469-21-9	Aroclor 1242	180	760	< 760 U
12672-29-6	Aroclor 1248	180	760	< 760 U
11097-69-1	Aroclor 1254	180	760	< 760 U
11096-82-5	Aroclor 1260	180	760	< 760 U
11104-28-2	Aroclor 1221	180	760	< 760 U
11141-16-5	Aroclor 1232	180	760	< 760 U

Reported in µg/kg (ppb)

PCB Surrogate Recovery

Decachlorobiphenyl	95.8%
Tetrachlorometaxylene	84.9%

FORM I

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PCB by GC/ECD Method SW8082

Sample ID: DAS-CA01-P3
SAMPLE

Lab Sample ID: SR92J
LIMS ID: 11-8229
Matrix: Paint
Data Release Authorized:
Reported: 05/05/11

QC Report No: SR92-SAIC
Project: LDW Building Materials
196257
Date Sampled: 04/13/11
Date Received: 04/14/11

Date Extracted: 04/21/11
Date Analyzed: 04/26/11 14:07
Instrument/Analyst: ECD5/AAR
GPC Cleanup: No
Sulfur Cleanup: Yes
Acid Cleanup: Yes

Sample Amount: 1.32 g-as-rec
Final Extract Volume: 10 mL
Dilution Factor: 5.00
Silica Gel: Yes

Percent Moisture: NA

CAS Number	Analyte	MDL	RL	Result
12674-11-2	Aroclor 1016	100	760	< 760 U
53469-21-9	Aroclor 1242	180	760	< 760 U
12672-29-6	Aroclor 1248	180	760	< 760 U
11097-69-1	Aroclor 1254	180	760	< 760 U
11096-82-5	Aroclor 1260	180	760	< 760 U
11104-28-2	Aroclor 1221	180	760	< 760 U
11141-16-5	Aroclor 1232	180	760	< 760 U

Reported in µg/kg (ppb)

PCB Surrogate Recovery

Decachlorobiphenyl	94.2%
Tetrachlorometaxylene	91.0%

FORM I

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PCB by GC/ECD Method SW8082

Sample ID: DAS-CA17-C1
SAMPLE

Lab Sample ID: SR92M
LIMS ID: 11-8232
Matrix: Caulk
Data Release Authorized:
Reported: 05/05/11

QC Report No: SR92-SAIC
Project: LDW Building Materials
196257
Date Sampled: 04/13/11
Date Received: 04/14/11

Date Extracted: 04/21/11
Date Analyzed: 04/26/11 14:27
Instrument/Analyst: ECD5/AAR
GPC Cleanup: No
Sulfur Cleanup: Yes
Acid Cleanup: Yes

Sample Amount: 1.34 g-as-rec
Final Extract Volume: 10 mL
Dilution Factor: 10.0
Silica Gel: Yes

Percent Moisture: NA

CAS Number	Analyte	MDL	RL	Result
12674-11-2	Aroclor 1016	200	1,500	< 1,500 U
53469-21-9	Aroclor 1242	360	1,500	< 1,500 U
12672-29-6	Aroclor 1248	360	1,500	< 1,500 U
11097-69-1	**Aroclor 1254**	**360**	**1,500**	**3,000**
11096-82-5	Aroclor 1260	360	1,500	< 1,500 U
11104-28-2	Aroclor 1221	360	1,500	< 1,500 U
11141-16-5	Aroclor 1232	360	1,500	< 1,500 U

Reported in µg/kg (ppb)

PCB Surrogate Recovery

Decachlorobiphenyl	142%
Tetrachlorometaxylene	140%

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PCB by GC/ECD Method SW8082
Page 1 of 1

Sample ID: DAS-CA01-C1
SAMPLE

Lab Sample ID: SR92N
LIMS ID: 11-8233
Matrix: Caulk
Data Release Authorized:
Reported: 05/05/11

QC Report No: SR92-SAIC
Project: LDW Building Materials
196257
Date Sampled: 04/13/11
Date Received: 04/14/11

Date Extracted: 04/21/11
Date Analyzed: 04/26/11 14:47
Instrument/Analyst: ECD5/AAR
GPC Cleanup: No
Sulfur Cleanup: Yes
Acid Cleanup: Yes

Sample Amount: 1.36 g-as-rec
Final Extract Volume: 10 mL
Dilution Factor: 5.00
Silica Gel: Yes

Percent Moisture: NA

CAS Number	Analyte	MDL	RL	Result
12674-11-2	Aroclor 1016	100	740	< 740 U
53469-21-9	Aroclor 1242	180	740	< 740 U
12672-29-6	Aroclor 1248	180	740	< 740 U
11097-69-1	Aroclor 1254	180	740	< 740 U
11096-82-5	Aroclor 1260	180	740	< 740 U
11104-28-2	Aroclor 1221	180	740	< 740 U
11141-16-5	Aroclor 1232	180	740	< 740 U

Reported in µg/kg (ppb)

PCB Surrogate Recovery

Decachlorobiphenyl	99.9%
Tetrachlorometaxylene	92.0%

FORM I

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PCB by GC/ECD Method SW8082

Sample ID: DAS-CA10-C1
SAMPLE

Lab Sample ID: SR92O
LIMS ID: 11-8234
Matrix: Caulk
Data Release Authorized:
Reported: 05/05/11

QC Report No: SR92-SAIC
Project: LDW Building Materials
196257
Date Sampled: 04/13/11
Date Received: 04/14/11

Date Extracted: 04/21/11
Date Analyzed: 04/26/11 15:07
Instrument/Analyst: ECD5/AAR
GPC Cleanup: No
Sulfur Cleanup: Yes
Acid Cleanup: Yes

Sample Amount: 1.36 g-as-rec
Final Extract Volume: 10 mL
Dilution Factor: 5.00
Silica Gel: Yes

Percent Moisture: NA

CAS Number	Analyte	MDL	RL	Result
12674-11-2	Aroclor 1016	100	740	< 740 U
53469-21-9	Aroclor 1242	180	740	< 740 U
12672-29-6	**Aroclor 1248**	**180**	**740**	**2,000**
11097-69-1	**Aroclor 1254**	**180**	**740**	**1,000**
11096-82-5	Aroclor 1260	180	740	< 740 U
11104-28-2	Aroclor 1221	180	740	< 740 U
11141-16-5	Aroclor 1232	180	740	< 740 U

Reported in µg/kg (ppb)

PCB Surrogate Recovery	
Decachlorobiphenyl	94.4%
Tetrachlorometaxylene	88.8%

FORM I

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PCB by GC/ECD Method SW8082
Page 1 of 1

Sample ID: DAS-CA10-C1-D
SAMPLE

Lab Sample ID: SR92P
LIMS ID: 11-8235
Matrix: Caulk
Data Release Authorized:
Reported: 05/05/11

QC Report No: SR92-SAIC
Project: LDW Building Materials
196257
Date Sampled: 04/13/11
Date Received: 04/14/11

Date Extracted: 04/21/11
Date Analyzed: 04/26/11 15:27
Instrument/Analyst: ECD5/AAR
GPC Cleanup: No
Sulfur Cleanup: Yes
Acid Cleanup: Yes

Sample Amount: 1.32 g-as-rec
Final Extract Volume: 10 mL
Dilution Factor: 5.00
Silica Gel: Yes

Percent Moisture: NA

CAS Number	Analyte	MDL	RL	Result
12674-11-2	Aroclor 1016	100	760	< 760 U
53469-21-9	Aroclor 1242	180	760	< 760 U
12672-29-6	**Aroclor 1248**	**180**	**760**	**2,400**
11097-69-1	**Aroclor 1254**	**180**	**760**	**1,000**
11096-82-5	Aroclor 1260	180	760	< 760 U
11104-28-2	Aroclor 1221	180	760	< 760 U
11141-16-5	Aroclor 1232	180	760	< 760 U

Reported in µg/kg (ppb)

PCB Surrogate Recovery

Decachlorobiphenyl	98.1%
Tetrachlorometaxylene	96.6%

ORGANICS ANALYSIS DATA SHEET
PCB by GC/ECD Method SW8082
Page 1 of 1

Sample ID: DAS-CA10-C2
SAMPLE

Lab Sample ID: SR92Q
LIMS ID: 11-8236
Matrix: Caulk
Data Release Authorized:
Reported: 05/05/11

QC Report No: SR92-SAIC
Project: LDW Building Materials
196257
Date Sampled: 04/13/11
Date Received: 04/14/11

Date Extracted: 04/21/11
Date Analyzed: 04/26/11 15:47
Instrument/Analyst: ECD5/AAR
GPC Cleanup: No
Sulfur Cleanup: Yes
Acid Cleanup: Yes

Sample Amount: 1.32 g-as-rec
Final Extract Volume: 10 mL
Dilution Factor: 5.00
Silica Gel: Yes

Percent Moisture: NA

CAS Number	Analyte	MDL	RL	Result
12674-11-2	Aroclor 1016	100	760	< 760 U
53469-21-9	Aroclor 1242	180	1,700	< 1,700 Y
12672-29-6	Aroclor 1248	180	760	< 760 U
11097-69-1	Aroclor 1254	180	760	< 760 U
11096-82-5	Aroclor 1260	180	760	< 760 U
11104-28-2	Aroclor 1221	180	760	< 760 U
11141-16-5	Aroclor 1232	180	760	< 760 U

Reported in µg/kg (ppb)

PCB Surrogate Recovery

Decachlorobiphenyl	76.6%
Tetrachlorometaxylene	75.0%

FORM I

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PCB by GC/ECD Method SW8082
Page 1 of 1

Sample ID: DAS-CA10-C3
SAMPLE

Lab Sample ID: SR92R
LIMS ID: 11-8237
Matrix: Caulk
Data Release Authorized:
Reported: 05/05/11

QC Report No: SR92-SAIC
Project: LDW Building Materials
196257
Date Sampled: 04/13/11
Date Received: 04/14/11

Date Extracted: 04/21/11
Date Analyzed: 04/26/11 16:07
Instrument/Analyst: ECD5/AAR
GPC Cleanup: No
Sulfur Cleanup: Yes
Acid Cleanup: Yes

