

US EPA ARCHIVE DOCUMENT

Split Sampling  
Field Report

Chemical Waste Management, Incorporated  
Kettleman Hills, California

30 November 2009

U.S. Environmental Protection Agency  
Region 9  
Waste Management Division

## **1.0 INTRODUCTION**

The purpose of this split sampling effort was to assess polychlorinated biphenyl (PCB) congeners in soil at the perimeter of the Chemical Waste Management Kettleman Hills Facility (KHF), which is located approximately 3.5 miles southwest of Kettleman City, California (Figure 1). At the request of EPA, KHF personnel collected samples of soil, air, and vegetation in support of their application for renewal of a permit to process and dispose of PCBs. The samples were analyzed for a list of 12 PCB congeners identified by the World Health Organization (WHO) as congeners of concern. More information on congeners is included in Section 4.1.

During the March 31 to April 1, 2009, field sampling event, EPA personnel collected soil samples from the same locations (“split samples”) as KHF, and then submitted the samples to EPA’s Region 3 laboratory in Fort Meade, Maryland, for analysis of PCB congeners. EPA split samples serve as a check of a facility’s laboratory results and provide an independent evaluation of environmental data. Variations in analytical results between an EPA laboratory and a commercial laboratory may be the result of differences in analytical capability, experience with the method, sample homogeneity, sample collection/compositing techniques, or other factors. The EPA results are not intended to serve as a “referee” of commercial laboratory results.

The EPA Region 3 laboratory analyzed the soil samples by EPA Method 1668.

### **1.1 EPA Personnel**

The following EPA personnel participated in the March 31 – April 1, 2009 soil sampling effort:

Kevin Wong  
Katherine Baylor  
John Beach  
Mathew Plate

## **2.0 FACILITY BACKGROUND**

The Chemical Waste Management, Incorporated, Kettleman Hills Facility (KHF) is located in Kings County, California, southwest of the intersection of Interstate 5 and Highway 41 (Figure 1). The facility owns and occupies 1,600 acres of property, of which 499 acres are located inside the conditional use boundary which is permitted for waste management operations. KHF is a commercial Class I/II hazardous waste/designated waste treatment, storage, and disposal facility. KHF has applied to the California Department of Toxic Substances Control (DTSC) for a permit to expand their hazardous waste landfill, Unit B-18. DTSC is the authorizing agency in California for hazardous waste landfill permitting. EPA regulates the disposal of PCBs under the Toxic Substances Control Act (TSCA), and is responsible for the PCB permit renewal associated with the B-18 landfill. PCBs are regulated under TSCA. The 53-acre B-18 unit has accepted both RCRA- and TSCA-regulated PCB waste since 1991.



Figure 1. Site Location

The following (*in italics*) is a description of the operational history of the Kettleman Hills Facility from the "Draft Dioxin-Like Polychlorinated Biphenyl Congeners Study Workplan, Chemical Waste Management, Inc. Kettleman Hills Facility," March 2009.

*In 1975, the McKay Trucking Company began disposal operations at KHF when they were issued a permit to use a 60-acre portion of the site as a petroleum waste disposal facility. Environmental Disposal Services (EDS) purchased McKay Trucking Company in 1978 and expanded both the size and operations at KHF making it a Class I disposal site. In April 1979, CWMI purchased and began operating the KHF site. At that time, it was a 1,280-acre facility that was authorized as a treatment, storage, and disposal facility for designated wastes. Also in 1979, CWMI obtained authorization to operate the site as a hazardous waste management facility, and hazardous wastes were permitted for treatment, storage, and disposal at KHF. Operations consisted of landfilling solid waste, and use of evaporation ponds/tanks for liquid waste.*

*In the early 90s a project was undertaken to combine closure of a number of landfills and evaporation ponds. The Combined Closure Area was completed in 1996, and under the 69-acre closure cap it includes landfill units B-1, B-4, B-5, B-6, B-7, B-8, B-9 with expansions, B-10, and B-11; ponds P-5, P-12, P-12A, P-13, and P-17; and spreading area S-3. There are no PCB*

disposal units located in the combined closure area. In April and July 1997, KHF submitted timely applications to renew existing TSCA Approvals, which included the currently operating PCB Flushing/Storage Unit, and the B-18 Landfill Unit. In October 2003, during a thorough and comprehensive permit renewal process, KHF requested a Coordinated Approval as per the recommendation of USEPA-IX TSCA Group. In February 2007, USEPA-IX released a Draft Coordinated Approval, along with a Draft Refined Environmental Justice Assessment.

Throughout the years KHF has been in operation, numerous environmental sampling studies and on-going compliance monitoring has been conducted to measure potential off-site impacts to air, groundwater, stormwater runoff, soil, human health, and ecological receptors. These monitoring programs, sampling studies, and impact analyses have either been voluntarily performed or required by the numerous State and Federal regulations to which KHF is subject. Two such studies, which included monitoring for PCB impacts, were performed as a result of compliance requirements related to KHF's RCRA Part B permit. These include the (1) 1994 Topographical, Meteorological and Airborne Contaminant Characterization at Kettleman Hills Facility; and the (2) currently ongoing Ambient Air Monitoring Program (AAMP).

**2.1 Geological Information**

Soils at KHF include Kettleman Loam, Kettleman-Cantua Complex, and Mercey Loam. Kettleman Loam is derived from sandstone or shale. The surface soil layer is typically 13 inches thick and well drained. The Kettleman-Cantua Complex is made up of about 50% Kettleman Loam and 40% Cantua coarse sandy loam. It is similar in appearance to the Kettleman Loam. Mercey Loam is also derived from sandstone or shale, is light yellowish-brown and about 3 inches thick. All three of the loams present at KHF are well drained and contain minimal fines. Typically presenting as loose sand, the material is easy to sample and composite because there are few clay clumps or gravel.

**2.2 Meteorology**

The 2008 wind rose (plot of windspeed and wind direction) is shown in Figure 2. Wind speeds are generally less than 17 knots (approximately 20 miles per hour). The wind direction is variable, with a slight predominance from the northwest. Local (micro-scale) meteorological conditions on and around the site are variable due to the complex topography and may not be represented well in a single wind rose.

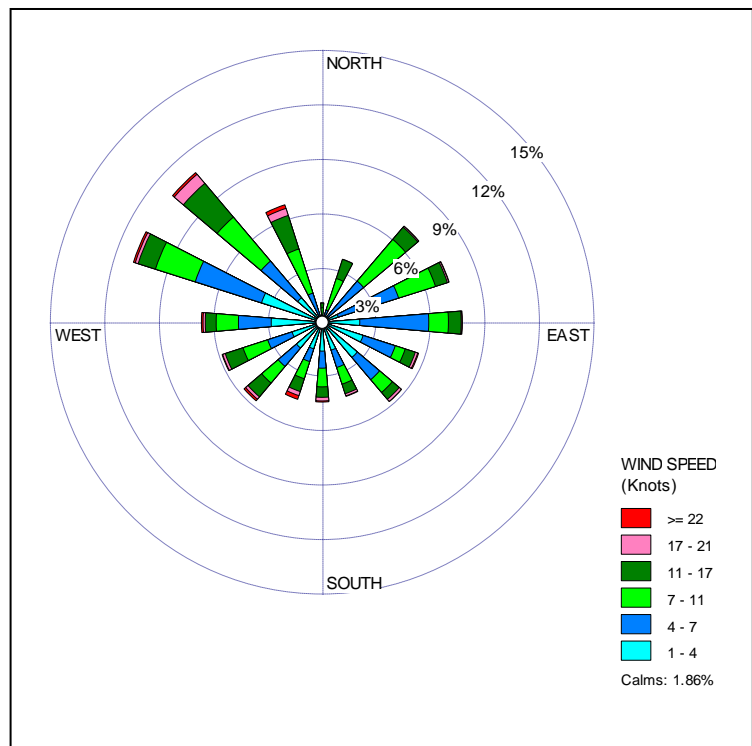


Figure 2. 2008 KHF Wind Rose. The wind direction plotted is the direction the wind is blowing from. Meteorology data source: Chemical Waste Management, Kettleman Hills Facility

### **2.3 Environmental and/or Human Impact**

Residents of Kettleman City have expressed concern that wind-blown PCB particles could migrate from the B-18 landfill toward Kettleman City, which is approximately 3.5 miles from KHF. To assess potential human health impacts, KHF collected and analyzed samples of soil, vegetation, and air. The soil samples are intended to measure the impact of past and current disposal practices. The vegetation (grass) samples are intended to assess the potential for grazing cattle to uptake PCBs through ingestion. Cattle grazing occurs seasonally (i.e., spring time) on land adjacent to KHF. The cattle are raised for human consumption. Air (particulate and vapor) samples are being collected continuously over a 12-month period, and are intended to measure current disposal practices. Of the three media that KHF sampled (soil, vegetation, and air), EPA only collected split samples of soil because the EPA laboratory does not have the capability to analyze vegetation or air samples.

Ecological receptors, including the endangered species Blunt-nosed Leopard Lizard and San Joaquin Kit Fox, are potentially at risk from airborne deposition and/or stormwater transport of aerially-deposited PCBs. Additionally, raptor species (e.g., hawks, owls) feed on a substantial rodent population near the landfill.

### **3.0 FIGURES, PHOTOGRAPHS, AND TABLES**

This report includes figures, photographs, and tables, which are listed below in the order in which they appear in the document. Attachment 1, which includes both the EPA and CWM-KHF laboratory reports, is attached to the end of the report.

Figure 1: Site Location

Figure 2: 2008 KHF Wind Rose

Figure 3: Soil and Vegetation Sampling Locations

Figure 4: Structure of PCB Molecule

Figure 5: Soil PCB Analytical Results

Figure 6: Graph of KHF PCB Congeners Compared to Rural U.S. soils

Photograph 1: Drainage swale below B-18 landfill

Photograph 2: Vegetation sample

Photograph 3: Collection of soil samples

Photograph 4: Rattlesnake at NW-8 sampling location

Table 1: Toxicity Equivalent Factors (TEFs) for PCB dioxin-like congeners

Table 2: Summary of Analytical Results

Table 3: Method Blank Results

Table 4. Field Duplicate Results

Attachment 1: Laboratory Analytical Reports



#### 4.0 SAMPLING METHOD

Soil samples were collected from 80 locations, including 70 on-site samples near the KHF fence line and 10 samples distributed in a drainage swale southeast of the B-18 landfill (Photograph 1, Figure 3).

The inside boundary of KHF consists of a 30- to 60-foot wide earthen road that serves as a fire break for the facility. Soil samples were collected near the road, but outside of the current or recently graded soil. Each group of ten soil samples was then homogenized (mixed) to obtain a single composite analytical sample for each of the eight areas (e.g., north, northeast) shown on Figure 3. The eight areas include four generally upwind boundary areas, three potentially impacted downwind boundary areas, and one zone (drainage swale) immediately downwind of the B-18 landfill. Upwind and downwind directions are variable at KHF. The upwind locations are designated as west, northwest, north, and northeast. The downwind locations are designated as southwest, south, and southeast. EPA collected split soil samples from six of the eight areas sampled by KHF, including upwind locations designated North, Northeast, and Northwest, and downwind locations South, Southwest, and B-18. A field duplicate sample, designated B-99, was collected from the B-18 location.

At each sampling location, KHF personnel collected vegetation (primarily grass) samples prior to collecting the soil samples (Photo



Photograph 1. Drainage swale below B-18 landfill (center background)



Figure 3. Soil and Vegetation Sampling Locations



2). Vegetation samples were collected from nine points within a one meter square area (i.e., one meter by one meter). Vegetation samples were collected by clipping the grass or other plant material with a pair of decontaminated scissors, and then using the scissors to transfer the sample to a 32-oz glass jar. Soil samples were collected from within the same one meter square vegetation sampling area. Each soil sample consisted of nine small aliquots of soil collected from within the upper two inches of soil within the one meter square area. The nine soil aliquots were composited within a stainless steel bowl.



**Photograph 2. Vegetation sample**

EPA and KHF used different methods to homogenize the samples, which may have contributed to variation in the sample results. EPA personnel homogenized the discrete soil samples in the field (i.e., while at KHF), while the KHF personnel submitted the individual discrete samples to the analytical laboratory (TestAmerica) for homogenization at the laboratory. In general, laboratory homogenization is preferred over field homogenization, as the laboratory is a controlled environment and the samples are more thoroughly homogenized than is feasible in the field. Due to EPA's need to retain custody of the samples, EPA personnel decided to field-homogenize the samples. Each set of ten discrete samples was thoroughly mixed using a decontaminated stainless steel spoon in a decontaminated stainless steel bowl (Photo 3). This field-compositing technique is not as rigorous as the laboratory compositing method, where each individual (discrete) soil sample was homogenized in a blender, and then a subsample (three grams) from each of the 10 discrete samples was homogenized in a blender.



**Photograph 3. Collection of soil samples**

After collection and homogenization, the EPA samples were packaged in a cooler with ice and sent via FedEx to EPA's Region 3 laboratory in Fort Meade, Maryland for analysis of PCB congeners by EPA Method 1668. The samples were received by the EPA Region 3 lab intact and properly chilled. EPA Method 1668 may be found at the following link:  
<http://www.epa.gov/waterscience/methods/method/files/1668.pdf>



## 4.1 PCB Congeners

The contaminants of concern are the 1998 World Health Organization (WHO) PCB congeners (below). Previous testing for PCBs as Aroclors (trade name for mixtures of PCB congeners) at KHF has not detected PCBs. In recent years, however, researchers have determined that analysis of PCBs as congeners is a more useful method to determine potential impacts to human or ecological receptors than the standard broad-spectrum Aroclor testing that has been the environmental standard for decades. Each congener is a unique, specific chemical denoted by the position of chlorine atoms within the benzene-ring structure of polychlorinated biphenyls (Figure 4). There are 209 possible combinations, hence, 209 congeners. Of the 209 possible PCB congeners, WHO has identified 12 that are the most significant to human health, the "dioxin-like" congeners. These 12 congeners were the target analytes for this project. The CAS is the Chemical Abstracts Services unique identification number for the chemical.