Sample Amount: 1.33 g-as-rec
Final Extract Volume: 10 mL
Dilution Factor: 5.00
Silica Gel: Yes

Percent Moisture: NA

CAS Number	Analyte	MDL	RL	Result
12674-11-2	Aroclor 1016	100	750	< 750 U
53469-21-9	Aroclor 1242	180	750	< 750 U
12672-29-6	Aroclor 1248	180	750	< 750 U
11097-69-1	Aroclor 1254	180	750	< 750 U
11096-82-5	Aroclor 1260	180	750	< 750 U
11104-28-2	Aroclor 1221	180	750	< 750 U
11141-16-5	Aroclor 1232	180	750	< 750 U

Reported in µg/kg (ppb)

PCB Surrogate Recovery

Decachlorobiphenyl	97.4%
Tetrachlorometaxylene	88.2%

ANALYTICAL RESOURCES INCORPORATED

SW8082/PCB SOIL/SEDIMENT SURROGATE RECOVERY SUMMARY

Matrix: Paint

QC Report No: SR92-SAIC
Project: LDW Building Materials
196257

Client ID	DCBP % REC	DCBP LCL-UCL	TCMX % REC	TCMX LCL-UCL	TOT OUT
MB-042111	108%	51-127	91.5%	49-110	0
LCS-042111	101%	51-127	91.4%	49-110	0
DAS-CA11-P1	91.4%	22-168	88.8%	28-106	0
DAS-CA01-P1	89.5%	22-168	87.5%	28-106	0
DAS-CA07-P1	100%	22-168	93.5%	28-106	0
DAS-CA06-P1	81.1%	22-168	79.1%	28-106	0
DAS-CA11-P2	93.6%	22-168	90.4%	28-106	0
DAS-CA11-P3	D	22-168	D	28-106	0
DAS-CA01-P2	95.8%	22-168	84.9%	28-106	0
DAS-CA01-P3	94.2%	22-168	91.0%	28-106	0
DAS-CA17-C1	142%	22-168	140%*	28-106	1
DAS-CA01-C1	99.9%	22-168	92.0%	28-106	0
DAS-CA10-C1	94.4%	22-168	88.8%	28-106	0
DAS-CA10-C1-D	98.1%	22-168	96.6%	28-106	0
DAS-CA10-C2	76.6%	22-168	75.0%	28-106	0
DAS-CA10-C3	97.4%	22-168	88.2%	28-106	0

Medium Level Control Limits
Prep Method: SW3580A
Log Number Range: 11-8220 to 11-8237

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PCB by GC/ECD Method SW8082

Sample ID: LCS-042111
LAB CONTROL

Lab Sample ID: LCS-042111
LIMS ID: 11-8220
Matrix: Paint
Data Release Authorized:
Reported: 05/05/11

QC Report No: SR92-SAIC
Project: LDW Building Materials
196257
Date Sampled: NA
Date Received: NA

Date Extracted: 04/21/11
Date Analyzed: 04/26/11 10:27
Instrument/Analyst: ECD5/AAR
GPC Cleanup: No
Sulfur Cleanup: Yes
Acid Cleanup: Yes
Florisil Cleanup: No

Sample Amount: 1.25 g-as-rec
Final Extract Volume: 10 mL
Dilution Factor: 5.00
Silica Gel: Yes

Percent Moisture: NA

Analyte	**Lab Control**	**Spike Added**	**Recovery**
Aroclor 1016	3650	4000	91.2%
Aroclor 1260	3370	4000	84.2%

PCB Surrogate Recovery

Decachlorobiphenyl	101%
Tetrachlorometaxylene	91.4%

Results reported in µg/kg (ppb)

PCB METHOD BLANK SUMMARY

BLANK NO.

SR92MBS1

Lab Name: ANALYTICAL RESOURCES, INC   Client:

ARI Job No.: SR92   Project:

Lab Sample ID: SR92MBS1   Lab File ID: 0425B055

Date Extracted: 08/18/03   Matrix: SOIL

Date Analyzed: 04/26/11   Instrument ID: ECD5

Time Analyzed: 1007   GC Columns: ZB5/ZB35

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

	CLIENT SAMPLE NO.	LAB SAMPLE ID	DATE ANALYZED
01	SR92LCSS1	SR92LCSS1	04/26/11
02	SR92LCSDS1	SR92LCSDS1	04/26/11
03	DAS-CA11-P1	SR92A	04/26/11
04	DAS-CA01-P1	SR92B	04/26/11
05	DAS-CA07-P1	SR92E	04/26/11
06	DAS-CA06-P1	SR92F	04/26/11
07	DAS-CA11-P2	SR92G	04/26/11
08	DAS-CA11-P3	SR92H	04/26/11
09	DAS-CA01-P2	SR92I	04/26/11
10	DAS-CA01-P3	SR92J	04/26/11
11	DAS-CA17-C1	SR92M	04/26/11
12	DAS-CA01-C1	SR92N	04/26/11
13	DAS-CA10-C1	SR92O	04/26/11
14	DAS-CA10-C1-D	SR92P	04/26/11
15	DAS-CA10-C2	SR92Q	04/26/11
16	DAS-CA10-C3	SR92R	04/26/11

ALL RUNS ARE DUAL COLUMN

FORM IV PCB

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PCB by GC/ECD Method SW8082

Sample ID: MB-042111
METHOD BLANK

Lab Sample ID: MB-042111
LIMS ID: 11-8220
Matrix: Paint
Data Release Authorized:
Reported: 05/05/11

QC Report No: SR92-SAIC
Project: LDW Building Materials
196257
Date Sampled: NA
Date Received: NA

Date Extracted: 04/21/11
Date Analyzed: 04/26/11 10:07
Instrument/Analyst: ECD5/AAR
GPC Cleanup: No
Sulfur Cleanup: Yes
Acid Cleanup: Yes

Sample Amount: 1.25 g
Final Extract Volume: 10 mL
Dilution Factor: 5.00
Silica Gel: Yes

Percent Moisture: NA

CAS Number	Analyte	MDL	RL	Result
12674-11-2	Aroclor 1016	110	800	< 800 U
53469-21-9	Aroclor 1242	190	800	< 800 U
12672-29-6	Aroclor 1248	190	800	< 800 U
11097-69-1	Aroclor 1254	190	800	< 800 U
11096-82-5	Aroclor 1260	190	800	< 800 U
11104-28-2	Aroclor 1221	190	800	< 800 U
11141-16-5	Aroclor 1232	190	800	< 800 U

Reported in µg/kg (ppb)

PCB Surrogate Recovery

Decachlorobiphenyl	108%
Tetrachlorometaxylene	91.5%

FORM I

Metals Analysis
Report and Summary QC Forms

ARI Job ID: SR92

Cover Page

INORGANIC ANALYSIS DATA PACKAGE

ANALYTICAL RESOURCES INCORPORATED

CLIENT: SAIC

PROJECT: LDW Building Materia

SDG: SR92

CLIENT ID	ARI ID	ARI LIMS ID	REPREP
DAS-CA11-P1	SR92A	11-8220	
PBW	SR92MB1	11-8220	
LCSS	SR92MB1SPK	11-8220	
DAS-CA01-P1	SR92B	11-8221	
DAS-CA07-P1	SR92E	11-8224	
DAS-CA06-P1	SR92F	11-8225	

Were ICP interelement corrections applied ?	Yes/No	YES
Were ICP background corrections applied ?	Yes/No	YES
If yes - were raw data generated before application of background corrections ?	Yes/No	NO

Comments:

THIS DATA PACKAGE HAS BEEN REVIEWED AND AUTHORIZED FOR RELEASE BY:

Signature: Jay Kuhn Name: Jay Kuhn

Date: 4/26/11 Title: Inorganics Director

ANALYTICAL RESOURCES INCORPORATED

INORGANICS ANALYSIS DATA SHEET
TOTAL METALS

Sample ID: DAS-CA11-P1
SAMPLE

Lab Sample ID: SR92A
LIMS ID: 11-8220
Matrix: Paint
Data Release Authorized:
Reported: 04/26/11

QC Report No: SR92-SAIC
Project: LDW Building Materials
196257
Date Sampled: 04/13/11
Date Received: 04/14/11

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	MDL	RL	Result	Q
3050B	04/22/11	6010B	04/25/11	7440-38-2	Arsenic	2.2	20	20	U
3050B	04/22/11	6010B	04/25/11	**7440-43-9**	**Cadmium**	0.54	1	**2**	
3050B	04/22/11	6010B	04/25/11	**7440-47-3**	**Chromium**	1.3	2	**257**	
3050B	04/22/11	6010B	04/25/11	**7440-50-8**	**Copper**	0.24	1	**218**	
3050B	04/22/11	6010B	04/25/11	**7439-92-1**	**Lead**	0.63	10	**11,800**	
CLP	04/22/11	7471A	04/22/11	**7439-97-6**	**Mercury**	0.050	1	**50**	
3050B	04/22/11	6010B	04/25/11	7440-22-4	Silver	0.15	1	1	U
3050B	04/22/11	6010B	04/25/11	**7440-66-6**	**Zinc**	0.58	5	**6,900**	

Reported in mg/kg-as-rec (ppm).
U-Analyte undetected at given RL
RL-Reporting Limit

ANALYTICAL RESOURCES INCORPORATED

INORGANICS ANALYSIS DATA SHEET
TOTAL METALS
Page 1 of 1

Sample ID: DAS-CA01-P1
SAMPLE

Lab Sample ID: SR92B
LIMS ID: 11-8221
Matrix: Paint
Data Release Authorized: ML
Reported: 04/26/11

QC Report No: SR92-SAIC
Project: LDW Building Materials
196257
Date Sampled: 04/13/11
Date Received: 04/14/11

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	MDL	RL	Result	Q
3050B	04/22/11	6010B	04/25/11	7440-38-2	Arsenic	0.45	5	5	U
3050B	04/22/11	6010B	04/25/11	**7440-43-9**	**Cadmium**	0.11	0.2	**1.2**	
3050B	04/22/11	6010B	04/25/11	**7440-47-3**	**Chromium**	0.26	0.5	**11.6**	
3050B	04/22/11	6010B	04/25/11	**7440-50-8**	**Copper**	0.049	0.2	**14.2**	
3050B	04/22/11	6010B	04/25/11	**7439-92-1**	**Lead**	0.13	2	**54**	
CLP	04/22/11	7471A	04/22/11	**7439-97-6**	**Mercury**	0.020	0.4	**26.1**	
3050B	04/22/11	6010B	04/25/11	**7440-22-4**	**Silver**	0.029	0.3	**1.1**	
3050B	04/22/11	6010B	04/25/11	**7440-66-6**	**Zinc**	0.12	1	**5,310**	

Reported in mg/kg-as-rec (ppm).
U-Analyte undetected at given RL
RL-Reporting Limit

ANALYTICAL RESOURCES INCORPORATED

INORGANICS ANALYSIS DATA SHEET
TOTAL METALS

Sample ID: DAS-CA07-P1
SAMPLE

Lab Sample ID: SR92E
LIMS ID: 11-8224
Matrix: Paint
Data Release Authorized:
Reported: 04/26/11

QC Report No: SR92-SAIC
Project: LDW Building Materials
196257
Date Sampled: 04/13/11
Date Received: 04/14/11

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	MDL	RL	Result	Q
3050B	04/22/11	6010B	04/25/11	**7440-38-2**	**Arsenic**	0.42	5	**9**	
3050B	04/22/11	6010B	04/25/11	**7440-43-9**	**Cadmium**	0.10	0.2	**1.2**	
3050B	04/22/11	6010B	04/25/11	**7440-47-3**	**Chromium**	0.25	0.5	**45.0**	
3050B	04/22/11	6010B	04/25/11	**7440-50-8**	**Copper**	0.046	0.2	**19.2**	
3050B	04/22/11	6010B	04/25/11	**7439-92-1**	**Lead**	0.12	2	**1,300**	
CLP	04/22/11	7471A	04/22/11	**7439-97-6**	**Mercury**	0.0088	0.2	**5.6**	
3050B	04/22/11	6010B	04/25/11	**7440-22-4**	**Silver**	0.028	0.3	**0.7**	
3050B	04/22/11	6010B	04/25/11	**7440-66-6**	**Zinc**	0.11	0.9	**7,000**	

Reported in mg/kg-as-rec (ppm).
U-Analyte undetected at given RL
RL-Reporting Limit

ANALYTICAL RESOURCES INCORPORATED

INORGANICS ANALYSIS DATA SHEET
TOTAL METALS
Page 1 of 1

Sample ID: DAS-CA06-P1
SAMPLE

Lab Sample ID: SR92F
LIMS ID: 11-8225
Matrix: Paint
Data Release Authorized:
Reported: 04/26/11

QC Report No: SR92-SAIC
Project: LDW Building Materials
196257
Date Sampled: 04/13/11
Date Received: 04/14/11

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	MDL	RL	Result	Q
3050B	04/22/11	6010B	04/25/11	7440-38-2	Arsenic	0.45	5	5	U
3050B	04/22/11	6010B	04/25/11	**7440-43-9**	**Cadmium**	0.11	0.2	**5.3**	
3050B	04/22/11	6010B	04/25/11	**7440-47-3**	**Chromium**	0.27	0.5	**21.3**	
3050B	04/22/11	6010B	04/25/11	**7440-50-8**	**Copper**	0.049	0.2	**34.8**	
3050B	04/22/11	6010B	04/25/11	**7439-92-1**	**Lead**	0.13	2	**219**	
CLP	04/22/11	7471A	04/22/11	**7439-97-6**	**Mercury**	0.0095	0.2	**9.7**	
3050B	04/22/11	6010B	04/25/11	7440-22-4	Silver	0.030	0.3	0.3	U
3050B	04/22/11	6010B	04/25/11	**7440-66-6**	**Zinc**	0.12	1	**387**	

Reported in mg/kg-as-rec (ppm).
U-Analyte undetected at given RL
RL-Reporting Limit

ANALYTICAL RESOURCES INCORPORATED

INORGANICS ANALYSIS DATA SHEET
TOTAL METALS
Page 1 of 1

Sample ID: LAB CONTROL

Lab Sample ID: SR92LCS
LIMS ID: 11-8220
Matrix: Paint
Data Release Authorized:
Reported: 04/26/11

QC Report No: SR92-SAIC
Project: LDW Building Materials
196257
Date Sampled: NA
Date Received: NA

BLANK SPIKE QUALITY CONTROL REPORT

Analyte	Analysis Method	Spike Found	Spike Added	% Recovery	Q
Arsenic	6010B	206	200	103%	
Cadmium	6010B	50.1	50.0	100%	
Chromium	6010B	49.4	50.0	98.8%	
Copper	6010B	48.6	50.0	97.2%	
Lead	6010B	200	200	100%	
Mercury	7471A	0.51	0.50	102%	
Silver	6010B	50.8	50.0	102%	
Zinc	6010B	52	50	104%	

Reported in mg/kg-wet

N-Control limit not met
NA-Not Applicable, Analyte Not Spiked
Control Limits: 80-120%

ANALYTICAL RESOURCES INCORPORATED

INORGANICS ANALYSIS DATA SHEET
TOTAL METALS
Page 1 of 1

Sample ID: METHOD BLANK

Lab Sample ID: SR92MB
LIMS ID: 11-8220
Matrix: Paint
Data Release Authorized:
Reported: 04/26/11

QC Report No: SR92-SAIC
Project: LDW Building Materials
196257
Date Sampled: NA
Date Received: NA

Percent Total Solids: NA

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	MDL	RL	Result	Q
3050B	04/22/11	6010B	04/25/11	7440-38-2	Arsenic	0.46	5	5	U
3050B	04/22/11	6010B	04/25/11	7440-43-9	Cadmium	0.11	0.2	0.2	U
3050B	04/22/11	6010B	04/25/11	7440-47-3	Chromium	0.27	0.5	0.5	U
3050B	04/22/11	6010B	04/25/11	7440-50-8	Copper	0.050	0.2	0.2	U
3050B	04/22/11	6010B	04/25/11	7439-92-1	Lead	0.13	2	2	U
CLP	04/22/11	7471A	04/22/11	7439-97-6	Mercury	0.0013	0.02	0.02	U
3050B	04/22/11	6010B	04/25/11	7440-22-4	Silver	0.030	0.3	0.3	U
3050B	04/22/11	6010B	04/25/11	7440-66-6	Zinc	0.12	1	1	U

Reported in mg/kg (ppm).
U-Analyte undetected at given RL
RL-Reporting Limit

FORM-I

Analytical Resources, Incorporated
Analytical Chemists and Consultants

May 4, 2011

Marina Mitchell
SAIC
18912 North Creek Parkway, Suite 101
Bothell, WA 98011

RE: 196257 LDW Building Materials
ARI Job No: ST36

Dear Marina:

Please find enclosed the Chain-of-Custody (COC) records, sample receipt documentation, and the final data package for samples from the project referenced above.

Sample receipt and details of the analyses are discussed in the Case Narrative.

An electronic copy of this data and associated raw data will be kept on file with ARI. Should you have any questions or problems, please feel free to contact me at any time.

Sincerely,

ANALYTICAL RESOURCES, INC.

Cheronne Oreiro
Project Manager
206-695-6214
cheronneo@arilabs.com

Enclosures

cc: eFile ST36

4611 South 134th Place, Suite 100 • Tukwila WA 98168 • **206-695-6200** • **206-695-6201** fax

Case Narrative, Data Qualifiers, Control Limits

ARI Job ID: ST36

ANALYTICAL
RESOURCES
INCORPORATED

Case Narrative

Client: SAIC
Project: 196257 LDW Building Materials
ARI Job No.: ST36

Sample Receipt

Select samples from ARI jobs SR40, SR89, SR92, SS37, and SS39 were logged under ARI job ST36. The samples were composited as requested, per email instructions. For details regarding sample receipt, please refer to the Cooler Receipt Forms.

Aroclor PCBs by SW8082

The samples were extracted and analyzed within recommended holding times. Due to limited sample volume, the routine medium level extraction procedure was modified to use a 1.25 g sample taken to a 10 mL final volume, from the routine of a 5 g sample to 40 mL final volume.

Initial and continuing calibrations were within method requirements. Internal standard areas were within limits.

The surrogate percent recoveries were within control limits.

The method blank was clean at the reporting limit. The LCS and LCSD percent recoveries were within control limits.

The undetected result for Aroclor 1260 for sample **DAS-CA03-P1** was raised and "Y"-flagged due to interference in the matrix. Several samples were reported at dilutions due to interference from the matrix. Instrument maintenance and re-calibration were required after samples were analyzed.

Total Metals and Mercury

The samples were digested and analyzed within method recommended holding times, using internal standards.

The method blanks were clean at the reporting limits. The LCS percent recoveries were within control limits.