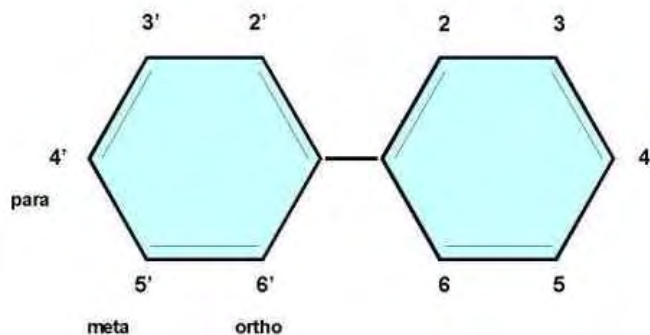


Figure 4. Structure of PCB Molecule

- Congener 77 – 3,3',4,4'-Tetrachlorobiphenyl (CAS 32598-13-3)
- Congener 81 - 3,4,4',5-Tetrachlorobiphenyl (CAS 70362-50-4)
- Congener 105 - 2,3,3',4,4'-Pentachlorobiphenyl (CAS 32598-14-4)
- Congener 114 - 2,3,4,4',5-Pentachlorobiphenyl (CAS 74472-37-0)
- Congener 118 - 2,3',4,4',5-Pentachlorobiphenyl (CAS 31508-00-6)
- Congener 123 - 2,3',4,4',5'-Pentachlorobiphenyl (CAS 65510-44-3)
- Congener 126 - 3,3',4,4',5-Pentachlorobiphenyl (CAS 57465-28-8)
- Congener 156 - 2,3,3',4,4',5-Hexachlorobiphenyl (CAS 38380-08-4)
- Congener 157 - 2,3,3',4,4',5'-Hexachlorobiphenyl (CAS 69782-90-7)
- Congener 167 - 2,3',4,4',5,5'-Hexachlorobiphenyl (CAS 52663-72-6)
- Congener 169 - 3,3',4,4',5,5'-Hexachlorobiphenyl (CAS 32774-16-6)
- Congener 189 - 2,3,3',4,4',5,5'-Heptachlorobiphenyl (CAS 39635-31-9)

Dioxin and dioxin-like compounds (DLCs), including polychlorinated dibenzo-*p*-dioxins (PCDDs), polychlorinated dibenzofurans (PCDFs), and polychlorinated biphenyls (PCBs), are structurally and toxicologically related halogenated dicyclic aromatic hydrocarbons. Because the combined effects of these compounds have been found to be dose additive, the U.S. EPA has recommended use of the Toxic Equivalency Factor (TEF) Methodology and the World Health Organization's (WHO's) TEFs to evaluate the risks associated with exposure to mixtures of these compounds for human health (U.S. EPA 1989, 2003) and ecological risk assessments (U.S.

EPA, 2008). The WHO has used a process based on scientific consensus to develop TEFs for mammals, birds, and fish and has re-evaluated them on a schedule of approximately every five years (Ahlborg et al., 1994; Van den Berg et al., 1998, 2006; also see WHO's website for the dioxin TEFs, available at: [http://www.who.int/ipcs/assessment/tef\\_update/en/](http://www.who.int/ipcs/assessment/tef_update/en/)). The U.S. EPA is updating its human health approach by adopting the mammalian TEFs for DLCs recommended in the WHO's 2005 reevaluation of TEFs for human exposures to DLCs (Van den Berg et al., 2006). TEFs for the 12 WHO congeners are listed in Table 1 below.

**Table 1. Toxicity Equivalent Factors (TEFs) for PCB dioxin-like congeners**

Compound (Congener Number)	TEF
3,3',4,4'-TCB (77)	0.0001
3,4,4',5-TCB (81)	0.0003
3,3',4,4',5-PeCB (126)	0.1
3,3',4,4',5,5'-HxCB (169)	0.03
2,3,3',4,4'-PeCB (105)	0.00003
2,3,4,4',5-PeCB (114)	0.00003
2,3',4,4',5-PeCB (118)	0.00003
2',3,4,4',5-PeCB (123)	0.00003
2,3,3',4,4', 5 -HXCB (156)	0.00003
2,3,3',4,4',5'-HxCB (157)	0.00003
2,3',4,4',5,5'-HxCB (167)	0.00003
2,3,3',4,4',5,5'-HpCB (189)	0.00003

**5.0 HEALTH AND SAFETY**

A health and safety plan was prepared prior to the field sampling event. The only significant safety concern was the close proximity of two rattlesnakes, encountered at field locations NW-3 and NW-8 (Photo 4). No EPA personnel were bitten by rattlesnakes during the field event.



**Photograph 4. Rattlesnake at NW-8 sampling location**

After sufficient split samples were collected from the perimeter of the facility and the B-18 area to meet project goals, the on-going snakebite risk to personnel contributed to the EPA team’s decision to refrain from sampling in two areas, including the west and southeast areas (Figure 3).

## **6.0 ANALYTICAL RESULTS**

The analytical results of the PCB congener study of soils at KHF is summarized in Table 2 and shown geographically on Figure 5. Both the EPA and Chemical Waste Management KHF (CWM-KHF) results are summarized in Table 2 and Figure 5. The EPA samples were analyzed by the EPA Region 3 laboratory in Fort Meade, Maryland. The CWM-KHF samples were analyzed by TestAmerica Laboratories of West Sacramento, California. Laboratory qualifiers and additional information are included in the laboratory reports in Attachment 1. Regional Screening Levels (RSLs) for industrial and residential sites are included in Table 2 for reference. EPA’s RSLs are for the Superfund/RCRA programs. They are risk-based concentrations derived from standardized equations combining exposure information assumptions with EPA toxicity data. RSLs are considered by the Agency to be protective for humans (including sensitive groups) over a lifetime; however, RSLs are not always applicable to a particular site and do not address non-human health endpoints, such as ecological impacts. Chemical Waste Management has submitted a risk assessment report (human health and ecological) that is currently under review by EPA.

**Table 2. Summary of Analytical Results**

Sample	Congener Number	EPA	CWM - KHF	Units
North	77	5.1 B	< 10	pg/g
Northeast	77	9.1 B	< 15	pg/g
Northwest	77	9.3 B	< 10	pg/g
West	77	no sample	< 10	pg/g
South	77	27.8 B	< 10	pg/g
Southwest	77	420	< 10	pg/g
Southeast (KHF duplicate)	77	no sample	< 10 / < 11	pg/g
B-18 / B-99 (B-99 is EPA duplicate)	77	68.9 / 32 B	< 18	pg/g
Industrial Regional Screening Level (RSL)	77	110,000	110,000	pg/g
Residential Regional Screening Level (RSL)	77	34,000	34,000	pg/g
Sample	Congener Number	EPA	CWM - KHF	Units
North	81	< 3.02	< 10	pg/g
Northeast	81	4.2 B	< 10	pg/g
Northwest	81	< 2.95	< 10	pg/g
West	81	no sample	< 10	pg/g
South	81	10.4 B	< 10	pg/g
Southwest	81	12.3 B	< 10	pg/g
Southeast (KHF duplicate)	81	no sample	< 2.2 / < 2.2	pg/g
B-18 / B-99 (B-99 is EPA duplicate)	81	5.27 / 4.68 B	< 10	pg/g

Industrial Regional Screening Level (RSL)	81	110,000	110,000	pg/g
Residential Regional Screening Level (RSL)	81	34,000	34,000	pg/g
Sample	Congener Number	EPA	CWM - KHF	Units
North	105	37.8 B	12	pg/g
Northeast	105	24.5 B	65	pg/g
Northwest	105	72.3 B	< 10	pg/g
West	105	no sample	10	pg/g
South	105	126 B	21	pg/g
Southwest	105	3130	11	pg/g
Southeast (KHF duplicate)	105	no sample	33 / 28	pg/g
B-18 / B-99 (B-99 is EPA duplicate)	105	340 / 97.3 B	62	pg/g
Industrial Regional Screening Level (RSL)	105	110,000	110,000	pg/g
Residential Regional Screening Level (RSL)	105	34,000	34,000	pg/g
Sample	Congener Number	EPA	CWM - KHF	Units
North	114	1.5	< 10	pg/g
Northeast	114	6.8	< 10	pg/g
Northwest	114	< 2.95	< 10	pg/g
West	114	no sample	< 10	pg/g
South	114	13.8	< 10	pg/g
Southwest	114	13.6	< 10	pg/g
Southeast (KHF duplicate)	114	no sample	< 2.2 / < 2.2	pg/g
B-18 / B-99 (B-99 is EPA duplicate)	114	11.4 / 9.5	< 10	pg/g
Industrial Regional Screening Level (RSL)	114	2300	2300	pg/g
Residential Regional Screening Level (RSL)	114	680	680	pg/g
Sample	Congener Number	EPA	CWM - KHF	Units
North	118	28.5 B	19	pg/g
Northeast	118	41.2 B	100	pg/g
Northwest	118	20.1 B	18	pg/g
West	118	no sample	19	pg/g
South	118	79.8 B	29	pg/g
Southwest	118	489	15	pg/g
Southeast (KHF duplicate)	118	no sample	46 / 51	pg/g
B-18 / B-99 (B-99 is EPA duplicate)	118	321 / 213	85	pg/g
Industrial Regional Screening Level (RSL)	118	110,000	110,000	pg/g
Residential Regional Screening Level (RSL)	118	34,000	34,000	pg/g
Sample	Congener Number	EPA	CWM - KHF	Units
North	123	1.2	< 10	pg/g
Northeast	123	6.5	<10	pg/g



Northwest	123	0.9	< 10	pg/g
West	123	no sample	< 10	pg/g
South	123	11.8	< 10	pg/g
Southwest	123	37.6	< 10	pg/g
Southeast (KHF duplicate)	123	no sample	< 3.6 / < 5.4	pg/g
B-18 / B-99 (B-99 is EPA duplicate)	123	8.59 / 6.67	< 15	pg/g
Industrial Regional Screening Level (RSL)	123	110,000	110,000	pg/g
Residential Regional Screening Level (RSL)	123	34,000	34,000	pg/g

Sample	Congener Number	EPA	CWM - KHF	Units
North	126	2.2	< 10	pg/g
Northeast	126	11.6	< 10	pg/g
Northwest	126	< 2.95	< 10	pg/g
West	126	no sample	< 10	pg/g
South	126	22.6	< 10	pg/g
Southwest	126	36.9	< 10	pg/g
Southeast (KHF duplicate)	126	no sample	< 2.2 / < 2.2	pg/g
B-18 / B-99 (B-99 is EPA duplicate)	126	12.4 / 12.6	< 10	pg/g
Industrial Regional Screening Level (RSL)	126	110	110	pg/g
Residential Regional Screening Level (RSL)	126	34	34	pg/g

Sample	Congener Number	EPA	CWM - KHF	Units
North	156 / 157	11.2 B	< 10	pg/g
Northeast	156 / 157	38.6 B	29	pg/g
Northwest	156 / 157	5.3 B	< 10	pg/g
West	156 / 157	no sample	< 10	pg/g
South	156 / 157	72.5	< 10	pg/g
Southwest	156 / 157	107	< 10	pg/g
Southeast (KHF duplicate)	156 / 157	no sample	10 / 13	pg/g
B-18 / B-99 (B-99 is EPA duplicate)	156 / 157	122 / 100	31	pg/g
Industrial Regional Screening Level (RSL)	156 / 157	2,300	2,300	pg/g
Residential Regional Screening Level (RSL)	156 / 157	680	680	pg/g

Sample	Congener Number	EPA	CWM - KHF	Units
North	167	5.4 B	< 10	pg/g
Northeast	167	18.2 B	16	pg/g
Northwest	167	3.0 B	< 10	pg/g
West	167	no sample	< 10	pg/g
South	167	32.7	< 10	pg/g
Southwest	167	51.8	< 10	pg/g
Southeast (KHF duplicate)	167	no sample	2.7 / 5.2	pg/g
B-18 / B-99 (B-99 is EPA duplicate)	167	57 / 44.8	13	pg/g
Industrial Regional Screening Level (RSL)	167	110,000	110,000	pg/g

Residential Regional Screening Level (RSL)	167	34,000	34,000	pg/g
Sample	Congener Number	EPA	CWM - KHF	Units
North	169	1.7 B	< 10	pg/g
Northeast	169	14.8 B	< 10	pg/g
Northwest	169	< 2.95	< 10	pg/g
West	169	no sample	< 10	pg/g
South	169	27.6	< 10	pg/g
Southwest	169	< 3.65	< 10	pg/g
Southeast (KHF duplicate)	169	no sample	< 2.2 / < 2.2	pg/g
B-18 / B-99 (B-99 is EPA duplicate)	169	7.84 / 10.3 B	< 10	pg/g
Industrial Regional Screening Level (RSL)	169	110,000	110,000	pg/g
Residential Regional Screening Level (RSL)	169	34,000	34,000	pg/g
Sample	Congener Number	EPA	CWM - KHF	Units
North	189	2.6 B	< 10	pg/g
Northeast	189	16.5 B	< 10	pg/g
Northwest	189	< 2.95	< 10	pg/g
West	189	no sample	< 10	pg/g
South	189	31.6	< 10	pg/g
Southwest	189	27.1	< 10	pg/g
Southeast (KHF duplicate)	189	no sample	2.6 / 4.3	pg/g
B-18 / B-99 (B-99 is EPA duplicate)	189	30 / 29.5	< 10	pg/g
Industrial Regional Screening Level (RSL)	189	110,000	110,000	pg/g
Residential Regional Screening Level (RSL)	189	34,000	34,000	pg/g

x / y = sample / duplicate

< x = analyte not detected. The associated value is the laboratory quantitation limit

B = Not detected substantially above (10 times) the level reported in the method blank.