Sample ID Cross Reference Report

ANALYTICAL RESOURCES INCORPORATED

ARI Job No: ST36
Client: SAIC
Project Event: 19657
Project Name: LDW Building Materials

	Sample ID	ARI Lab ID	ARI LIMS ID	Matrix	Sample Date/Time	VTSR
1.	DAS-CA02-P2	ST36A	11-9074	Paint	04/12/11 15:40	04/13/11 14:29
2.	DAS-CA03-P1	ST36B	11-9075	Paint	04/12/11 10:45	04/13/11 14:29
3.	DAS-CA03-P2	ST36C	11-9076	Paint	04/12/11 10:50	04/13/11 14:29
4.	DAS-CA03-P3	ST36D	11-9077	Paint	04/12/11 10:55	04/13/11 14:29
5.	DAS-CA08-P1	ST36E	11-9078	Paint	04/14/11 09:00	04/21/11 14:29
6.	DAS-CA10-P1	ST36F	11-9079	Paint	04/13/11 17:10	04/21/11 14:29
7.	DAS-CA10-P1D	ST36G	11-9080	Paint	04/13/11 08:00	04/21/11 14:29
8.	DAS-CA10-P2	ST36H	11-9081	Paint	04/13/11 17:20	04/21/11 14:29
9.	DAS-CA10-P3	ST36I	11-9082	Paint	04/13/11 17:15	04/21/11 14:29
10.	DAS-CA16-P2	ST36J	11-9083	Paint	04/14/11 17:31	04/21/11 14:29

Printed 04/22/11

Analytical Resources, Incorporated
Analytical Chemists and Consultants

Data Reporting Qualifiers

Effective 2/14/2011

Inorganic Data

U	Indicates that the target analyte was not detected at the reported concentration
*	Duplicate RPD is not within established control limits
B	Reported value is less than the CRDL but ≥ the Reporting Limit
N	Matrix Spike recovery not within established control limits
NA	Not Applicable, analyte not spiked
H	The natural concentration of the spiked element is so much greater than the concentration spiked that an accurate determination of spike recovery is not possible
L	Analyte concentration is ≤5 times the Reporting Limit and the replicate control limit defaults to ±1 RL instead of the normal 20% RPD

Organic Data

U	Indicates that the target analyte was not detected at the reported concentration
*	Flagged value is not within established control limits
B	Analyte detected in an associated Method Blank at a concentration greater than one-half of ARI's Reporting Limit or 5% of the regulatory limit or 5% of the analyte concentration in the sample.
J	Estimated concentration when the value is less than ARI's established reporting limits
D	The spiked compound was not detected due to sample extract dilution
E	Estimated concentration calculated for an analyte response above the valid instrument calibration range. A dilution is required to obtain an accurate quantification of the analyte.
Q	Indicates a detected analyte with an initial or continuing calibration that does not meet established acceptance criteria (<20%RSD, <20%Drift or minimum RRF).

S	Indicates an analyte response that has saturated the detector. The calculated concentration is not valid; a dilution is required to obtain valid quantification of the analyte
NA	The flagged analyte was not analyzed for
NR	Spiked compound recovery is not reported due to chromatographic interference
NS	The flagged analyte was not spiked into the sample
M	Estimated value for an analyte detected and confirmed by an analyst but with low spectral match parameters. This flag is used only for GC-MS analyses
M2	The sample contains PCB congeners that do not match any standard Aroclor pattern. The PCBs are identified and quantified as the Aroclor whose pattern most closely matches that of the sample. The reported value is an estimate.
N	The analysis indicates the presence of an analyte for which there is presumptive evidence to make a "tentative identification"
Y	The analyte is not detected at or above the reported concentration. The reporting limit is raised due to chromatographic interference. The Y flag is equivalent to the U flag with a raised reporting limit.
EMPC	Estimated Maximum Possible Concentration (EMPC) defined in EPA Statement of Work DLM02.2 as a value "calculated for 2,3,7,8-substituted isomers for which the quantitation and /or confirmation ion(s) has signal to noise in excess of 2.5, but does not meet identification criteria" **(Dioxin/Furan analysis only)**
C	The analyte was positively identified on only one of two chromatographic columns. Chromatographic interference prevented a positive identification on the second column
P	The analyte was detected on both chromatographic columns but the quantified values differ by ≥40% RPD with no obvious chromatographic interference
X	Analyte signal includes interference from polychlorinated diphenyl ethers. **(Dioxin/Furan analysis only)**
Z	Analyte signal includes interference from the sample matrix or perfluorokerosene ions. **(Dioxin/Furan analysis only)**

Geotechnical Data

A	The total of all fines fractions. This flag is used to report total fines when only sieve analysis is requested and balances total grain size with sample weight.

F	Samples were frozen prior to particle size determination

SM	Sample matrix was not appropriate for the requested analysis. This normally refers to samples contaminated with an organic product that interferes with the sieving process and/or moisture content, porosity and saturation calculations

SS	Sample did not contain the proportion of "fines" required to perform the pipette portion of the grain size analysis

W	Weight of sample in some pipette aliquots was below the level required for accurate weighting

Analytical Resources, Incorporated
Analytical Chemists and Consultants

Quality Control Criteria for Analysis of Solid Matrix Samples for Aroclors (Polychlorinated Biphenyls – PCB) EPA Method 8082B

Analysis Code	Target RL	Extraction	LOQ[1]	Analyte	LOD[2]	Spike Recovery Control Limits[5]			RPD[4]
						LCS	MB/LCS Surrogate	Sample Surrogate	
PCBSMI	33 µg/L	12g to 4 mL	33 µg/L	Aroclor 1016	9.83	48 – 106	--	--	±30%
				Aroclor 1260	7.06	50 – 121	--	--	
				TCMX	--	--	46 – 111	50 – 114	
				DCBP	--	--	51 – 112	42 – 127	
PCBSMP	20 µg/L	25 g to 5 mL[7]	20 µg/L	Aroclor 1016	9.33	52 – 101	--	--	±30%
				Aroclor 1260	10.82	52 – 126	--	--	
				TCMX	--	--	47 – 110	46 – 113	
				DCBP	--	--	48 – 119	40 – 130	
PCBSMM	10 µg/L	25 g to 5 mL[7]	10 µg/L	Aroclor 1016	0.759	53 – **100**	--	--	±30%
				Aroclor 1260	1.066	58 – 112	--	--	
				TCMX	--	--	43 – 108	35 – 119	
				DCBP	--	--	48 – 118	33 – 143	
PCBSMM	4 µg/L	25 g to 5 mL[7]	4 µg/L	Aroclor 1016	0.577	37 – 106	--	--	±30%
				Aroclor 1260	0.610	50 – 116	--	--	
				TCMX	--	--	35 – 100	38 – 102	
				DCBP	--	--	40 – 109	34 – 141	
PCBSVX	800 µg/kg	5 g to 40 mL	800 µg/kg	Aroclor 1016	63.3	59 – 108	--	--	±30%
				Aroclor 1260	123	43 – 177	--	--	
				TCMX	--	--	49 – 110	28 – 106	
				DCBP	--	--	51 – 127	22 – 168	
PCBOVX	1 mg/L	2 g to 20 mL	1 mg/L	Aroclor 1016	(6)	30 – 160	--	--	±30%
				Aroclor 1260	(6)	30 – 160	--	--	
				TCMX	--	--	30 – 160	30 – 160	
				DCBP	--	--	30 – 160	30 – 160	
PCBIVX	1 µg/Wipe	10 mL	1 µg/Wipe	Aroclor 1016	(6)	30 – 160	--	--	±30%
				Aroclor 1260	(6)	30 – 160	--	--	
				TCMX	--	--	30 – 160	30 – 160	
				DCBP	--	--	30 – 160	30 – 160	

(1) Limit of Quantitation as defined in ARI SOP 1018S. The concentration
(2) Limit of Detection as defined in ARI SOP 1018S
(3) Highlighted control limits (**bold font**) are adjusted from the calculated values to reflect that ARI does not use control limits < 10 for the lower limit or < 100 for the upper limit.
(4) Acceptance criteria for the relative percent difference (RPD) between analytes in replicate analyzes. If C_O and C_D are the concentrations of the original and duplicate respectively then

$$RPD = \frac{|C_O - C_D|}{\frac{C_O + C_D}{2}} x100$$

(5) 30 – 160 are default limits used when there is insufficient data to calculate historic control limits
(6) LOD studies in process.
(7) LOQ determined by lowest concentration used to calibrate the instrument (GC-ECD).

ST36 : 00042

Analytical Resources,Incorporated
Analytical Chemists and Consultants

Summary of Laboratory Control Limits Metals Analyses
(All Methods & Sample Matrices)
Effective 5/1/09

Control limits are updated periodically. Assure that you have ARI's current control limits by downloading the files at the time of use. http://www.arilabs.com/portal/downloads/ARI-CLs.zip

Element	Matrix Spike Recovery	LCS Recovery	Replicate RPD
Aluminum	75 - 125	80 - 120	≤ 20%
Antimony	75 - 125	80 - 120	≤ 20%
Arsenic	75 - 125	80 - 120	≤ 20%
Barium	75 - 125	80 - 120	≤ 20%
Beryllium	75 - 125	80 - 120	≤ 20%
Boron	75 - 125	80 - 120	≤ 20%
Cadmium	75 - 125	80 - 120	≤ 20%
Calcium	75 - 125	80 - 120	≤ 20%
Chromium	75 - 125	80 - 120	≤ 20%
Cobalt	75 - 125	80 - 120	≤ 20%
Copper	75 - 125	80 - 120	≤ 20%
Iron	75 - 125	80 - 120	≤ 20%
Lead	75 - 125	80 - 120	≤ 20%
Magnesium	75 - 125	80 - 120	≤ 20%
Manganese	75 - 125	80 - 120	≤ 20%
Mercury	75 - 125	80 - 120	≤ 20%
Nickel	75 - 125	80 - 120	≤ 20%
Potassium	75 - 125	80 - 120	≤ 20%
Selenium	75 - 125	80 - 120	≤ 20%
Silica	75 - 125	80 - 120	≤ 20%
Silver	75 - 125	80 - 120	≤ 20%
Sodium	75 - 125	80 - 120	≤ 20%
Strontium	75 - 125	80 - 120	≤ 20%
Thallium	75 - 125	80 - 120	≤ 20%
Vanadium	75 - 125	80 - 120	≤ 20%
Zinc	75 - 125	80 - 120	≤ 20%

PCB Analysis
Report and Summary QC Forms

ARI Job ID: ST36

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PCB by GC/ECD Method SW8082

Sample ID: DAS-CA02-P2
SAMPLE

Lab Sample ID: ST36A
LIMS ID: 11-9074
Matrix: Paint
Data Release Authorized:
Reported: 05/04/11

QC Report No: ST36-SAIC
Project: LDW Building Materials
19657
Date Sampled: 04/12/11
Date Received: 04/13/11

Date Extracted: 04/25/11
Date Analyzed: 04/28/11 15:54
Instrument/Analyst: ECD7/YZ
GPC Cleanup: No
Sulfur Cleanup: Yes
Acid Cleanup: Yes