Regional Screening Levels (April 2009): <http://www.epa.gov/region09/superfund/prg/>

Note: laboratory data qualifiers are included in the laboratory analytical reports in Attachment 1.

## 6.1 Comparison of EPA and CWM-KHF Data

In general, the EPA Region 3 laboratory reported higher concentrations of congeners than CWM-KHF. The variation in results may be the result of a combination of factors, including soil sample heterogeneity, the compositing method used (field vs. laboratory composite), experience with the method, analytical variability, and other technical reasons. The very low quantitation limits (pg/g, or approximately part per trillion levels) tend to exaggerate the differences in analytical results. Overall, the analytical results reported by both laboratories were quite low (less than one part per billion), with the exception of EPA's result for congener 105 in the Southwest sample, which is analytically uncertain (Section 7.0).

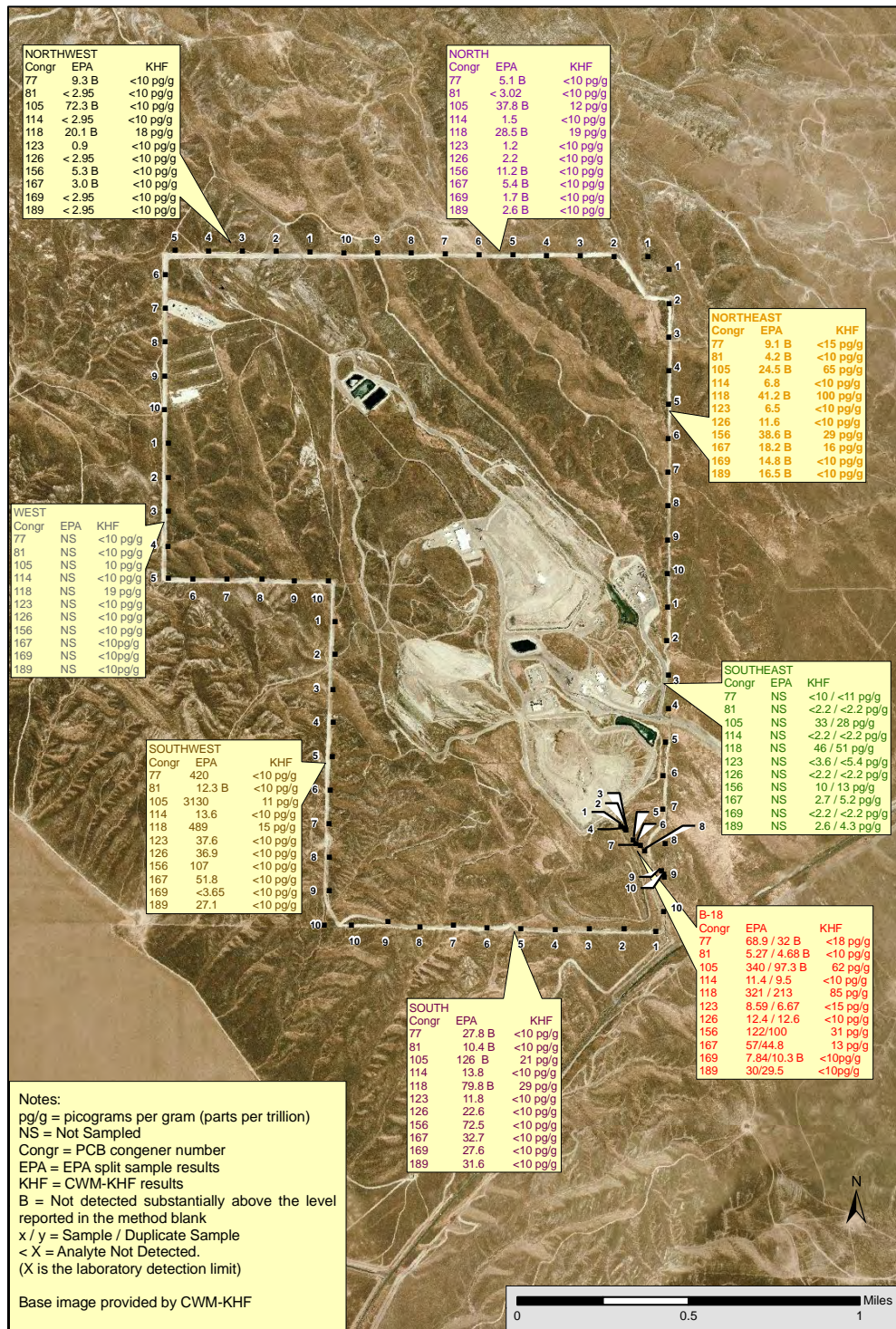


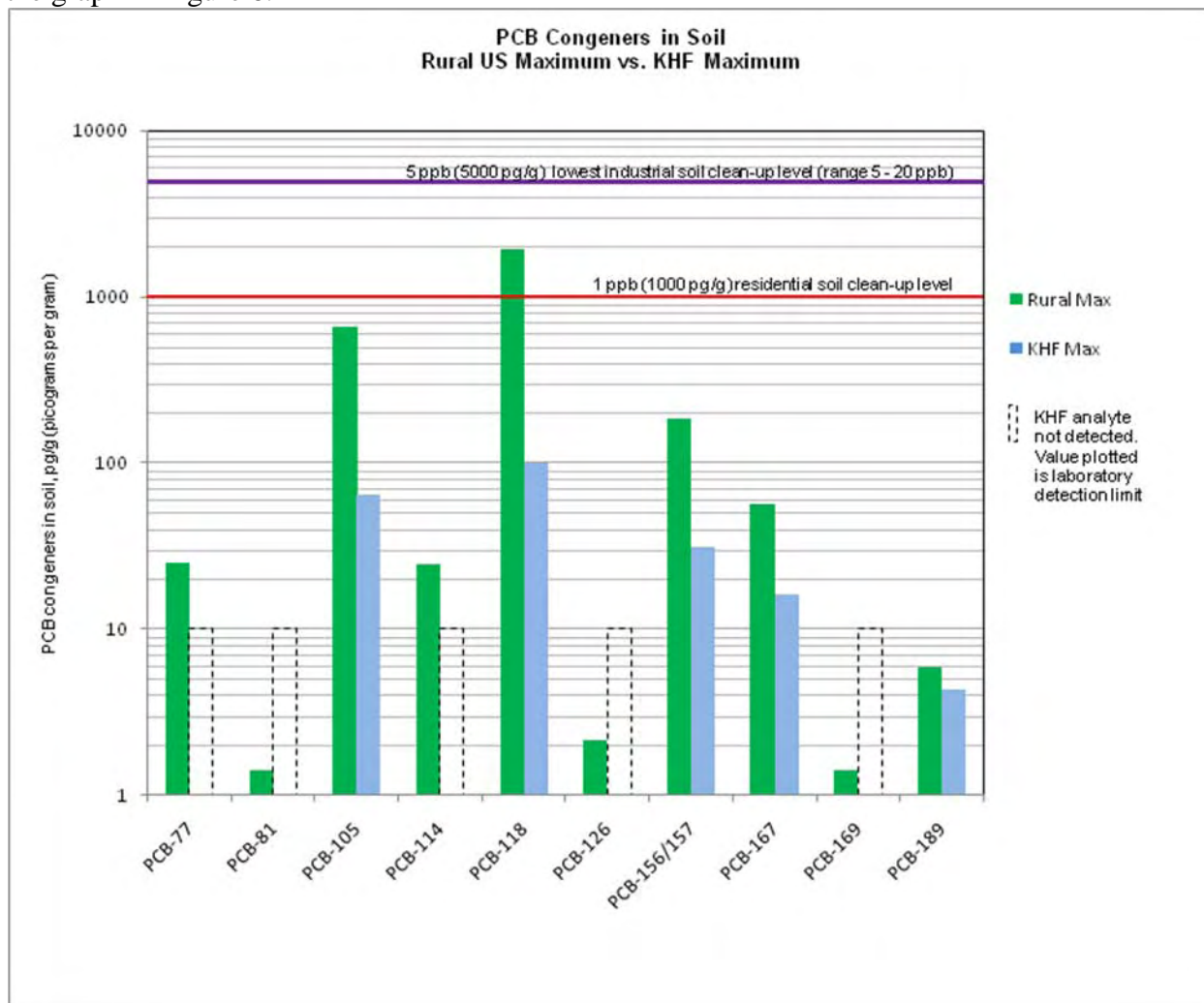
Figure 5. Soil PCB Analytical Results



## 6.2 Comparison of KHF data set to PCB Congeners in rural area soils of the United States

PCBs are anthropogenic (man-made) compounds. Although now banned, decades of PCB use in a wide variety of applications has resulted in the worldwide distribution of PCB congeners. U.S. EPA conducted a study of PCB congeners in rural areas across the United States. The study, which was released in 2007, is titled “*Pilot Survey of Levels of Polychlorinated Dibenzo-p-dioxins, Polychlorinated Dibenzofurans, Polychlorinated Biphenyls, and Mercury in Rural Soils of the United States.*” The EPA document number is EPA/600/R-05/048F.

PCB congener data (maximum values) for the KHF samples and U.S. rural data set is shown in the graph in Figure 6.



**Figure 6. Graph of KHF PCB Congeners Compared to Rural U.S. Soils.** KHF data supplied by Chemical Waste Management, Kettleman Hills Facility. Samples collected 3/31 - 4/1/09 and analyzed by TestAmerica Laboratory, Sacramento. Rural US data set included in “*Pilot Survey of Levels of Polychlorinated Dibenzo-p-dioxins, Polychlorinated Dibenzofurans, Polychlorinated Biphenyls, and Mercury in Rural Soils of the United States,*” document number EPA/600/R-05/048F

The data in the 2007 rural soils report represents soil samples collected from 27 locations



throughout the United States. The rural locations were specifically selected to avoid hazardous waste sites and other known sources of PCB contamination. The study authors indicate that the results of the study pertain to the 27 sites sampled and should not be more broadly interpreted as statistically representative of all rural soils in the United States. These results, however, may be a plausible basis for a preliminary characterization of soils in rural/remote areas.

The KHF data set (Section 6.0) is generally consistent with PCB congener concentrations reported for rural areas. The narrative evaluation of the Kettleman data set relative to the rural U.S. data set (see below) is presented qualitatively rather than quantitatively, as there is insufficient data to perform robust statistical analyses.

Congener 77 was not reported in the Kettleman samples above the laboratory detection limit of 10 pg/g. Rural U.S. soil concentrations ranged up to 25 pg/g.

Congener 81 was not reported in the Kettleman samples above the laboratory detection limit of 10 pg/g. Congener 81 was rarely detected in the U.S. rural soils.

Congener 105 was reported in the Kettleman samples at a maximum concentration of 65 pg/g, which is below the rural U.S. maximum concentration of 657 pg/g.

Congener 114 was not reported in the Kettleman samples above the laboratory detection limit of 10 pg/g. Rural U.S. soil concentrations ranged up to 24 pg/g.

Congener 118 was reported in the Kettleman samples at a maximum concentration of 100 pg/g, which is below the rural U.S. maximum concentration of 1917 pg/g.

Congener 123 is not included in the graph (Figure 6) because it co-elutes (i.e., looks the same on the analytical instrument) with congeners 106 and 107 and was not recorded in the 2007 rural data set as a separate congener.

Congener 126 was not reported in the Kettleman samples above the laboratory detection limit of 10 pg/g. Rural U.S. soil concentrations ranged up to 2 pg/g.

Congener 156/157 was reported in the Kettleman samples at a maximum concentration of 31 pg/g, which is below the rural U.S. maximum concentration of 185 pg/g.

Congener 167 was reported in the Kettleman samples at a maximum concentration of 16 pg/g, which is below the rural U.S. maximum concentration of 57 pg/g.

Congener 169 was not reported in the Kettleman samples above the laboratory detection limit of 10 pg/g. Rural U.S. soil concentrations were less than 2 pg/g.

Congener 189 was reported in the Kettleman samples at a maximum concentration of 4.3 pg/g, which is below the rural U.S. maximum concentration of 6 pg/g.

## **7.0 QUALITY CONTROL RESULTS**

Laboratory analytical data should be viewed within the context of quality control samples. Quality Control (QC) samples are used to measure and control quality and are one part of a laboratory's QA/QC (Quality Assurance / Quality Control) program. Quality assurance generally refers to the overall strategy for obtaining a quality product, while quality control activities are the tactics that are used to measure quality. Available quality control samples for EPA's data set include the following:

- method blank sample
- surrogate results
- field duplicate sample
- matrix spike/duplicate sample
- laboratory control samples (LCS)

The EPA laboratory report is included in Attachment 1.

### **7.1 Method Blank**

A method blank is a contaminant-free laboratory sample of the same matrix (e.g., soil) as the environmental samples. The method blank is prepared and processed in the lab in exactly the same manner as an equivalent environmental sample. The method blank is used to document contamination resulting from the analytical process. EPA's method blank results for the Kettleman project indicated contamination with congeners 77, 81, 105, 118, 156/157, 167, 169, and 189. The EPA laboratory report (Attachment 1) flags significant blank contamination with a "B" qualifier. The "B" qualifier is attached to any analytical result that is less than ten times the concentration found in the associated method blank. For example, detections of congener 77 at concentrations less than 84.8 pg/g are flagged with a "B" qualifier due to the method blank contamination reported at 8.48 pg/g. Analytical results less than ten times the associated blank contamination are analytically uncertain, and may be the result of artificial contamination within the analytical process rather than actual environmental contamination.

The method blank results for the relevant congeners (EPA data set) are shown in Table 3.

**Table 3. Method Blank Results**

Congener Number	Congener Name / Chemical Abstract Service Number	Method Blank Result (pg/g)
77	3,3',4,4'-Tetrachlorobiphenyl (CAS 32598-13-3)	8.48
81	3,4,4',5-Tetrachlorobiphenyl (CAS 70362-50-4)	1.86
105	2,3,3',4,4'-Pentachlorobiphenyl (CAS 32598-14-4)	86
118	2,3',4,4',5-Pentachlorobiphenyl (CAS 31508-00-6)	10.6
156 / 157	(CAS 38380-08-4) / (CAS 69782-90-7)	5.16
167	2,3',4,4',5,5'-Hexachlorobiphenyl (CAS 52663-72-6)	2.2
169	3,3',4,4',5,5'-Hexachlorobiphenyl (CAS 32774-16-6)	1.99
189	2,3,3',4,4',5,5'-Heptachlorobiphenyl (CAS 39635-31-9)	2.49

## 7.2 Surrogate

A surrogate is a chemical which is similar to the target analyte in chemical composition and analytical behavior, but which is not expected to be present in the sample. Surrogates are added to all the environmental samples, blanks, and QC samples in the analytical batch during sample preparation. Surrogate results are used to monitor the performance of the analytical process. Surrogate recoveries are ideally 100%, but the allowable recovery range varies by laboratory and surrogate. Allowable recoveries reported in the EPA laboratory report (Attachment 1) ranged from 15 – 150% to 30 – 135%. Generally acceptable surrogate recoveries were reported for the B-18, B-99 (field duplicate of B-18), Northeast, and North samples. Unacceptable (low) surrogate recoveries were reported for the Northwest, Southwest, and South samples. The low surrogate recoveries may indicate a low bias (i.e., analytical results are lower than what is present in the environment) in the Northwest, Southwest, and South samples.

## 7.3 Field Duplicate

A field duplicate sample is a separate and independent sample collected in the field (e.g., at KHF) at the same time as the original sample. The field duplicate sample is submitted as a “blind” sample, which means it is not identified to laboratory personnel as a duplicate sample. For the KHF project, EPA’s field duplicate sample (labeled B-99) was collected at B-18, and was a duplicate of the composite (homogenized) B-18 sample. Field duplicates are useful in documenting the precision of the sampling and analysis process.

Field duplicates are evaluated by calculating the Relative Percent Difference (RPD) between the primary and duplicate samples. Relative Percent Difference (RPD) is the difference between the samples divided by the mean of the samples:

$$\text{Example (Congener 167): } \frac{57 - 44.8}{50.9} = \frac{12.2}{50.9} \times 100 = 24\%$$

RPDs are not calculated if one (or both) of the samples in a duplicate pair is non-detect for a given analyte. The RPD goal is 30%, provided the values are higher than the laboratory quantitation limit. Split sample RPDs may exceed 30% for a variety of technical reasons, including sample heterogeneity, inadequate mixing of the composite sample, other field error, laboratory error, and the inherent variability in analytical results close to the laboratory quantitation limit.

Field duplicate results (EPA data set) are shown in Table 4.

**Table 4. Field Duplicate Results**

Congener Number	B-18 (pg/g)	B-99 (field duplicate) (pg/g)	Relative Percent Difference (%)
77	68.9	32	73
81	5.27	4.68	12
105	340	97.3	111
114	11.4	9.5	18
118	321	213	40

123	8.59	6.67	25
126	12.4	12.6	2
156 / 157	122	100	20
167	57	44.8	24
169	7.84	10.3	27
189	30	29.5	2

Eight of the eleven paired results met the project RPD goal of 30%, with RPDs ranging from 2 to 27%. Three congeners (77, 105, and 118) exceeded the RPD goal of 30%. Although above the 30% RPD goal, the data provides a qualitative indication of sample variability.

#### **7.4 Matrix Spike / Matrix Spike Duplicate (MS/MSD)**

A matrix spike is an environmental sample that is used for QC purposes. A known concentration of the target analyte is added to the sample (spiked), which is then carried through the analytical process. The matrix spike is used to assess the bias of a method in a given sample matrix. For the KHF samples analyzed by the EPA Region 3 laboratory, some of the matrix spike compounds were outside (generally above) the acceptable limit. The acceptable MS/MSD recovery limits are 50 – 150%. Many of the MS results were above the slightly above the upper limit of the acceptance range, with recovery values from 150 to 177%. The slight high bias in the MS/MSD results may indicate a slight high bias (i.e., laboratory analytical results are higher than what is present in the environment) in the associated samples.

#### **7.5 Laboratory Control Sample (LCS)**

A laboratory control sample (LCS), which is sometimes called a “blank spike” is an analyte-free sample which has been spiked with known concentrations of the target analytes. The spiked sample is then carried through the sample preparation and analytical process. The acceptable recovery for the LCS sample is 50 – 150%. For the Kettleman project, most of the LCS analyte recoveries recorded by the EPA lab were above the upper limit of the acceptance range, with recovery values from 157 – 224% for most of the WHO congeners and 893% recovery for congener 105. The high bias in the LCS results may indicate a slight high bias (i.e., laboratory analytical results are higher than what is present in the environment) for most of the WHO congeners, and a substantial high bias for congener 105.

## **8.0 CONCLUSIONS**

The purpose of this split sampling effort was to assess polychlorinated biphenyl (PCB) congeners in soil near the Chemical Waste Management Kettleman Hills Facility. Composite soil samples were collected at the facility fenceline and downwind of the B-18 landfill on March 31<sup>st</sup> and April 1<sup>st</sup>, 2009. The EPA samples were analyzed at EPA’s Region 3 laboratory in Fort Meade, Maryland. The CWM-KHF samples were analyzed at TestAmerica in West Sacramento, California. The following key points summarize the results of this study.

- Results of the split sampling effort indicate generally low concentrations (part per trillion range) of PCB congeners in soil.



- PCB congeners in soil at the perimeter of the Kettleman Hills Facility are generally consistent with PCB congeners in rural soil nationwide.
- PCB congeners in soil at the perimeter of the Kettleman Hills Facility are nearly all below EPA's Regional Screening Levels for residential and industrial sites.
- PCB congeners in soil at the perimeter of the Kettleman Hills Facility are below EPA's soil clean-up goals for residential and industrial sites.
- The EPA laboratory generally reported higher concentrations of PCB congeners than Chemical Waste Management's laboratory (TestAmerica). Some of the EPA data were outside of quality control specifications, generally resulting in a high bias (i.e., laboratory analytical results are higher than what is present in the environment) in the EPA data set. The net effect of the high bias is that the data are conservative (i.e., health protective).
- The Chemical Waste Management Kettleman Hills Facility Risk Assessment will provide a more definitive analysis of potential risk to human health or ecological receptors.

## ATTACHMENT 1

### LABORATORY ANALYTICAL REPORTS

U.S. Environmental Protection Agency  
Region 3 Laboratory, Fort Meade, Maryland

TestAmerica Laboratories, Inc.  
West Sacramento, California

Note: Attachment 1 includes the laboratory summary data reports. The complete laboratory reports, including raw data, are several hundred pages long. The complete laboratory reports are available upon request.



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 Region 3 Environmental Science Center  
 Office of Analytical Services and Quality Assurance  
 701 Mapes Road  
 Fort Meade, Maryland 20755-5350



**Final Analytical Report**

Site Name.....	Kettleman Hills Waste Management Facility
Sample Collection Date(s).....	03/31/09 12:32- 04/01/09 11:26
Contact.....	Kathy Baylor
Report Date.....	05/21/09 09:37
Project #.....	NSF 470
Work Orders.....	0904005

**Analyses included in this report:**

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PCB Congeners

Percent Dry Weight (105C)

Approved for Release

0904005 FINAL

NSF 470

05 21 09 937

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OASQA Representative



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Region 3 Environmental Science Center  
Office of Analytical Services and Quality Assurance  
701 Mapes Road  
Fort Meade, Maryland 20755-5350



**Site Name: Kettleman Hills Waste Management Facility**

**Project #: NSF 470**

**Report Narrative**

This work order supports the request NSF 470 submitted by EPA Region 9.

The matrix spike (BI71205-MS1) sample did not acquire for the first two functions of the run. The instrument has had software problems since running these samples and the re-run of the MS could not be completed. The compounds affected by the two functions have the code "C" indicated.

Prior to extraction, a new matrix spike solution was made (0900190) because spiking solution 0700561 was starting to show signs of concentration by evaporation of solvent. Solution 0900190 was made from the same stock solution. The recovery results indicate that this stock solution also has concentrated due to evaporation of solvent. Recoveries were high for the Blank Spike, Matrix Spike and Matrix Spike duplicate. Results were not qualified due to the spike recoveries.





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Office of Analytical Services and Quality Assurance  
701 Mapes Road  
Fort Meade, Maryland 20755-5350



**Site Name: Kettleman Hills Waste Management Facility** **Project #: NSF 470**

**ANALYTICAL REPORT FOR SAMPLES**

Station ID	Laboratory ID	Matrix	Date Sampled	Date Received
Southwest	0904005-01	Solid	3/31/2009 12:33	4/2/2009 11:37
South	0904005-02	Solid	3/31/2009 18:10	4/2/2009 11:37
B-18	0904005-03	Solid	4/1/2009 11:26	4/2/2009 11:37
B-99	0904005-04	Solid	4/1/2009 11:26	4/2/2009 11:37
Northeast	0904005-05	Solid	3/31/2009 12:32	4/2/2009 11:37
North	0904005-06	Solid	3/31/2009 18:01	4/2/2009 11:37
Northwest	0904005-07	Solid	4/1/2009 11:06	4/2/2009 11:37



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Office of Analytical Services and Quality Assurance
701 Mapes Road
Fort Meade, Maryland 20755-5350



Site Name: Kettleman Hills Waste Management Facility Project #: NSF 470

ENVIRONMENTAL PROTECTION AGENCY
Office of Enforcement

REGION 9
75 Hawthorne Street
San Francisco, California 94105

CHAIN OF CUSTODY RECORD

Form with fields for PROJ. NO. (NSF470), PROJECT NAME (CWM Kettleman PCB splits), DATE, TIME, MATRIX, COMP, GFLAB, SAMPLE IDENTIFICATION, NO. OF CONTAINERS, and REMARKS. Includes a table with 4 rows of sample data and a bottom section for signatures and dates.

Distribution: Original Accompanies Shipment; Copy to Coordinator Field Files

9- 00479



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Region 3 Environmental Science Center
Office of Analytical Services and Quality Assurance
701 Mapes Road
Fort Meade, Maryland 20755-5350



Site Name: Kettleman Hills Waste Management Facility Project #: NSF 470

ENVIRONMENTAL PROTECTION AGENCY
Office of Enforcement

CHAIN OF CUSTODY RECORD

REGION 9
75 Hawthorne Street
San Francisco, California 94105

Form with columns: PROJ. NO., PROJECT NAME, NO. OF CONTAINERS, DATE, TIME, MATRIX, COMP., C/PAB, SAMPLE IDENTIFICATION, REMARKS. Includes handwritten entries for NSF 470, Kettleman Hills, and sample locations (NORTHEAST, NORTH, NORTHWEST).

Distribution: Original Accompanies Shipment; Copy to Coordinator Field Files

9- 00813



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Region 3 Environmental Science Center
Office of Analytical Services and Quality Assurance
701 Mapes Road
Fort Meade, Maryland 20755-5350



Site Name: Kettleman Hills Waste Management Facility
Station ID: Southwest
Sample Matrix: Solid
Project #: NSF 470
Lab ID: 0904005-01
Date Collected: 03/31/2009

PCB Congeners

Targets

Batch: BI71205 Sample Weight: %Solids: 97.30 Sample Wet Weight: 5.63g Method/SOP#: EPA 1668a

Table with 7 columns: Congener Number, Analyte, Result (pg/g dry), Flags/Qualifiers, Quantitation Limit, Dilution Factor, Date Analyzed. Rows list various PCB congeners from 1 to 46 with their respective results and flags.





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Fort Meade, Maryland 20755-5350



Site Name: Kettleman Hills Waste Management Facility
Station ID: Southwest
Sample Matrix: Solid
Project #: NSF 470
Lab ID: 0904005-01
Date Collected: 03/31/2009

PCB Congeners

Targets (Continued)

Batch: BI71205 Sample Weight: %Solids: 97.30 Sample Wet Weight: 5.63g Method/SOP#: EPA 1668a

Table with 7 columns: Congener Number, Analyte, Result (pg/g dry), Flags/Qualifiers, Quantitation Limit, Dilution Factor, Date Analyzed. Rows list various PCB congeners and their results.



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Fort Meade, Maryland 20755-5350



Site Name: Kettleman Hills Waste Management Facility
Station ID: Southwest
Sample Matrix: Solid
Project #: NSF 470
Lab ID: 0904005-01
Date Collected: 03/31/2009

PCB Congeners

Targets (Continued)

Batch: BI71205 Sample Weight: %Solids: 97.30 Sample Wet Weight: 5.63g Method/SOP#: EPA 1668a

Table with 7 columns: Congener Number, Analyte, Result (pg/g dry), Flags/Qualifiers, Quantitation Limit, Dilution Factor, Date Analyzed. Rows list various PCB congeners and their results.



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Site Name: Kettleman Hills Waste Management Facility
Station ID: Southwest
Sample Matrix: Solid
Project #: NSF 470
Lab ID: 0904005-01
Date Collected: 03/31/2009

PCB Congeners

Targets (Continued)

Batch: BI71205 Sample Weight: %Solids: 97.30 Sample Wet Weight: 5.63g Method/SOP#: EPA 1668a

Table with 7 columns: Congener Number, Analyte, Result (pg/g dry), Flags/Qualifiers, Quantitation Limit, Dilution Factor, Date Analyzed. Rows list various PCB congeners such as 2,3,3',4,4',6-Hexachlorobiphenyl, 2,2',3,3',4,4',5,5'-Heptachlorobiphenyl, etc.