Sample Amount: 0.55 g-as-rec
Final Extract Volume: 10 mL
Dilution Factor: 5.00
Silica Gel: Yes

Percent Moisture: NA

CAS Number	Analyte	MDL	RL	Result
12674-11-2	Aroclor 1016	250	1,800	< 1,800 U
53469-21-9	Aroclor 1242	440	1,800	< 1,800 U
12672-29-6	Aroclor 1248	440	1,800	< 1,800 U
11097-69-1	Aroclor 1254	440	1,800	< 1,800 U
11096-82-5	Aroclor 1260	440	1,800	< 1,800 U
11104-28-2	Aroclor 1221	440	1,800	< 1,800 U
11141-16-5	Aroclor 1232	440	1,800	< 1,800 U

Reported in µg/kg (ppb)

PCB Surrogate Recovery

Decachlorobiphenyl	83.4%
Tetrachlorometaxylene	72.8%

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PCB by GC/ECD Method SW8082
Page 1 of 1

Sample ID: DAS-CA03-P1
SAMPLE

Lab Sample ID: ST36B
LIMS ID: 11-9075
Matrix: Paint
Data Release Authorized:
Reported: 05/04/11

QC Report No: ST36-SAIC
Project: LDW Building Materials
19657
Date Sampled: 04/12/11
Date Received: 04/13/11

Date Extracted: 04/25/11
Date Analyzed: 04/28/11 16:18
Instrument/Analyst: ECD7/YZ
GPC Cleanup: No
Sulfur Cleanup: Yes
Acid Cleanup: Yes

Sample Amount: 1.05 g-as-rec
Final Extract Volume: 10 mL
Dilution Factor: 5.00
Silica Gel: Yes

Percent Moisture: NA

CAS Number	Analyte	MDL	RL	Result
12674-11-2	Aroclor 1016	130	950	< 950 U
53469-21-9	Aroclor 1242	230	950	< 950 U
12672-29-6	Aroclor 1248	230	950	< 950 U
11097-69-1	Aroclor 1254	230	950	< 950 U
11096-82-5	Aroclor 1260	230	3,000	< 3,000 Y
11104-28-2	Aroclor 1221	230	950	< 950 U
11141-16-5	Aroclor 1232	230	950	< 950 U

Reported in µg/kg (ppb)

PCB Surrogate Recovery

Decachlorobiphenyl	71.4%
Tetrachlorometaxylene	62.4%

ORGANICS ANALYSIS DATA SHEET
PCB by GC/ECD Method SW8082
Page 1 of 1

ANALYTICAL RESOURCES INCORPORATED

Sample ID: DAS-CA03-P2
SAMPLE

Lab Sample ID: ST36C
LIMS ID: 11-9076
Matrix: Paint
Data Release Authorized:
Reported: 05/04/11

QC Report No: ST36-SAIC
Project: LDW Building Materials
19657
Date Sampled: 04/12/11
Date Received: 04/13/11

Date Extracted: 04/25/11
Date Analyzed: 04/28/11 16:42
Instrument/Analyst: ECD7/YZ
GPC Cleanup: No
Sulfur Cleanup: Yes
Acid Cleanup: Yes

Sample Amount: 1.12 g-as-rec
Final Extract Volume: 10 mL
Dilution Factor: 5.00
Silica Gel: Yes

Percent Moisture: NA

CAS Number	Analyte	MDL	RL	Result
12674-11-2	Aroclor 1016	120	890	< 890 U
53469-21-9	Aroclor 1242	210	890	< 890 U
12672-29-6	Aroclor 1248	210	890	< 890 U
11097-69-1	Aroclor 1254	210	890	< 890 U
11096-82-5	Aroclor 1260	210	890	< 890 U
11104-28-2	Aroclor 1221	210	890	< 890 U
11141-16-5	Aroclor 1232	210	890	< 890 U

Reported in µg/kg (ppb)

PCB Surrogate Recovery

Decachlorobiphenyl	77.9%
Tetrachlorometaxylene	72.8%

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PCB by GC/ECD Method SW8082

Sample ID: DAS-CA03-P3
SAMPLE

Lab Sample ID: ST36D
LIMS ID: 11-9077
Matrix: Paint
Data Release Authorized:
Reported: 05/04/11

QC Report No: ST36-SAIC
Project: LDW Building Materials
19657
Date Sampled: 04/12/11
Date Received: 04/13/11

Date Extracted: 04/25/11
Date Analyzed: 04/28/11 17:06
Instrument/Analyst: ECD7/YZ
GPC Cleanup: No
Sulfur Cleanup: Yes
Acid Cleanup: Yes

Sample Amount: 0.55 g-as-rec
Final Extract Volume: 10 mL
Dilution Factor: 5.00
Silica Gel: Yes

Percent Moisture: NA

CAS Number	Analyte	MDL	RL	Result
12674-11-2	Aroclor 1016	250	1,800	< 1,800 U
53469-21-9	Aroclor 1242	440	1,800	< 1,800 U
12672-29-6	Aroclor 1248	440	1,800	< 1,800 U
11097-69-1	Aroclor 1254	440	1,800	< 1,800 U
11096-82-5	Aroclor 1260	440	1,800	< 1,800 U
11104-28-2	Aroclor 1221	440	1,800	< 1,800 U
11141-16-5	Aroclor 1232	440	1,800	< 1,800 U

Reported in µg/kg (ppb)

PCB Surrogate Recovery

Decachlorobiphenyl	81.5%
Tetrachlorometaxylene	71.4%

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PCB by GC/ECD Method SW8082
Page 1 of 1

Sample ID: DAS-CA08-P1
SAMPLE

Lab Sample ID: ST36E
LIMS ID: 11-9078
Matrix: Paint
Data Release Authorized:
Reported: 05/04/11

QC Report No: ST36-SAIC
Project: LDW Building Materials
19657
Date Sampled: 04/14/11
Date Received: 04/21/11

Date Extracted: 04/25/11
Date Analyzed: 04/28/11 18:17
Instrument/Analyst: ECD7/YZ
GPC Cleanup: No
Sulfur Cleanup: Yes
Acid Cleanup: Yes

Sample Amount: 0.85 g-as-rec
Final Extract Volume: 10 mL
Dilution Factor: 5.00
Silica Gel: Yes

Percent Moisture: NA

CAS Number	Analyte	MDL	RL	Result
12674-11-2	Aroclor 1016	160	1,200	< 1,200 U
53469-21-9	Aroclor 1242	280	1,200	< 1,200 U
12672-29-6	Aroclor 1248	280	1,200	< 1,200 U
11097-69-1	Aroclor 1254	280	1,200	< 1,200 U
11096-82-5	Aroclor 1260	280	1,200	< 1,200 U
11104-28-2	Aroclor 1221	280	1,200	< 1,200 U
11141-16-5	Aroclor 1232	280	1,200	< 1,200 U

Reported in µg/kg (ppb)

PCB Surrogate Recovery

Decachlorobiphenyl	72.1%
Tetrachlorometaxylene	62.0%

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PCB by GC/ECD Method SW8082
Page 1 of 1

Sample ID: DAS-CA10-P1
SAMPLE

Lab Sample ID: ST36F
LIMS ID: 11-9079
Matrix: Paint
Data Release Authorized:
Reported: 05/04/11

QC Report No: ST36-SAIC
Project: LDW Building Materials
19657
Date Sampled: 04/13/11
Date Received: 04/21/11

Date Extracted: 04/25/11
Date Analyzed: 04/28/11 18:41
Instrument/Analyst: ECD7/YZ
GPC Cleanup: No
Sulfur Cleanup: Yes
Acid Cleanup: Yes

Sample Amount: 0.76 g-as-rec
Final Extract Volume: 10 mL
Dilution Factor: 5.00
Silica Gel: Yes

Percent Moisture: NA

CAS Number	Analyte	MDL	RL	Result
12674-11-2	Aroclor 1016	180	1,300	< 1,300 U
53469-21-9	Aroclor 1242	320	1,300	< 1,300 U
12672-29-6	Aroclor 1248	320	1,300	< 1,300 U
11097-69-1	**Aroclor 1254**	**320**	**1,300**	**2,600**
11096-82-5	Aroclor 1260	320	1,300	< 1,300 U
11104-28-2	Aroclor 1221	320	1,300	< 1,300 U
11141-16-5	Aroclor 1232	320	1,300	< 1,300 U

Reported in µg/kg (ppb)

PCB Surrogate Recovery

Decachlorobiphenyl	76.6%
Tetrachlorometaxylene	66.4%

FORM I

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PCB by GC/ECD Method SW8082
Page 1 of 1

Sample ID: DAS-CA10-P1D
SAMPLE

Lab Sample ID: ST36G
LIMS ID: 11-9080
Matrix: Paint
Data Release Authorized:
Reported: 05/04/11

QC Report No: ST36-SAIC
Project: LDW Building Materials
19657
Date Sampled: 04/13/11
Date Received: 04/21/11

Date Extracted: 04/25/11
Date Analyzed: 04/28/11 19:05
Instrument/Analyst: ECD7/YZ
GPC Cleanup: No
Sulfur Cleanup: Yes
Acid Cleanup: Yes

Sample Amount: 1.25 g-as-rec
Final Extract Volume: 10 mL
Dilution Factor: 5.00
Silica Gel: Yes

Percent Moisture: NA

CAS Number	Analyte	MDL	RL	Result
12674-11-2	Aroclor 1016	110	800	< 800 U
53469-21-9	Aroclor 1242	190	800	< 800 U
12672-29-6	Aroclor 1248	190	800	< 800 U
11097-69-1	**Aroclor 1254**	**190**	**800**	**1,900**
11096-82-5	Aroclor 1260	190	800	< 800 U
11104-28-2	Aroclor 1221	190	800	< 800 U
11141-16-5	Aroclor 1232	190	800	< 800 U

Reported in µg/kg (ppb)

PCB Surrogate Recovery

Decachlorobiphenyl	82.6%
Tetrachlorometaxylene	74.6%

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PCB by GC/ECD Method SW8082
Page 1 of 1