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Site Name: Kettleman Hills Waste Management Facility
Station ID: Southwest
Sample Matrix: Solid
Project #: NSF 470
Lab ID: 0904005-01
Date Collected: 03/31/2009

PCB Congeners

Targets (Continued)

Batch: BI71205 Sample Weight: %Solids: 97.30 Sample Wet Weight: 5.63g Method/SOP#: EPA 1668a

Table with 7 columns: Congener Number, Analyte, Result (pg/g dry), Flags/Qualifiers, Quantitation Limit, Dilution Factor, Date Analyzed. Rows include congeners 204-209 and total congeners 1-3, 4-15, 16-39, 40-81, 82-127, 128-169, 170-193, 194-205, 206-208.

Surrogates

Table with 7 columns: Congener Number, Analyte, Result (ng/mL), Flags/Qualifiers, Quantitation Limit, Dilution Factor, Date Analyzed. Rows list surrogate congeners 1L through 123L with their respective analyte names and results.





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Fort Meade, Maryland 20755-5350



Site Name: Kettleman Hills Waste Management Facility
Station ID: Southwest
Sample Matrix: Solid
Project #: NSF 470
Lab ID: 0904005-01
Date Collected: 03/31/2009

PCB Congeners

Surrogates

Table with 7 columns: Congener Number, Analyte, Result (ng/mL), Flags/Qualifiers, Quantitation Limit, Dilution Factor, Date Analyzed. Rows list various PCB congeners and their surrogate values.



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Fort Meade, Maryland 20755-5350



Site Name: Kettleman Hills Waste Management Facility
Station ID: South
Sample Matrix: Solid
Project #: NSF 470
Lab ID: 0904005-02
Date Collected: 03/31/2009

PCB Congeners

Targets

Batch: BI71205 Sample Weight: %Solids: 97.30 Sample Wet Weight: 5.9g Method/SOP#: EPA 1668a

Table with 7 columns: Congener Number, Analyte, Result (pg/g dry), Flags/Qualifiers, Quantitation Limit, Dilution Factor, Date Analyzed. Rows list various PCB congeners and their results.



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Site Name: Kettleman Hills Waste Management Facility
Station ID: South
Sample Matrix: Solid
Project #: NSF 470
Lab ID: 0904005-02
Date Collected: 03/31/2009

PCB Congeners

Targets (Continued)

Batch: BI71205 Sample Weight: %Solids: 97.30 Sample Wet Weight: 5.9g Method/SOP#: EPA 1668a

Table with 7 columns: Congener Number, Analyte, Result (pg/g dry), Flags/Qualifiers, Quantitation Limit, Dilution Factor, Date Analyzed. Rows list various PCB congeners such as 2,2',3,6'-Tetrachlorobiphenyl, 2,2',4,5'-Tetrachlorobiphenyl, etc.



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Office of Analytical Services and Quality Assurance  
701 Mapes Road  
Fort Meade, Maryland 20755-5350



<b>Site Name:</b> Kettleman Hills Waste Management Facility	<b>Project #:</b> NSF 470
<b>Station ID:</b> South	<b>Lab ID:</b> 0904005-02
<b>Sample Matrix:</b> Solid	<b>Date Collected:</b> 03/31/2009

PCB Congeners

Targets (Continued)

Batch: BI71205    Sample Weight:    %Solids: 97.30    Sample Wet Weight: 5.9g    Method/SOP#: EPA 1668a

Congener Number:	Analyte	Result pg/g dry	Flags Qualifiers	Quantitation Limit	Dilution Factor	Date Analyzed
103	2,2',4,5',6-Pentachlorobiphenyl	U		3.48	1	04/15/09 16:47
104	2,2',4,6,6'-Pentachlorobiphenyl	U		3.48	1	04/15/09 16:47
105	<b>2,3,3',4,4'-Pentachlorobiphenyl</b>	126	EMPC, B	3.48	1	04/15/09 16:47
106	2,3,3',4,5-Pentachlorobiphenyl	U		3.48	1	04/15/09 16:47
107	<b>2,3,3',4',5-Pentachlorobiphenyl</b>	9.86		3.48	1	04/15/09 16:47
108/124	<b>2,3,3',4,5'-PeCB/2,3',4',5,5'-PeCB</b>	6.17		3.48	1	04/15/09 16:47
110/115	<b>2,3,3',4',6-PeCB/2,3,4,4',6-PeCB</b>	89.2	B	3.48	1	04/15/09 16:47
111	2,3,3',5,5'-Pentachlorobiphenyl	U		3.48	1	04/15/09 16:47
114	<b>2,3,4,4',5-Pentachlorobiphenyl</b>	13.8		3.48	1	04/15/09 16:47
118	<b>2,3',4,4',5-Pentachlorobiphenyl</b>	79.8	B	3.48	1	04/15/09 16:47
120	2,3',4,5,5'-Pentachlorobiphenyl	U		3.48	1	04/15/09 16:47
121	2,3',4,5',6-Pentachlorobiphenyl	U		3.48	1	04/15/09 16:47
122	<b>2,3,3',4',5'-Pentachlorobiphenyl</b>	7.28	EMPC	3.48	1	04/15/09 16:47
123	<b>2,3',4,4',5'-Pentachlorobiphenyl</b>	11.8		3.48	1	04/15/09 16:47
126	<b>3,3',4,4',5-Pentachlorobiphenyl</b>	22.6		3.48	1	04/15/09 16:47
127	3,3',4,5,5'-Pentachlorobiphenyl	U		3.48	1	04/15/09 16:47
128/166	<b>2,2',3,3',4,4'-HxCB/2,3,4,4',5,6-HxCB</b>	23.2	B	3.48	1	04/15/09 16:47
129/138/163	<b>HxCB-129/138/163</b>	183		3.48	1	04/15/09 16:47
130	<b>2,2',3,3',4,5'-Hexachlorobiphenyl</b>	9.23		3.48	1	04/15/09 16:47
131	2,2',3,3',4,6-Hexachlorobiphenyl	U		3.48	1	04/15/09 16:47
132	<b>2,2',3,3',4,6'-Hexachlorobiphenyl</b>	39.0	B	3.48	1	04/15/09 16:47
133	<b>2,2',3,3',5,5'-Hexachlorobiphenyl</b>	3.09	J	3.48	1	04/15/09 16:47
134/143	<b>2,2',3,3',5,6-HxCB/2,2',3,4,5,6'-HxCB</b>	7.35		3.48	1	04/15/09 16:47
135/151	<b>2,2',3,3',5,6'-HxCB/2,2',3,5,5',6-HxCB</b>	52.3		3.48	1	04/15/09 16:47
136	<b>2,2',3,3',6,6'-Hexachlorobiphenyl</b>	24.8	B	3.48	1	04/15/09 16:47
137	<b>2,2',3,4,4',5-Hexachlorobiphenyl</b>	5.12		3.48	1	04/15/09 16:47
139/140	2,2',3,4,4',6-HxCB/2,2',3,4,4',6'-HxCB	U		3.48	1	04/15/09 16:47
141	<b>2,2',3,4,5,5'-Hexachlorobiphenyl</b>	35.9		3.48	1	04/15/09 16:47
142	2,2',3,4,5,6-Hexachlorobiphenyl	U		3.48	1	04/15/09 16:47
144	<b>2,2',3,4,5',6-Hexachlorobiphenyl</b>	6.65		3.48	1	04/15/09 16:47
145	2,2',3,4,6,6'-Hexachlorobiphenyl	U		3.48	1	04/15/09 16:47
146	<b>2,2',3,4',5,5'-Hexachlorobiphenyl</b>	29.5		3.48	1	04/15/09 16:47
147/149	<b>2,2',3,4',5,6-HxCB/2,2',3,4',5',6-HxCB</b>	123		3.48	1	04/15/09 16:47
148	2,2',3,4',5,6'-Hexachlorobiphenyl	U		3.48	1	04/15/09 16:47
150	2,2',3,4',6,6'-Hexachlorobiphenyl	U		3.48	1	04/15/09 16:47
152	2,2',3,5,6,6'-Hexachlorobiphenyl	U		3.48	1	04/15/09 16:47
153/168	<b>2,2',4,4',5,5'-HxCB/2,3',4,4',5',6-HxCB</b>	184		3.48	1	04/15/09 16:47
154	2,2',4,4',5,6'-Hexachlorobiphenyl	U		3.48	1	04/15/09 16:47





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701 Mapes Road  
Fort Meade, Maryland 20755-5350



<b>Site Name:</b> Kettleman Hills Waste Management Facility	<b>Project #:</b> NSF 470
<b>Station ID:</b> South	<b>Lab ID:</b> 0904005-02
<b>Sample Matrix:</b> Solid	<b>Date Collected:</b> 03/31/2009

PCB Congeners

Targets (Continued)

Batch: BI71205    Sample Weight:    %Solids: 97.30    Sample Wet Weight: 5.9g    Method/SOP#: EPA 1668a

Congener Number:	Analyte	Result pg/g dry	Flags Qualifiers	Quantitation Limit	Dilution Factor	Date Analyzed
155	2,2',4,4',6,6'-Hexachlorobiphenyl	3.40	J	3.48	1	04/15/09 16:47
156/157	2,3,3',4,4',5-HxCB/2,3,3',4,4',5'-HxCB	72.5		3.48	1	04/15/09 16:47
158	2,3,3',4,4',6-Hexachlorobiphenyl	20.2		3.48	1	04/15/09 16:47
159	2,3,3',4,5,5'-Hexachlorobiphenyl	4.18		3.48	1	04/15/09 16:47
160	2,3,3',4,5,6-Hexachlorobiphenyl	U		3.48	1	04/15/09 16:47
161	2,3,3',4,5',6-Hexachlorobiphenyl	U		3.48	1	04/15/09 16:47
162	2,3,3',4',5,5'-Hexachlorobiphenyl	21.4	EMPC, B	3.48	1	04/15/09 16:47
164	2,3,3',4',5',6-Hexachlorobiphenyl	19.1		3.48	1	04/15/09 16:47
165	2,3,3',5,5',6-Hexachlorobiphenyl	U		3.48	1	04/15/09 16:47
167	2,3',4,4',5,5'-Hexachlorobiphenyl	32.7		3.48	1	04/15/09 16:47
169	3,3',4,4',5,5'-Hexachlorobiphenyl	27.6		3.48	1	04/15/09 16:47
170	2,2',3,3',4,4',5-Heptachlorobiphenyl	107	B	3.48	1	04/15/09 16:47
171/173	2,2',3,3',4,4',6-HpCB/2,2',3,3',4,5,6-HpCB	26.0		3.48	1	04/15/09 16:47
172	2,2',3,3',4,5,5'-Heptachlorobiphenyl	18.4		3.48	1	04/15/09 16:47
174	2,2',3,3',4,5,6'-Heptachlorobiphenyl	89.9		3.48	1	04/15/09 16:47
175	2,2',3,3',4,5',6-Heptachlorobiphenyl	U		3.48	1	04/15/09 16:47
176	2,2',3,3',4,6,6'-Heptachlorobiphenyl	13.2		3.48	1	04/15/09 16:47
177	2,2',3,3',4,5',6'-Heptachlorobiphenyl	49.5		3.48	1	04/15/09 16:47
178	2,2',3,3',5,5',6-Heptachlorobiphenyl	17.3		3.48	1	04/15/09 16:47
179	2,2',3,3',5,6,6'-Heptachlorobiphenyl	40.8		3.48	1	04/15/09 16:47
180/193	2,2',3,4,4',5,5'-HpCB/2,3,3',4',5,5',6-HpCB	248		3.48	1	04/15/09 16:47
181	2,2',3,4,4',5,6-Heptachlorobiphenyl	U		3.48	1	04/15/09 16:47
182	2,2',3,4,4',5,6'-Heptachlorobiphenyl	15.3	EMPC	3.48	1	04/15/09 16:47
183/185	2,2',3,4,4',5',6-HpCB/2,2',3,4,5,5',6-HpCB	49.8		3.48	1	04/15/09 16:47
184	2,2',3,4,4',6,6'-Heptachlorobiphenyl	U		3.48	1	04/15/09 16:47
186	2,2',3,4,5,6,6'-Heptachlorobiphenyl	U		3.48	1	04/15/09 16:47
187	2,2',3,4',5,5',6-Heptachlorobiphenyl	121		3.48	1	04/15/09 16:47
188	2,2',3,4',5,6,6'-Heptachlorobiphenyl	12.2		3.48	1	04/15/09 16:47
189	2,3,3',4,4',5,5'-Heptachlorobiphenyl	31.6		3.48	1	04/15/09 16:47
190	2,3,3',4,4',5,6-Heptachlorobiphenyl	26.8		3.48	1	04/15/09 16:47
191	2,3,3',4,4',5',6-Heptachlorobiphenyl	7.63		3.48	1	04/15/09 16:47
192	2,3,3',4,5,5',6-Heptachlorobiphenyl	U		3.48	1	04/15/09 16:47
194	2,2',3,3',4,4',5,5'-Octachlorobiphenyl	48.1		3.48	1	04/15/09 16:47
195	2,2',3,3',4,4',5,6-Octachlorobiphenyl	19.4		3.48	1	04/15/09 16:47
196	2,2',3,3',4,4',5,6'-Octachlorobiphenyl	28.4	B	3.48	1	04/15/09 16:47
197/200	2,2',3,3',4,4',6,6'-OxCB/2,2',3,3',4,5,6,6'-OxCB	13.9	B	3.48	1	04/15/09 16:47
198/199	2,2',3,3',4,5,5',6-OxCB/2,2',3,3',4,5,5',6'-OxCB	53.7		3.48	1	04/15/09 16:47
201	2,2',3,3',4,5',6,6'-Octachlorobiphenyl	9.51		3.48	1	04/15/09 16:47



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

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701 Mapes Road  
Fort Meade, Maryland 20755-5350



<b>Site Name:</b> Kettleman Hills Waste Management Facility	<b>Project #:</b> NSF 470
<b>Station ID:</b> South	<b>Lab ID:</b> 0904005-02
<b>Sample Matrix:</b> Solid	<b>Date Collected:</b> 03/31/2009

PCB Congeners

Targets (Continued)

Batch: BI71205 Sample Weight: %Solids: 97.30 Sample Wet Weight: 5.9g Method/SOP#: EPA 1668a

Congener Number:	Analyte	Result pg/g dry	Flags Qualifiers	Quantitation Limit	Dilution Factor	Date Analyzed
202	2,2',3,3',5,5',6,6'-Octachlorobiphenyl	29.9		3.48	1	04/15/09 16:47
203	2,2',3,4,4',5,5',6-Octachlorobiphenyl	36.6		3.48	1	04/15/09 16:47
204	2,2',3,4,4',5,6,6'-Octachlorobiphenyl	2.62	J	3.48	1	04/15/09 16:47
205	2,3,3',4,4',5,5',6-Octachlorobiphenyl	35.9		3.48	1	04/15/09 16:47
206	2,2',3,3',4,4',5,5',6-Nonachlorobiphenyl	43.5		3.48	1	04/15/09 16:47
207	2,2',3,3',4,4',5,6,6'-Nonachlorobiphenyl	5.40	B	3.48	1	04/15/09 16:47
208	2,2',3,3',4,5,5',6,6'-Nonachlorobiphenyl	31.5		3.48	1	04/15/09 16:47
209	2,2',3,3',4,4',5,5',6,6'-Decachlorobiphenyl	37.6		3.48	1	04/15/09 16:47
1-3	Total Monochlorobiphenyl	20.4		3.48	1	04/15/09 16:47
4-15	Total Dichlorobiphenyl	107	B	3.48	1	04/15/09 16:47
16-39	Total Trichlorobiphenyl	387	B	3.48	1	04/15/09 16:47
40-81	Total Tetrachlorobiphenyl	552	B	3.48	1	04/15/09 16:47
82-127	Total Pentachlorobiphenyl	676	B	3.48	1	04/15/09 16:47
128-169	Total Hexachlorobiphenyl	920	B	3.48	1	04/15/09 16:47
170-193	Total Heptachlorobiphenyl	874		3.48	1	04/15/09 16:47
194-205	Total Octachlorobiphenyl	278		3.48	1	04/15/09 16:47
206-208	Total Nonachlorobiphenyl	80.5		3.48	1	04/15/09 16:47
209	Decachlorobiphenyl	37.6		3.48	1	04/15/09 16:47

Surrogates

Congener Number:	Analyte	Result ng/mL	Flags Qualifiers	Quantitation Limit	Dilution Factor	Date Analyzed
1L	Surrogate: 13C12-2-Monochlorobiphenyl	7.62	A	8 %	15-150	04/15/09 16:47
3L	Surrogate: 13C12-4-Monochlorobiphenyl	10.7	A	11 %	15-150	04/15/09 16:47
4L	Surrogate: 13C12-2,2'-Dichlorobiphenyl	10.9	A	11 %	25-150	04/15/09 16:47
15L	Surrogate: 13C12-4,4'-Dichlorobiphenyl	22.4	A	22 %	25-150	04/15/09 16:47
19L	Surrogate: 13C12-2,2',6-Trichlorobiphenyl	14.9	A	15 %	25-150	04/15/09 16:47
37L	Surrogate: 13C12-3,4,4'-Trichlorobiphenyl	23.1	A	23 %	25-150	04/15/09 16:47
54L	Surrogate: 13C12-2,2',6,6'-Tetrachlorobiphenyl	15.4	A	15 %	25-150	04/15/09 16:47
77L	Surrogate: 13C12-3,3',4,4'-Tetrachlorobiphenyl	22.0	A	22 %	25-150	04/15/09 16:47
81L	Surrogate: 13C12-3,4,4',5-Tetrachlorobiphenyl	20.1	A	20 %	25-150	04/15/09 16:47
104L	Surrogate: 13C12-2,2',4,6,6'-Pentachlorobiphenyl	17.9	A	18 %	25-150	04/15/09 16:47
105L	Surrogate: 13C12-2,3,3',4,4'-Pentachlorobiphenyl	21.1	A	21 %	25-150	04/15/09 16:47
114 L	Surrogate: 13C12-2,3,4,4',5-Pentachlorobiphenyl	19.3	A	19 %	25-150	04/15/09 16:47
118 L	Surrogate: 13C12-2,3',4,4',5-Pentachlorobiphenyl	19.7	A	20 %	25-150	04/15/09 16:47



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701 Mapes Road
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Site Name: Kettleman Hills Waste Management Facility
Station ID: South
Sample Matrix: Solid
Project #: NSF 470
Lab ID: 0904005-02
Date Collected: 03/31/2009

PCB Congeners

Surrogates

Table with 7 columns: Congener Number, Analyte, Result (ng/mL), Flags/Qualifiers, Quantitation Limit, Dilution Factor, Date Analyzed. Rows include congeners 123L through 178L with their respective surrogate names and results.



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Site Name: Kettleman Hills Waste Management Facility
Station ID: B-18
Sample Matrix: Solid
Project #: NSF 470
Lab ID: 0904005-03
Date Collected: 04/01/2009

PCB Congeners

Targets

Batch: BI71205 Sample Weight: %Solids: 97.50 Sample Wet Weight: 5.18g Method/SOP#: EPA 1668a

Table with 7 columns: Congener Number, Analyte, Result (pg/g dry), Flags/Qualifiers, Quantitation Limit, Dilution Factor, Date Analyzed. Rows list various PCB congeners and their results.



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701 Mapes Road
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Site Name: Kettleman Hills Waste Management Facility
Station ID: B-18
Sample Matrix: Solid
Project #: NSF 470
Lab ID: 0904005-03
Date Collected: 04/01/2009

PCB Congeners

Targets (Continued)

Batch: BI71205 Sample Weight: %Solids: 97.50 Sample Wet Weight: 5.18g Method/SOP#: EPA 1668a

Table with 7 columns: Congener Number, Analyte, Result (pg/g dry), Flags/Qualifiers, Quantitation Limit, Dilution Factor, Date Analyzed. Rows list various PCB congeners and their results.





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Fort Meade, Maryland 20755-5350



Site Name: Kettleman Hills Waste Management Facility
Station ID: B-18
Sample Matrix: Solid
Project #: NSF 470
Lab ID: 0904005-03
Date Collected: 04/01/2009

PCB Congeners

Targets (Continued)

Batch: BI71205 Sample Weight: %Solids: 97.50 Sample Wet Weight: 5.18g Method/SOP#: EPA 1668a

Table with 7 columns: Congener Number, Analyte, Result (pg/g dry), Flags/Qualifiers, Quantitation Limit, Dilution Factor, Date Analyzed. Rows list various PCB congeners from 104 to 155.



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Site Name: Kettleman Hills Waste Management Facility
Station ID: B-18
Sample Matrix: Solid
Project #: NSF 470
Lab ID: 0904005-03
Date Collected: 04/01/2009

PCB Congeners

Targets (Continued)

Batch: BI71205 Sample Weight: %Solids: 97.50 Sample Wet Weight: 5.18g Method/SOP#: EPA 1668a

Table with 7 columns: Congener Number, Analyte, Result (pg/g dry), Flags/Qualifiers, Quantitation Limit, Dilution Factor, Date Analyzed. Rows list various PCB congeners such as 2,3,3',4,4',5'-HxCB, 2,3,3',4,4',6'-Hexachlorobiphenyl, etc.



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<b>Site Name:</b> Kettleman Hills Waste Management Facility	<b>Project #:</b> NSF 470
<b>Station ID:</b> B-18	<b>Lab ID:</b> 0904005-03
<b>Sample Matrix:</b> Solid	<b>Date Collected:</b> 04/01/2009

PCB Congeners

Targets (Continued)

Batch: BI71205    Sample Weight:    %Solids: 97.50    Sample Wet Weight: 5.18g    Method/SOP#:    EPA 1668a

Congener Number:	Analyte	Result pg/g dry	Flags Qualifiers	Quantitation Limit	Dilution Factor	Date Analyzed
203	2,2',3,4,4',5,5',6-Octachlorobiphenyl	217		3.96	1	04/15/09 17:51
204	2,2',3,4,4',5,6,6'-Octachlorobiphenyl	U		3.96	1	04/15/09 17:51
205	2,3,3',4,4',5,5',6-Octachlorobiphenyl	25.4		3.96	1	04/15/09 17:51
206	2,2',3,3',4,4',5,5',6-Nonachlorobiphenyl	81.2		3.96	1	04/15/09 17:51
207	2,2',3,3',4,4',5,6,6'-Nonachlorobiphenyl	11.9		3.96	1	04/15/09 17:51
208	2,2',3,3',4,5,5',6,6'-Nonachlorobiphenyl	19.7		3.96	1	04/15/09 17:51
209	2,2',3,3',4,4',5,5',6,6'-Decachlorobiphenyl	23.0		3.96	1	04/15/09 17:51
1-3	Total Monochlorobiphenyl	11.0		3.96	1	04/15/09 17:51
4-15	Total Dichlorobiphenyl	227	B	3.96	1	04/15/09 17:51
16-39	Total Trichlorobiphenyl	1030	B	3.96	1	04/15/09 17:51
40-81	Total Tetrachlorobiphenyl	2110		3.96	1	04/15/09 17:51
82-127	Total Pentachlorobiphenyl	2430		3.96	1	04/15/09 17:51
128-169	Total Hexachlorobiphenyl	4960		3.96	1	04/15/09 17:51
170-193	Total Heptachlorobiphenyl	5490		3.96	1	04/15/09 17:51
194-205	Total Octachlorobiphenyl	1230		3.96	1	04/15/09 17:51
206-208	Total Nonachlorobiphenyl	113		3.96	1	04/15/09 17:51
209	Decachlorobiphenyl	23.0		3.96	1	04/15/09 17:51

Surrogates

Congener Number:	Analyte	Result ng/mL	Flags Qualifiers	Quantitation Limit	Dilution Factor	Date Analyzed
1L	Surrogate: 13C12-2-Monochlorobiphenyl	13.9	A	14 %	15-150	04/15/09 17:51
3L	Surrogate: 13C12-4-Monochlorobiphenyl	17.5		18 %	15-150	04/15/09 17:51
4L	Surrogate: 13C12-2,2'-Dichlorobiphenyl	18.6	A	19 %	25-150	04/15/09 17:51
15L	Surrogate: 13C12-4,4'-Dichlorobiphenyl	32.8		33 %	25-150	04/15/09 17:51
19L	Surrogate: 13C12-2,2',6-Trichlorobiphenyl	23.5	A	24 %	25-150	04/15/09 17:51
37L	Surrogate: 13C12-3,4,4'-Trichlorobiphenyl	38.0		38 %	25-150	04/15/09 17:51
54L	Surrogate: 13C12-2,2',6,6'-Tetrachlorobiphenyl	23.8	A	24 %	25-150	04/15/09 17:51
77L	Surrogate: 13C12-3,3',4,4'-Tetrachlorobiphenyl	38.3		38 %	25-150	04/15/09 17:51
81L	Surrogate: 13C12-3,4,4',5-Tetrachlorobiphenyl	36.1		36 %	25-150	04/15/09 17:51
104L	Surrogate: 13C12-2,2',4,6,6'-Pentachlorobiphenyl	28.4		28 %	25-150	04/15/09 17:51
105L	Surrogate: 13C12-2,3,3',4,4'-Pentachlorobiphenyl	35.0		35 %	25-150	04/15/09 17:51
114 L	Surrogate: 13C12-2,3,4,4',5-Pentachlorobiphenyl	32.7		33 %	25-150	04/15/09 17:51
118 L	Surrogate: 13C12-2,3',4,4',5-Pentachlorobiphenyl	34.2		34 %	25-150	04/15/09 17:51



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Site Name: Kettleman Hills Waste Management Facility
Station ID: B-18
Sample Matrix: Solid
Project #: NSF 470
Lab ID: 0904005-03
Date Collected: 04/01/2009

PCB Congeners

Surrogates

Table with 7 columns: Congener Number, Analyte, Result (ng/mL), Flags/Qualifiers, Quantitation Limit, Dilution Factor, Date Analyzed. Rows list various PCB congeners and their surrogate results.



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Site Name: Kettleman Hills Waste Management Facility
Station ID: B-99
Sample Matrix: Solid
Project #: NSF 470
Lab ID: 0904005-04
Date Collected: 04/01/2009

PCB Congeners

Targets

Batch: BI71205 Sample Weight: %Solids: 97.50 Sample Wet Weight: 5.04g Method/SOP#: EPA 1668a

Table with 7 columns: Congener Number, Analyte, Result (pg/g dry), Flags/Qualifiers, Quantitation Limit, Dilution Factor, Date Analyzed. Rows list various PCB congeners and their results.





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Site Name: Kettleman Hills Waste Management Facility
Station ID: B-99
Sample Matrix: Solid
Project #: NSF 470
Lab ID: 0904005-04
Date Collected: 04/01/2009

PCB Congeners

Targets (Continued)

Batch: BI71205 Sample Weight: %Solids: 97.50 Sample Wet Weight: 5.04g Method/SOP#: EPA 1668a

Table with 7 columns: Congener Number, Analyte, Result (pg/g dry), Flags/Qualifiers, Quantitation Limit, Dilution Factor, Date Analyzed. Rows list various PCB congeners and their corresponding results and flags.