Sample ID: DAS-CA10-P2
SAMPLE

Lab Sample ID: ST36H
LIMS ID: 11-9081
Matrix: Paint
Data Release Authorized:
Reported: 05/04/11

QC Report No: ST36-SAIC
Project: LDW Building Materials
19657
Date Sampled: 04/13/11
Date Received: 04/21/11

Date Extracted: 04/25/11
Date Analyzed: 04/28/11 19:29
Instrument/Analyst: ECD7/YZ
GPC Cleanup: No
Sulfur Cleanup: Yes
Acid Cleanup: Yes

Sample Amount: 0.77 g-as-rec
Final Extract Volume: 10 mL
Dilution Factor: 5.00
Silica Gel: Yes

Percent Moisture: NA

CAS Number	Analyte	MDL	RL	Result
12674-11-2	Aroclor 1016	180	1,300	< 1,300 U
53469-21-9	Aroclor 1242	310	1,300	< 1,300 U
12672-29-6	Aroclor 1248	310	1,300	< 1,300 U
11097-69-1	Aroclor 1254	310	1,300	< 1,300 U
11096-82-5	Aroclor 1260	310	1,300	< 1,300 U
11104-28-2	Aroclor 1221	310	1,300	< 1,300 U
11141-16-5	Aroclor 1232	310	1,300	< 1,300 U

Reported in µg/kg (ppb)

PCB Surrogate Recovery

Decachlorobiphenyl	75.5%
Tetrachlorometaxylene	66.5%

FORM I

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PCB by GC/ECD Method SW8082
Page 1 of 1

Sample ID: DAS-CA10-P3
SAMPLE

Lab Sample ID: ST36I
LIMS ID: 11-9082
Matrix: Paint
Data Release Authorized:
Reported: 05/04/11

QC Report No: ST36-SAIC
Project: LDW Building Materials
19657
Date Sampled: 04/13/11
Date Received: 04/21/11

Date Extracted: 04/25/11
Date Analyzed: 04/28/11 19:52
Instrument/Analyst: ECD7/YZ
GPC Cleanup: No
Sulfur Cleanup: Yes
Acid Cleanup: Yes

Sample Amount: 1.08 g-as-rec
Final Extract Volume: 10 mL
Dilution Factor: 5.00
Silica Gel: Yes

Percent Moisture: NA

CAS Number	Analyte	MDL	RL	Result
12674-11-2	Aroclor 1016	130	930	< 930 U
53469-21-9	Aroclor 1242	220	930	< 930 U
12672-29-6	Aroclor 1248	220	930	< 930 U
11097-69-1	Aroclor 1254	220	930	< 930 U
11096-82-5	**Aroclor 1260**	**220**	**930**	**3,900**
11104-28-2	Aroclor 1221	220	930	< 930 U
11141-16-5	Aroclor 1232	220	930	< 930 U

Reported in µg/kg (ppb)

PCB Surrogate Recovery

Decachlorobiphenyl	69.1%
Tetrachlorometaxylene	60.1%

FORM I

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PCB by GC/ECD Method SW8082
Page 1 of 1

Sample ID: DAS-CA16-P2
SAMPLE

Lab Sample ID: ST36J
LIMS ID: 11-9083
Matrix: Paint
Data Release Authorized:
Reported: 05/04/11

QC Report No: ST36-SAIC
Project: LDW Building Materials
19657
Date Sampled: 04/14/11
Date Received: 04/21/11

Date Extracted: 04/25/11
Date Analyzed: 04/28/11 20:16
Instrument/Analyst: ECD7/YZ
GPC Cleanup: No
Sulfur Cleanup: Yes
Acid Cleanup: Yes

Sample Amount: 0.80 g-as-rec
Final Extract Volume: 10 mL
Dilution Factor: 5.00
Silica Gel: Yes

Percent Moisture: NA

CAS Number	Analyte	MDL	RL	Result
12674-11-2	Aroclor 1016	170	1,200	< 1,200 U
53469-21-9	Aroclor 1242	300	1,200	< 1,200 U
12672-29-6	Aroclor 1248	300	1,200	< 1,200 U
11097-69-1	Aroclor 1254	300	1,200	< 1,200 U
11096-82-5	Aroclor 1260	300	1,200	< 1,200 U
11104-28-2	Aroclor 1221	300	1,200	< 1,200 U
11141-16-5	Aroclor 1232	300	1,200	< 1,200 U

Reported in µg/kg (ppb)

PCB Surrogate Recovery

Decachlorobiphenyl	66.2%
Tetrachlorometaxylene	59.5%

FORM I

SW8082/PCB SOIL/SEDIMENT SURROGATE RECOVERY SUMMARY

Matrix: Paint

QC Report No: ST36-SAIC
Project: LDW Building Materials
19657

Client ID	DCBP % REC	DCBP LCL-UCL	TCMX % REC	TCMX LCL-UCL	TOT OUT
MB-042511	92.8%	51-127	77.4%	49-110	0
LCS-042511	93.4%	51-127	78.6%	49-110	0
LCSD-042511	88.4%	51-127	73.0%	49-110	0
DAS-CA02-P2	83.4%	22-168	72.8%	28-106	0
DAS-CA03-P1	71.4%	22-168	62.4%	28-106	0
DAS-CA03-P2	77.9%	22-168	72.8%	28-106	0
DAS-CA03-P3	81.5%	22-168	71.4%	28-106	0
DAS-CA08-P1	72.1%	22-168	62.0%	28-106	0
DAS-CA10-P1	76.6%	22-168	66.4%	28-106	0
DAS-CA10-P1D	82.6%	22-168	74.6%	28-106	0
DAS-CA10-P2	75.5%	22-168	66.5%	28-106	0
DAS-CA10-P3	69.1%	22-168	60.1%	28-106	0
DAS-CA16-P2	66.2%	22-168	59.5%	28-106	0

Medium Level Control Limits
Prep Method: SW3580A
Log Number Range: 11-9074 to 11-9083

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PCB by GC/ECD Method SW8082
Page 1 of 1

Sample ID: LCS-042511
LCS/LCSD

Lab Sample ID: LCS-042511
LIMS ID: 11-9074
Matrix: Paint
Data Release Authorized:
Reported: 05/04/11

QC Report No: ST36-SAIC
Project: LDW Building Materials
19657
Date Sampled: NA
Date Received: NA

Date Extracted LCS/LCSD: 04/25/11

Date Analyzed LCS: 04/28/11 15:06
LCSD: 04/28/11 15:30
Instrument/Analyst LCS: ECD7/YZ
LCSD: ECD7/YZ
GPC Cleanup: No
Sulfur Cleanup: Yes
Acid Cleanup: Yes
Florisil Cleanup: No

Sample Amount LCS: 1.25 g-as-rec
LCSD: 1.25 g-as-rec
Final Extract Volume LCS: 10 mL
LCSD: 10 mL
Dilution Factor LCS: 5.00
LCSD: 5.00
Silica Gel: Yes

Percent Moisture: NA

Analyte	**LCS**	**Spike Added-LCS**	**LCS Recovery**	**LCSD**	**Spike Added-LCSD**	**LCSD Recovery**	**RPD**
Aroclor 1016	3270	4000	81.8%	3260	4000	81.5%	0.3%
Aroclor 1260	3100	4000	77.5%	3120	4000	78.0%	0.6%

PCB Surrogate Recovery

	LCS	**LCSD**
Decachlorobiphenyl	93.4%	88.4%
Tetrachlorometaxylene	78.6%	73.0%

Results reported in µg/kg (ppb)
RPD calculated using sample concentrations per SW846.

4

PCB METHOD BLANK SUMMARY

BLANK NO.

ST36MBS1

Lab Name: ANALYTICAL RESOURCES, INC

Client: SAIC

ARI Job No.: ST36

Project: LDW BUILDING MATERIAL

Lab Sample ID: ST36MBS1

Lab File ID: 0428A012

Date Extracted: 04/25/11

Matrix: SOLID

Date Analyzed: 04/28/11

Instrument ID: ECD7

Time Analyzed: 1419

GC Columns: ZB5/ZB35

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

	CLIENT SAMPLE NO.	LAB SAMPLE ID	DATE ANALYZED
01	ST36LCSS1	ST36LCSS1	04/28/11
02	ST36LCSDS1	ST36LCSDS1	04/28/11
03	DAS-CA02-P2	ST36A	04/28/11
04	DAS-CA03-P1	ST36B	04/28/11
05	DAS-CA03-P2	ST36C	04/28/11
06	DAS-CA03-P3	ST36D	04/28/11
07	DAS-CA08-P1	ST36E	04/28/11
08	DAS-CA10-P1	ST36F	04/28/11
09	DAS-CA10-P1D	ST36G	04/28/11
10	DAS-CA10-P2	ST36H	04/28/11
11	DAS-CA10-P3	ST36I	04/28/11
12	DAS-CA16-P2	ST36J	04/28/11

ALL RUNS ARE DUAL COLUMN

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PCB by GC/ECD Method SW8082

Sample ID: MB-042511
METHOD BLANK

Lab Sample ID: MB-042511
LIMS ID: 11-9074
Matrix: Paint
Data Release Authorized:
Reported: 05/04/11

QC Report No: ST36-SAIC
Project: LDW Building Materials
19657
Date Sampled: NA
Date Received: NA

Date Extracted: 04/25/11
Date Analyzed: 04/28/11 14:19
Instrument/Analyst: ECD7/YZ
GPC Cleanup: No
Sulfur Cleanup: Yes
Acid Cleanup: Yes

Sample Amount: 1.25 g
Final Extract Volume: 10 mL
Dilution Factor: 5.00
Silica Gel: Yes

Percent Moisture: NA

CAS Number	Analyte	MDL	RL	Result
12674-11-2	Aroclor 1016	110	800	< 800 U
53469-21-9	Aroclor 1242	190	800	< 800 U
12672-29-6	Aroclor 1248	190	800	< 800 U
11097-69-1	Aroclor 1254	190	800	< 800 U
11096-82-5	Aroclor 1260	190	800	< 800 U
11104-28-2	Aroclor 1221	190	800	< 800 U
11141-16-5	Aroclor 1232	190	800	< 800 U