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Site Name: Kettleman Hills Waste Management Facility
Station ID: B-99
Sample Matrix: Solid
Project #: NSF 470
Lab ID: 0904005-04
Date Collected: 04/01/2009

PCB Congeners

Targets (Continued)

Batch: BI71205 Sample Weight: %Solids: 97.50 Sample Wet Weight: 5.04g Method/SOP#: EPA 1668a

Table with 7 columns: Congener Number, Analyte, Result (pg/g dry), Flags/Qualifiers, Quantitation Limit, Dilution Factor, Date Analyzed. Rows list various PCB congeners and their results.



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Site Name: Kettleman Hills Waste Management Facility
Station ID: B-99
Sample Matrix: Solid
Project #: NSF 470
Lab ID: 0904005-04
Date Collected: 04/01/2009

PCB Congeners

Targets (Continued)

Batch: BI71205 Sample Weight: %Solids: 97.50 Sample Wet Weight: 5.04g Method/SOP#: EPA 1668a

Table with 7 columns: Congener Number, Analyte, Result (pg/g dry), Flags/Qualifiers, Quantitation Limit, Dilution Factor, Date Analyzed. Rows list various PCB congeners such as 2,2',4,4',6,6'-Hexachlorobiphenyl, 2,3,3',4,4',5-HxCB, etc.



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<b>Site Name:</b> Kettleman Hills Waste Management Facility	<b>Project #:</b> NSF 470
<b>Station ID:</b> B-99	<b>Lab ID:</b> 0904005-04
<b>Sample Matrix:</b> Solid	<b>Date Collected:</b> 04/01/2009

PCB Congeners

Targets (Continued)

Batch: BI71205    Sample Weight:    %Solids: 97.50    Sample Wet Weight: 5.04g    Method/SOP#: EPA 1668a

Congener Number:	Analyte	Result pg/g dry	Flags Qualifiers	Quantitation Limit	Dilution Factor	Date Analyzed
202	2,2',3,3',5,5',6,6'-Octachlorobiphenyl	42.7		4.07	1	04/15/09 18:56
203	2,2',3,4,4',5,5',6-Octachlorobiphenyl	171		4.07	1	04/15/09 18:56
204	2,2',3,4,4',5,6,6'-Octachlorobiphenyl	U		4.07	1	04/15/09 18:56
205	2,3,3',4,4',5,5',6-Octachlorobiphenyl	25.8		4.07	1	04/15/09 18:56
206	2,2',3,3',4,4',5,5',6-Nonachlorobiphenyl	73.7		4.07	1	04/15/09 18:56
207	2,2',3,3',4,4',5,6,6'-Nonachlorobiphenyl	9.85		4.07	1	04/15/09 18:56
208	2,2',3,3',4,5,5',6,6'-Nonachlorobiphenyl	22.7		4.07	1	04/15/09 18:56
209	2,2',3,3',4,4',5,5',6,6'-Decachlorobiphenyl	26.4		4.07	1	04/15/09 18:56
1-3	Total Monochlorobiphenyl	6.76		4.07	1	04/15/09 18:56
4-15	Total Dichlorobiphenyl	127	B	4.07	1	04/15/09 18:56
16-39	Total Trichlorobiphenyl	440	B	4.07	1	04/15/09 18:56
40-81	Total Tetrachlorobiphenyl	1240	B	4.07	1	04/15/09 18:56
82-127	Total Pentachlorobiphenyl	1590		4.07	1	04/15/09 18:56
128-169	Total Hexachlorobiphenyl	3860		4.07	1	04/15/09 18:56
170-193	Total Heptachlorobiphenyl	4370		4.07	1	04/15/09 18:56
194-205	Total Octachlorobiphenyl	990		4.07	1	04/15/09 18:56
206-208	Total Nonachlorobiphenyl	106		4.07	1	04/15/09 18:56
209	Decachlorobiphenyl	26.4		4.07	1	04/15/09 18:56

Surrogates

Congener Number:	Analyte	Result ng/mL	Flags Qualifiers	Quantitation Limit	Dilution Factor	Date Analyzed
1L	Surrogate: 13C12-2-Monochlorobiphenyl	18.5		18 %	15-150	04/15/09 18:56
3L	Surrogate: 13C12-4-Monochlorobiphenyl	25.1		25 %	15-150	04/15/09 18:56
4L	Surrogate: 13C12-2,2'-Dichlorobiphenyl	24.9		25 %	25-150	04/15/09 18:56
15L	Surrogate: 13C12-4,4'-Dichlorobiphenyl	51.0		51 %	25-150	04/15/09 18:56
19L	Surrogate: 13C12-2,2',6-Trichlorobiphenyl	33.8		34 %	25-150	04/15/09 18:56
37L	Surrogate: 13C12-3,4,4'-Trichlorobiphenyl	54.0		54 %	25-150	04/15/09 18:56
54L	Surrogate: 13C12-2,2',6,6'-Tetrachlorobiphenyl	39.4		39 %	25-150	04/15/09 18:56
77L	Surrogate: 13C12-3,3',4,4'-Tetrachlorobiphenyl	54.0		54 %	25-150	04/15/09 18:56
81L	Surrogate: 13C12-3,4,4',5-Tetrachlorobiphenyl	51.4		51 %	25-150	04/15/09 18:56
104L	Surrogate: 13C12-2,2',4,6,6'-Pentachlorobiphenyl	41.9		42 %	25-150	04/15/09 18:56
105L	Surrogate: 13C12-2,3,3',4,4'-Pentachlorobiphenyl	46.4		46 %	25-150	04/15/09 18:56
114 L	Surrogate: 13C12-2,3,4,4',5-Pentachlorobiphenyl	42.3		42 %	25-150	04/15/09 18:56
118 L	Surrogate: 13C12-2,3',4,4',5-Pentachlorobiphenyl	44.2		44 %	25-150	04/15/09 18:56



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701 Mapes Road
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Site Name: Kettleman Hills Waste Management Facility
Station ID: B-99
Sample Matrix: Solid
Project #: NSF 470
Lab ID: 0904005-04
Date Collected: 04/01/2009

PCB Congeners

Surrogates

Table with 7 columns: Congener Number, Analyte, Result (ng/mL), Flags/Qualifiers, Quantitation Limit, Dilution Factor, Date Analyzed. Rows include congeners 123L through 178L with their respective surrogate names and values.





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Fort Meade, Maryland 20755-5350



<b>Site Name:</b> Kettleman Hills Waste Management Facility	<b>Project #:</b> NSF 470
<b>Station ID:</b> Northeast	<b>Lab ID:</b> 0904005-05
<b>Sample Matrix:</b> Solid	<b>Date Collected:</b> 03/31/2009

PCB Congeners

Targets

Batch: BI71205    Sample Weight:    %Solids: 97.60    Sample Wet Weight: 5.52g    Method/SOP#: EPA 1668a

Congener Number:	Analyte	Result pg/g dry	Flags Qualifiers	Quantitation Limit	Dilution Factor	Date Analyzed
1	<b>2-Monochlorobiphenyl</b>	1.48	EMPC, J	3.71	1	04/15/09 20:00
2	<b>3-Monochlorobiphenyl</b>	1.13	J	3.71	1	04/15/09 20:00
3	<b>4-Monochlorobiphenyl</b>	1.18	J	3.71	1	04/15/09 20:00
4	2,2'-Dichlorobiphenyl	U		3.71	1	04/15/09 20:00
5	2,3-Dichlorobiphenyl	U		3.71	1	04/15/09 20:00
6	2,3'-Dichlorobiphenyl	U		3.71	1	04/15/09 20:00
7	2,4-Dichlorobiphenyl	U		3.71	1	04/15/09 20:00
8	<b>2,4'-Dichlorobiphenyl</b>	9.65	EMPC, B	3.71	1	04/15/09 20:00
9	2,5-Dichlorobiphenyl	U		3.71	1	04/15/09 20:00
10	2,6-Dichlorobiphenyl	U		3.71	1	04/15/09 20:00
11	<b>3,3'-Dichlorobiphenyl</b>	31.1	B	3.71	1	04/15/09 20:00
12/13	3,4-DiCB/3,4'-DiCB	U		3.71	1	04/15/09 20:00
14	3,5-Dichlorobiphenyl	U		3.71	1	04/15/09 20:00
15	<b>4,4'-Dichlorobiphenyl</b>	7.16	B	3.71	1	04/15/09 20:00
16/24	<b>2,2',3-TrCB/2,3,6-TrCB</b>	2.29	B, J	3.71	1	04/15/09 20:00
17	<b>2,2',4-Trichlorobiphenyl</b>	1.90	B, J	3.71	1	04/15/09 20:00
18/30	<b>2,2',5-TrCB/2,4,6-TrCB</b>	5.83	B	3.71	1	04/15/09 20:00
19	<b>2,2',6-Trichlorobiphenyl</b>	1.21	EMPC, J	3.71	1	04/15/09 20:00
20/28	<b>2,3,3'-TrCB/2,4,4'-TrCB</b>	12.1	EMPC, B	3.71	1	04/15/09 20:00
21/33	<b>2,3,4-TrCB/2,3',4'-TrCB</b>	8.09	B	3.71	1	04/15/09 20:00
22	<b>2,3,4'-Trichlorobiphenyl</b>	5.31	EMPC, B	3.71	1	04/15/09 20:00
23	2,3,5-Trichlorobiphenyl	U		3.71	1	04/15/09 20:00
25	2,3',4-Trichlorobiphenyl	U		3.71	1	04/15/09 20:00
26/29	<b>2,3',5-TrCB/2,4,5-TrCB</b>	2.46	EMPC, B, J	3.71	1	04/15/09 20:00
27	2,3',6-Trichlorobiphenyl	U		3.71	1	04/15/09 20:00
31	<b>2,4',5-Trichlorobiphenyl</b>	12.9	B	3.71	1	04/15/09 20:00
32	<b>2,4',6-Trichlorobiphenyl</b>	2.20	B, J	3.71	1	04/15/09 20:00
34	2,3',5'-Trichlorobiphenyl	U		3.71	1	04/15/09 20:00
35	3,3',4-Trichlorobiphenyl	U		3.71	1	04/15/09 20:00
36	3,3',5-Trichlorobiphenyl	U		3.71	1	04/15/09 20:00
37	<b>3,4,4'-Trichlorobiphenyl</b>	5.68	B	3.71	1	04/15/09 20:00
38	3,4,5-Trichlorobiphenyl	U		3.71	1	04/15/09 20:00
39	3,4',5-Trichlorobiphenyl	U		3.71	1	04/15/09 20:00
40/41/71	<b>2,2',3,3'-TeCB/2,2',3,4-TeCB/2,3',4',6-TeCB</b>	5.12	B	3.71	1	04/15/09 20:00
42	<b>2,2',3,4'-Tetrachlorobiphenyl</b>	2.01	B, J	3.71	1	04/15/09 20:00
43/73	2,2',3,5-TeCB/2,3',5',6-TeCB	U		3.71	1	04/15/09 20:00
44/47/65	<b>2,2',3,5'-TeCB/2,2',4,4'-TeCB/2,3,5,6-TeCB</b>	22.2	B	3.71	1	04/15/09 20:00
45/51	<b>2,2',3,6-TeCB/2,2',4,6'-TeCB</b>	2.81	B, J	3.71	1	04/15/09 20:00



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Site Name: Kettleman Hills Waste Management Facility
Station ID: Northeast
Sample Matrix: Solid
Project #: NSF 470
Lab ID: 0904005-05
Date Collected: 03/31/2009

PCB Congeners

Targets (Continued)

Batch: BI71205 Sample Weight: %Solids: 97.60 Sample Wet Weight: 5.52g Method/SOP#: EPA 1668a

Table with 7 columns: Congener Number, Analyte, Result (pg/g dry), Flags/Qualifiers, Quantitation Limit, Dilution Factor, Date Analyzed. Rows list various PCB congeners and their corresponding results.