Reported in µg/kg (ppb)

PCB Surrogate Recovery

Decachlorobiphenyl	92.8%
Tetrachlorometaxylene	77.4%

FORM I

Metals Analysis
Report and Summary QC Forms

ARI Job ID: ST36

Cover Page

INORGANIC ANALYSIS DATA PACKAGE

ANALYTICAL RESOURCES INCORPORATED

CLIENT: SAIC

PROJECT: LDW Building Materia

SDG: ST36

CLIENT ID	ARI ID	ARI LIMS ID	REPREP
DAS-CA08-P1	ST36E	11-9078	
PBW	ST36MB1	11-9078	
LCSS	ST36MB1SPK	11-9078	
DAS-CA10-P1	ST36F	11-9079	
DAS-CA10-P1D	ST36G	11-9080	

Were ICP interelement corrections applied ?	Yes/No	YES
Were ICP background corrections applied ?	Yes/No	YES
If yes - were raw data generated before application of background corrections ?	Yes/No	NO

Comments:

THIS DATA PACKAGE HAS BEEN REVIEWED AND AUTHORIZED FOR RELEASE BY:

Signature: Jay Kuhn Name: Jay Kuhn

Date: 5/2/11 Title: Inorganics Director

COVER PAGE

ANALYTICAL RESOURCES INCORPORATED

INORGANICS ANALYSIS DATA SHEET
TOTAL METALS

Sample ID: DAS-CA08-P1
SAMPLE

Lab Sample ID: ST36E
LIMS ID: 11-9078
Matrix: Paint
Data Release Authorized:
Reported: 05/03/11

QC Report No: ST36-SAIC
Project: LDW Building Materials
19657
Date Sampled: 04/14/11
Date Received: 04/21/11

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	MDL	RL	Result	Q
3050B	04/25/11	6010B	04/29/11	7440-38-2	Arsenic	0.90	10	10	U
3050B	04/25/11	6010B	04/29/11	**7440-43-9**	**Cadmium**	0.21	0.4	**1.3**	
3050B	04/25/11	6010B	04/29/11	**7440-47-3**	**Chromium**	0.53	1	**14**	
3050B	04/25/11	6010B	04/29/11	**7440-50-8**	**Copper**	0.097	0.4	**24.5**	
3050B	04/25/11	6010B	04/29/11	**7439-92-1**	**Lead**	0.25	4	**78**	
CLP	04/25/11	7471A	04/26/11	**7439-97-6**	**Mercury**	0.0013	0.02	**0.03**	
3050B	04/25/11	6010B	04/29/11	7440-22-4	Silver	0.058	0.6	0.6	U
3050B	04/25/11	6010B	04/29/11	**7440-66-6**	**Zinc**	0.23	2	**3,560**	

Reported in mg/kg-as-rec (ppm).
U-Analyte undetected at given RL
RL-Reporting Limit

ANALYTICAL RESOURCES INCORPORATED

INORGANICS ANALYSIS DATA SHEET
TOTAL METALS

Sample ID: DAS-CA10-P1
SAMPLE

Lab Sample ID: ST36F
LIMS ID: 11-9079
Matrix: Paint
Data Release Authorized:
Reported: 05/03/11

QC Report No: ST36-SAIC
Project: LDW Building Materials
19657
Date Sampled: 04/13/11
Date Received: 04/21/11

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	MDL	RL	Result	Q
3050B	04/25/11	6010B	04/29/11	7440-38-2	Arsenic	0.90	10	10	U
3050B	04/25/11	6010B	04/29/11	**7440-43-9**	**Cadmium**	0.22	0.4	**1.3**	
3050B	04/25/11	6010B	04/29/11	**7440-47-3**	**Chromium**	0.53	1	**115**	
3050B	04/25/11	6010B	04/29/11	**7440-50-8**	**Copper**	0.098	0.4	**68.6**	
3050B	04/25/11	6010B	04/29/11	**7439-92-1**	**Lead**	0.25	4	**433**	
CLP	04/25/11	7471A	04/26/11	**7439-97-6**	**Mercury**	0.011	0.2	**17.8**	
3050B	04/25/11	6010B	04/29/11	7440-22-4	Silver	0.059	0.6	0.6	U
3050B	04/25/11	6010B	04/29/11	**7440-66-6**	**Zinc**	0.24	2	**10,800**	

Reported in mg/kg-as-rec (ppm).
U-Analyte undetected at given RL
RL-Reporting Limit

ANALYTICAL RESOURCES INCORPORATED

INORGANICS ANALYSIS DATA SHEET
TOTAL METALS
Page 1 of 1

Sample ID: DAS-CA10-P1D
SAMPLE

Lab Sample ID: ST36G
LIMS ID: 11-9080
Matrix: Paint
Data Release Authorized:
Reported: 05/03/11

QC Report No: ST36-SAIC
Project: LDW Building Materials
19657
Date Sampled: 04/13/11
Date Received: 04/21/11

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	MDL	RL	Result	Q
3050B	04/25/11	6010B	04/29/11	7440-38-2	Arsenic	0.91	10	10	U
3050B	04/25/11	6010B	04/29/11	**7440-43-9**	**Cadmium**	0.22	0.4	**0.9**	
3050B	04/25/11	6010B	04/29/11	**7440-47-3**	**Chromium**	0.53	1	**167**	
3050B	04/25/11	6010B	04/29/11	**7440-50-8**	**Copper**	0.099	0.4	**76.3**	
3050B	04/25/11	6010B	04/29/11	**7439-92-1**	**Lead**	0.26	4	**575**	
CLP	04/25/11	7471A	04/26/11	**7439-97-6**	**Mercury**	0.021	0.4	**18.2**	
3050B	04/25/11	6010B	04/29/11	7440-22-4	Silver	0.059	0.6	0.6	U
3050B	04/25/11	6010B	04/29/11	**7440-66-6**	**Zinc**	0.24	2	**5,060**	

Reported in mg/kg-as-rec (ppm).
U-Analyte undetected at given RL
RL-Reporting Limit

FORM-I

ANALYTICAL RESOURCES INCORPORATED

INORGANICS ANALYSIS DATA SHEET
TOTAL METALS

Sample ID: LAB CONTROL

Lab Sample ID: ST36LCS
LIMS ID: 11-9078
Matrix: Paint
Data Release Authorized:
Reported: 05/02/11

QC Report No: ST36-SAIC
Project: LDW Building Materials
19657
Date Sampled: NA
Date Received: NA

BLANK SPIKE QUALITY CONTROL REPORT

Analyte	Analysis Method	Spike Found	Spike Added	% Recovery	Q
Arsenic	6010B	209	200	104%	
Cadmium	6010B	51.0	50.0	102%	
Chromium	6010B	51.0	50.0	102%	
Copper	6010B	49.7	50.0	99.4%	
Lead	6010B	201	200	100%	
Mercury	7471A	0.52	0.50	104%	
Silver	6010B	53.1	50.0	106%	
Zinc	6010B	51	50	102%	

Reported in mg/kg-wet

N-Control limit not met
NA-Not Applicable, Analyte Not Spiked
Control Limits: 80-120%

ANALYTICAL RESOURCES INCORPORATED

INORGANICS ANALYSIS DATA SHEET
TOTAL METALS

Sample ID: METHOD BLANK

Lab Sample ID: ST36MB
LIMS ID: 11-9078
Matrix: Paint
Data Release Authorized:
Reported: 05/03/11

QC Report No: ST36-SAIC
Project: LDW Building Materials
19657
Date Sampled: NA
Date Received: NA

Percent Total Solids: NA

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	MDL	RL	Result	Q
3050B	04/25/11	6010B	04/29/11	7440-38-2	Arsenic	0.46	5	5	U
3050B	04/25/11	6010B	04/29/11	7440-43-9	Cadmium	0.11	0.2	0.2	U
3050B	04/25/11	6010B	04/29/11	7440-47-3	Chromium	0.27	0.5	0.5	U
3050B	04/25/11	6010B	04/29/11	7440-50-8	Copper	0.050	0.2	0.2	U
3050B	04/25/11	6010B	04/29/11	7439-92-1	Lead	0.13	2	2	U
CLP	04/25/11	7471A	04/26/11	7439-97-6	Mercury	0.0013	0.02	0.02	U
3050B	04/25/11	6010B	04/29/11	7440-22-4	Silver	0.030	0.3	0.3	U
3050B	04/25/11	6010B	04/29/11	7440-66-6	Zinc	0.12	1	1	U

Reported in mg/kg (ppm).
U-Analyte undetected at given RL
RL-Reporting Limit

Appendix F

Data Validation Report

18912 North Creek Parkway, Suite 101
Bothell, Washington 98011
(425) 482-3325
FAX: (425) 485-5566

Lower Duwamish Waterway Survey of Potential PCB-Containing Building Materials Data Validation Report

1.0 Introduction

On April 12 - 14, 2011, Science Applications International Corporation (SAIC) collected paint and caulk composite samples in the Diagonal Avenue S. drainage basin of the Lower Duwamish Waterway as detailed in the *Lower Duwamish Waterway Survey of Potential PCB-Containing Building Material Sources - Sampling and Analysis Plan and Quality Assurance Project Plan* (SAP/QAPP) (SAIC 2011). Samples were delivered to Analytical Resources, Inc. (ARI) in Tukwila, WA for the analyses listed in Table 1.

Table 1. Composite Paint and Caulk Samples and Analyses Performed

Matrix	Sample ID	ARI Sample ID	PCBs by EPA 8082	Metals by EPA 6010B/7471A
Paint	DAS-CA01-P1	SR92B	X	X
Paint	DAS-CA01-P2	SR92I	X	
Paint	DAS-CA01-P3	SR92J	X	
Paint	DAS-CA02-P1	SR40D	X	X
Paint	DAS-CA02-P2	ST36A	X	
Paint	DAS-CA02-P3	SR40K	X	
Paint	DAS-CA03-P1	ST36B	X	
Paint	DAS-CA03-P2	ST36C	X	
Paint	DAS-CA03-P3	ST36D	X	
Paint	DAS-CA04-P1	SR40E	X	X
Paint	DAS-CA04-P2	SR40L	X	
Paint	DAS-CA04-P3	SR40M	X	
Paint	DAS-CA05-P1	SR40B	X	
Paint	DAS-CA05-P2	SR40H	X	X
Paint	DAS-CA05-P3	SR40I	X	
Paint	DAS-CA05-P3D [a]	SR40C	X	
Paint	DAS-CA06-P1	SR92F	X	X
Paint	DAS-CA07-P1	SR92E	X	X
Paint	DAS-CA08-P1	ST36E	X	X
Paint	DAS-CA08-P2	SR89F	X	
Paint	DAS-CA09-P1	SR89E	X	X
Paint	DAS-CA09-P2	SR89L	X	
Paint	DAS-CA09-P3	SR89M	X	
Paint	DAS-CA10-P1	ST36F	X	X
Paint	DAS-CA10-P1D [a]	ST36G	X	X
Paint	DAS-CA10-P2	ST36H	X	

Matrix	Sample ID	ARI Sample ID	PCBs by EPA 8082	Metals by EPA 6010B/7471A
Paint	DAS-CA10-P3	ST36I	X	
Paint	DAS-CA11-P1	SR92A	X	X
Paint	DAS-CA11-P2	SR92G	X	
Paint	DAS-CA11-P3	SR92H	X	
Paint	DAS-CA12-P1	SR89B	X	X
Paint	DAS-CA12-P2	SR89G	X	
Paint	DAS-CA12-P3	SR89H	X	
Paint	DAS-CA14-P1	SR89D	X	X
Paint	DAS-CA14-P2	SR89K	X	
Paint	DAS-CA16-P1	SR89C	X	X
Paint	DAS-CA16-P2	ST36J	X	
Paint	DAS-CA16-P3	SR89I	X	
Caulk	DAS-CA01-C1	SR92N	X	
Caulk	DAS-CA03-C1	SR41A	X	
Caulk	DAS-CA03-C2	SR41B	X	
Caulk	DAS-CA03-C3	SR41C	X	
Caulk	DAS-CA04-C1	SR41H	X	
Caulk	DAS-CA05-C1	SR41F	X	
Caulk	DAS-CA05-C2	SR41G	X	
Caulk	DAS-CA05-C3	SR41D	X	
Caulk	DAS-CA10-C1	SR92O	X	
Caulk	DAS-CA10-C1-D [a]	SR92P	X	
Caulk	DAS-CA10-C2	SR92Q	X	
Caulk	DAS-CA10-C3	SR92R	X	
Caulk	DAS-CA12-C1	SR89N	X	
Caulk	DAS-CA12-C2	SR89O	X	
Caulk	DAS-CA12-C3	SR89P	X	
Caulk	DAS-CA15-C1	SR89R	X	
Caulk	DAS-CA17-C1	SR92M	X	
		Total Paint	**38**	**14**
		Total Caulk	**17**	**--**

[a] This is a field duplicate sample of the sample directly preceding it.

ID = identification; PCBs = polychlorinated biphenyls; ARI = Analytical Resources, Inc.

A Stage 2A compliance screening level data validation was performed by SAIC in Bothell, WA on all results using USEPA guidance (USEPA 1994, 2008, 2009, and 2010). The data validation included an evaluation of data package completeness, sample chain-of-custody, sample preservation and analytical holding times, method blank contamination, precision, accuracy, and verification of the target compound list and reporting limits (RLs).

1.1 Data Quality Review Summary

In general, all quality control parameters were within the acceptance limits prescribed by the analytical methods. Samples were transported under proper chain-of custody procedures at ambient temperatures and all analyses were conducted within recommended holding times. Data packages were complete and electronic data deliverables were verified. No data were qualified as a result of the data validation, which is summarized below. Results are acceptable for all uses.

1.2 Accuracy

Accuracy is the degree to which an observed measurement agrees with an accepted reference or true value. Accuracy is a measure of the bias in the system and is expressed as the percent recoveries of surrogates and spiked analytes in laboratory control samples (LCS) and matrix spike (MS) samples.

A minimum of one laboratory method blank and LCS was analyzed for all analytes in each analytical batch to assess potential laboratory contamination and accuracy. A laboratory control sample duplicate (LCSD) was analyzed if there was insufficient sample volume to prepare project specific MS and matrix spike duplicate (MSD) samples. All method blank, MS/MSD, and LCS/LCSD samples were analyzed at the required frequency. No chemicals were detected in the method blank samples. All LCS/LCSD percent recoveries were within acceptance limits. All MS/MSD and surrogate percent recoveries were within acceptance limits with the following exceptions. The surrogate recovery for tetrachlorometaxylene (140%) in sample DAS-CA17-C1 exceeded the control limit of 106%. Since the other surrogate was within control limits no action was taken. The MS/MSD recoveries for Aroclor 1016 and Aroclor 1260 in sample DAS-CA15-C1 could not be accurately determined because of chromatographic interferences due to matrix effects. The accuracy of the analyses is acceptable.

1.3 Precision

Precision is a measure of mutual agreement among individual measurements of the same property under prescribed conditions. Precision is assessed by the analysis of laboratory duplicate samples, field duplicate samples, MS/MSD, and LCS/LCSD. The calculated relative percent differences (RPDs) for laboratory duplicate samples, MS/MSD and LCS/LCSD pairs provide information on the precision of the analytical procedures. All analytical RPDs were within acceptance limits.

Field duplicate samples were collected and analyzed for the chemicals of interest at a rate of one per twenty composite samples of each matrix. Field duplicate samples are identified in Table 1. The RPDs for field duplicate samples provide information on the precision of sampling and analytical procedures. All field duplicate results were within the project acceptance limit of 50% RPD for PCBs. All field duplicate results for were within the 35% acceptance limits for metals, with the exceptions presented in Table 2.

Table 2. Field Duplicate Samples with RPDs Exceeding Control Limits

Chemical	Unit	Sample Result DAS-CA10-P1	Field Sample Result DAS-CA10-P1D	RPD (%)
cadmium	mg/kg	1.3	0.9	36
chromium	mg/kg	115	167	37
zinc	mg/kg	10,800	5,060	72

RPD = relative percent difference

Analytical and field precision are acceptable for this project.

1.4 Representativeness

Representativeness expresses the degree to which data accurately and precisely represent an actual condition or characteristic at a particular sampling point. Representativeness is achieved by collecting samples representative of the matrix at the time of collection. Representativeness can be evaluated using replicate samples and blanks. The results of replicate samples are acceptable as discussed in section 1.3.

A rinse blank sample was collected and analyzed for PCBs and metals to confirm that no contamination would be introduced into the samples during collection or processing. The rinse blank sample was collected by ARI prior to the start of sampling activities by pouring deionzed water over the razor blades used during sample collection and processing. No chemicals were detected in the rinse blank sample. The results of the method blank samples and rise blank sample are acceptable.

1.5 Completeness

Completeness is based on the amount of valid data obtained from each sample analysis. All data were deemed valid during data validation; therefore, one hundred percent completeness was achieved. Target RLs were not met for several samples because of 1) chromatographic interferences due to matrix and/or 2) smaller than normal sample aliquots were used during sample preparation because of limited sample volume. Non-detect results with RLs above target RLs are listed in Table 3.

Table 3. Non-detect Results with RLs Exceeding Target RLs (mg/kg)

Sample	Chemical	Target RL	Sample RL
DAS-CA02-P1	Total PCBs	0.8 - 10	36 U
DAS-CA02-P2	Total PCBs	0.8 - 10	1.8 U
DAS-CA03-P1	Total PCBs	0.8 - 10	3.0 U
DAS-CA03-P3	Total PCBs	0.8 - 10	1.8 U
DAS-CA04-P1	Total PCBs	0.8 - 10	2.5 U
DAS-CA08-P1	Total PCBs	0.8 - 10	1.2 U
DAS-CA10-P2	Total PCBs	0.8 - 10	1.3 U
DAS-CA16-P2	Total PCBs	0.8 - 10	1.2 U
DAS-CA03-C1	Total PCBs	0.8 - 10	19 U
DAS-CA03-C2	Total PCBs	0.8 - 10	31 U
DAS-CA10-C2	Total PCBs	0.8 - 10	1.7 U
DAS-CA12-C1	Total PCBs	0.8 - 10	1.2 U
DAS-CA12-C2	Total PCBs	0.8 - 10	6.1 U
DAS-CA02-P1	arsenic	5	9 U
DAS-CA04-P1	arsenic	5	9 U
DAS-CA05-P2	arsenic	5	50 U
DAS-CA06-P1	arsenic	5	5 U
DAS-CA08-P1	arsenic	5	10 U
DAS-CA09-P1	arsenic	5	9 U
DAS-CA10-P1	arsenic	5	10 U
DAS-CA10-P1D	arsenic	5	10 U
DAS-CA11-P1	arsenic	5	20 U

Sample	Chemical	Target RL	Sample RL
DAS-CA14-P1	arsenic	5	20 U
DAS-CA04-P1	silver	0.3	0.5 U
DAS-CA05-P2	silver	0.3	3 U
DAS-CA08-P1	silver	0.3	0.6 U
DAS-CA10-P1	silver	0.3	0.6 U
DAS-CA10-P1D	silver	0.3	0.6 U
DAS-CA11-P1	silver	0.3	1 U

RL = reporting limit; PCBs = polychlorinated biphenyls; U = non-detect

2.0 References

SAIC. 2011. *Lower Duwamish Waterway Survey of Potential PCB-Containing Building Material Sources - Sampling and Analysis Plan and Quality Assurance Project Plan.* Prepared by Science Applications International Corporation for the State of Washington Department of Ecology. March 25, 2011.

USEPA, Office of Emergency and Remedial Response. February 1994. *USEPA Contract Laboratory Program, National Functional Guidelines for Inorganic Data Review*. EPA 540/R-94/013. Washington, DC.

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