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701 Mapes Road  
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<b>Site Name:</b> Kettleman Hills Waste Management Facility	<b>Project #:</b> NSF 470
<b>Station ID:</b> Northeast	<b>Lab ID:</b> 0904005-05
<b>Sample Matrix:</b> Solid	<b>Date Collected:</b> 03/31/2009

PCB Congeners

Targets (Continued)

Batch: BI71205    Sample Weight:    %Solids: 97.60    Sample Wet Weight: 5.52g    Method/SOP#: EPA 1668a

Congener Number:	Analyte	Result pg/g dry	Flags Qualifiers	Quantitation Limit	Dilution Factor	Date Analyzed
103	2,2',4,5',6-Pentachlorobiphenyl	U		3.71	1	04/15/09 20:00
104	2,2',4,6,6'-Pentachlorobiphenyl	U		3.71	1	04/15/09 20:00
105	<b>2,3,3',4,4'-Pentachlorobiphenyl</b>	24.5	B	3.71	1	04/15/09 20:00
106	2,3,3',4,5-Pentachlorobiphenyl	U		3.71	1	04/15/09 20:00
107	<b>2,3,3',4',5-Pentachlorobiphenyl</b>	3.40	J	3.71	1	04/15/09 20:00
108/124	<b>2,3,3',4,5'-PeCB/2,3',4',5,5'-PeCB</b>	2.94	J	3.71	1	04/15/09 20:00
110/115	<b>2,3,3',4',6-PeCB/2,3,4,4',6-PeCB</b>	47.5	B	3.71	1	04/15/09 20:00
111	2,3,3',5,5'-Pentachlorobiphenyl	U		3.71	1	04/15/09 20:00
114	<b>2,3,4,4',5-Pentachlorobiphenyl</b>	6.79		3.71	1	04/15/09 20:00
118	<b>2,3',4,4',5-Pentachlorobiphenyl</b>	41.2	B	3.71	1	04/15/09 20:00
120	2,3',4,5,5'-Pentachlorobiphenyl	U		3.71	1	04/15/09 20:00
121	2,3',4,5',6-Pentachlorobiphenyl	U		3.71	1	04/15/09 20:00
122	2,3,3',4',5'-Pentachlorobiphenyl	U		3.71	1	04/15/09 20:00
123	<b>2,3',4,4',5'-Pentachlorobiphenyl</b>	6.50		3.71	1	04/15/09 20:00
126	<b>3,3',4,4',5-Pentachlorobiphenyl</b>	11.6		3.71	1	04/15/09 20:00
127	3,3',4,5,5'-Pentachlorobiphenyl	U		3.71	1	04/15/09 20:00
128/166	<b>2,2',3,3',4,4'-HxCB/2,3,4,4',5,6-HxCB</b>	15.2	B	3.71	1	04/15/09 20:00
129/138/163	<b>HxCB-129/138/163</b>	107		3.71	1	04/15/09 20:00
130	<b>2,2',3,3',4,5'-Hexachlorobiphenyl</b>	5.61		3.71	1	04/15/09 20:00
131	2,2',3,3',4,6-Hexachlorobiphenyl	U		3.71	1	04/15/09 20:00
132	<b>2,2',3,3',4,6'-Hexachlorobiphenyl</b>	21.5	B	3.71	1	04/15/09 20:00
133	2,2',3,3',5,5'-Hexachlorobiphenyl	U		3.71	1	04/15/09 20:00
134/143	<b>2,2',3,3',5,6-HxCB/2,2',3,4,5,6'-HxCB</b>	3.82		3.71	1	04/15/09 20:00
135/151	<b>2,2',3,3',5,6'-HxCB/2,2',3,5,5',6-HxCB</b>	25.8	B	3.71	1	04/15/09 20:00
136	<b>2,2',3,3',6,6'-Hexachlorobiphenyl</b>	11.5	B	3.71	1	04/15/09 20:00
137	<b>2,2',3,4,4',5-Hexachlorobiphenyl</b>	3.37	J	3.71	1	04/15/09 20:00
139/140	2,2',3,4,4',6-HxCB/2,2',3,4,4',6'-HxCB	U		3.71	1	04/15/09 20:00
141	<b>2,2',3,4,5,5'-Hexachlorobiphenyl</b>	17.8	B	3.71	1	04/15/09 20:00
142	2,2',3,4,5,6-Hexachlorobiphenyl	U		3.71	1	04/15/09 20:00
144	<b>2,2',3,4,5',6-Hexachlorobiphenyl</b>	3.79		3.71	1	04/15/09 20:00
145	2,2',3,4,6,6'-Hexachlorobiphenyl	U		3.71	1	04/15/09 20:00
146	<b>2,2',3,4',5,5'-Hexachlorobiphenyl</b>	15.4	B	3.71	1	04/15/09 20:00
147/149	<b>2,2',3,4',5,6-HxCB/2,2',3,4',5',6-HxCB</b>	61.6	B	3.71	1	04/15/09 20:00
148	2,2',3,4',5,6'-Hexachlorobiphenyl	U		3.71	1	04/15/09 20:00
150	2,2',3,4',6,6'-Hexachlorobiphenyl	U		3.71	1	04/15/09 20:00
152	2,2',3,5,6,6'-Hexachlorobiphenyl	U		3.71	1	04/15/09 20:00
153/168	<b>2,2',4,4',5,5'-HxCB/2,3',4,4',5',6-HxCB</b>	100		3.71	1	04/15/09 20:00
154	2,2',4,4',5,6'-Hexachlorobiphenyl	U		3.71	1	04/15/09 20:00



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Fort Meade, Maryland 20755-5350



Site Name: Kettleman Hills Waste Management Facility
Station ID: Northeast
Sample Matrix: Solid
Project #: NSF 470
Lab ID: 0904005-05
Date Collected: 03/31/2009

PCB Congeners

Targets (Continued)

Batch: BI71205 Sample Weight: %Solids: 97.60 Sample Wet Weight: 5.52g Method/SOP#: EPA 1668a

Table with 7 columns: Congener Number, Analyte, Result (pg/g dry), Flags/Qualifiers, Quantitation Limit, Dilution Factor, Date Analyzed. Rows list various PCB congeners such as 2,2',4,4',6,6'-Hexachlorobiphenyl, 2,3,3',4,4',5,5'-Hexachlorobiphenyl, etc.



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Site Name: Kettleman Hills Waste Management Facility
Station ID: Northeast
Sample Matrix: Solid
Project #: NSF 470
Lab ID: 0904005-05
Date Collected: 03/31/2009

PCB Congeners

Targets (Continued)

Batch: BI71205 Sample Weight: %Solids: 97.60 Sample Wet Weight: 5.52g Method/SOP#: EPA 1668a

Table with 7 columns: Congener Number, Analyte, Result (pg/g dry), Flags/Qualifiers, Quantitation Limit, Dilution Factor, Date Analyzed. Rows include various PCB congeners and total groups like Total Monochlorobiphenyl, Total Dichlorobiphenyl, etc.

Surrogates

Table with 7 columns: Congener Number, Analyte, Result (ng/mL), Flags/Qualifiers, Quantitation Limit, Dilution Factor, Date Analyzed. Rows list surrogate congeners such as 1L, 3L, 4L, 15L, 19L, 37L, 54L, 77L, 81L, 104L, 105L, 114L, 118L.





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Site Name: Kettleman Hills Waste Management Facility
Station ID: Northeast
Sample Matrix: Solid
Project #: NSF 470
Lab ID: 0904005-05
Date Collected: 03/31/2009

PCB Congeners

Surrogates

Table with 7 columns: Congener Number, Analyte, Result (ng/mL), Flags/Qualifiers, Quantitation Limit, Dilution Factor, Date Analyzed. Rows include congeners 123L through 178L with their respective surrogate names and values.



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Site Name: Kettleman Hills Waste Management Facility
Station ID: North
Sample Matrix: Solid
Project #: NSF 470
Lab ID: 0904005-06
Date Collected: 03/31/2009

PCB Congeners

Targets

Batch: BI71205 Sample Weight: %Solids: 98.00 Sample Wet Weight: 6.75g Method/SOP#: EPA 1668a

Table with 7 columns: Congener Number, Analyte, Result (pg/g dry), Flags/Qualifiers, Quantitation Limit, Dilution Factor, Date Analyzed. Rows list various PCB congeners and their results.



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Site Name: Kettleman Hills Waste Management Facility
Station ID: North
Sample Matrix: Solid
Project #: NSF 470
Lab ID: 0904005-06
Date Collected: 03/31/2009

PCB Congeners

Targets (Continued)

Batch: BI71205 Sample Weight: %Solids: 98.00 Sample Wet Weight: 6.75g Method/SOP#: EPA 1668a

Table with 7 columns: Congener Number, Analyte, Result (pg/g dry), Flags/Qualifiers, Quantitation Limit, Dilution Factor, Date Analyzed. Rows list various PCB congeners and their results.



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

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Office of Analytical Services and Quality Assurance  
701 Mapes Road  
Fort Meade, Maryland 20755-5350



<b>Site Name:</b> Kettleman Hills Waste Management Facility	<b>Project #:</b> NSF 470
<b>Station ID:</b> North	<b>Lab ID:</b> 0904005-06
<b>Sample Matrix:</b> Solid	<b>Date Collected:</b> 03/31/2009

PCB Congeners

Targets (Continued)

Batch: BI71205    Sample Weight:    %Solids: 98.00    Sample Wet Weight: 6.75g    Method/SOP#: EPA 1668a

Congener Number:	Analyte	Result pg/g dry	Flags Qualifiers	Quantitation Limit	Dilution Factor	Date Analyzed
103	2,2',4,5',6-Pentachlorobiphenyl	U		3.02	1	04/16/09 00:26
104	2,2',4,6,6'-Pentachlorobiphenyl	U		3.02	1	04/16/09 00:26
105	<b>2,3,3',4,4'-Pentachlorobiphenyl</b>	37.8	EMPC, B	3.02	1	04/16/09 00:26
106	2,3,3',4,5-Pentachlorobiphenyl	U		3.02	1	04/16/09 00:26
107	<b>2,3,3',4',5-Pentachlorobiphenyl</b>	3.30		3.02	1	04/16/09 00:26
108/124	<b>2,3,3',4,5'-PeCB/2,3',4',5,5'-PeCB</b>	2.14	J	3.02	1	04/16/09 00:26
110/115	<b>2,3,3',4',6-PeCB/2,3,4,4',6-PeCB</b>	31.7	B	3.02	1	04/16/09 00:26
111	2,3,3',5,5'-Pentachlorobiphenyl	U		3.02	1	04/16/09 00:26
114	<b>2,3,4,4',5-Pentachlorobiphenyl</b>	1.54	J	3.02	1	04/16/09 00:26
118	<b>2,3',4,4',5-Pentachlorobiphenyl</b>	28.5	B	3.02	1	04/16/09 00:26
120	2,3',4,5,5'-Pentachlorobiphenyl	U		3.02	1	04/16/09 00:26
121	2,3',4,5',6-Pentachlorobiphenyl	U		3.02	1	04/16/09 00:26
122	<b>2,3,3',4',5'-Pentachlorobiphenyl</b>	1.20	J	3.02	1	04/16/09 00:26
123	<b>2,3',4,4',5'-Pentachlorobiphenyl</b>	1.18	J	3.02	1	04/16/09 00:26
126	<b>3,3',4,4',5-Pentachlorobiphenyl</b>	2.24	EMPC, J	3.02	1	04/16/09 00:26
127	3,3',4,5,5'-Pentachlorobiphenyl	U		3.02	1	04/16/09 00:26
128/166	<b>2,2',3,3',4,4'-HxCB/2,3,4,4',5,6-HxCB</b>	8.80	B	3.02	1	04/16/09 00:26
129/138/163	<b>HxCB-129/138/163</b>	58.4	B	3.02	1	04/16/09 00:26
130	<b>2,2',3,3',4,5'-Hexachlorobiphenyl</b>	3.36		3.02	1	04/16/09 00:26
131	2,2',3,3',4,6-Hexachlorobiphenyl	U		3.02	1	04/16/09 00:26
132	<b>2,2',3,3',4,6'-Hexachlorobiphenyl</b>	12.6	B	3.02	1	04/16/09 00:26
133	2,2',3,3',5,5'-Hexachlorobiphenyl	U		3.02	1	04/16/09 00:26
134/143	<b>2,2',3,3',5,6-HxCB/2,2',3,4,5,6'-HxCB</b>	1.19	J	3.02	1	04/16/09 00:26
135/151	<b>2,2',3,3',5,6'-HxCB/2,2',3,5,5',6-HxCB</b>	15.5	B	3.02	1	04/16/09 00:26
136	<b>2,2',3,3',6,6'-Hexachlorobiphenyl</b>	6.38	B	3.02	1	04/16/09 00:26
137	<b>2,2',3,4,4',5-Hexachlorobiphenyl</b>	2.10	J	3.02	1	04/16/09 00:26
139/140	2,2',3,4,4',6-HxCB/2,2',3,4,4',6'-HxCB	U		3.02	1	04/16/09 00:26
141	<b>2,2',3,4,5,5'-Hexachlorobiphenyl</b>	9.58	B	3.02	1	04/16/09 00:26
142	2,2',3,4,5,6-Hexachlorobiphenyl	U		3.02	1	04/16/09 00:26
144	<b>2,2',3,4,5',6-Hexachlorobiphenyl</b>	2.04	J	3.02	1	04/16/09 00:26
145	2,2',3,4,6,6'-Hexachlorobiphenyl	U		3.02	1	04/16/09 00:26
146	<b>2,2',3,4',5,5'-Hexachlorobiphenyl</b>	8.83	B	3.02	1	04/16/09 00:26
147/149	<b>2,2',3,4',5,6-HxCB/2,2',3,4',5',6-HxCB</b>	37.8	B	3.02	1	04/16/09 00:26
148	2,2',3,4',5,6'-Hexachlorobiphenyl	U		3.02	1	04/16/09 00:26
150	2,2',3,4',6,6'-Hexachlorobiphenyl	U		3.02	1	04/16/09 00:26
152	2,2',3,5,6,6'-Hexachlorobiphenyl	U		3.02	1	04/16/09 00:26
153/168	<b>2,2',4,4',5,5'-HxCB/2,3',4,4',5',6-HxCB</b>	54.1	B	3.02	1	04/16/09 00:26
154	2,2',4,4',5,6'-Hexachlorobiphenyl	U		3.02	1	04/16/09 00:26



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Fort Meade, Maryland 20755-5350



Site Name: Kettleman Hills Waste Management Facility
Station ID: North
Sample Matrix: Solid
Project #: NSF 470
Lab ID: 0904005-06
Date Collected: 03/31/2009

PCB Congeners

Targets (Continued)

Batch: BI71205 Sample Weight: %Solids: 98.00 Sample Wet Weight: 6.75g Method/SOP#: EPA 1668a

Table with 7 columns: Congener Number, Analyte, Result (pg/g dry), Flags/Qualifiers, Quantitation Limit, Dilution Factor, Date Analyzed. Rows list various PCB congeners such as 2,2',4,4',6,6'-Hexachlorobiphenyl, 2,3,3',4,4',5-HxCB, etc.



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Region 3 Environmental Science Center  
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701 Mapes Road  
Fort Meade, Maryland 20755-5350



<b>Site Name:</b> Kettleman Hills Waste Management Facility	<b>Project #:</b> NSF 470
<b>Station ID:</b> North	<b>Lab ID:</b> 0904005-06
<b>Sample Matrix:</b> Solid	<b>Date Collected:</b> 03/31/2009

PCB Congeners

Targets (Continued)

Batch: BI71205    Sample Weight:    %Solids: 98.00    Sample Wet Weight: 6.75g    Method/SOP#: EPA 1668a

Congener Number:	Analyte	Result pg/g dry	Flags Qualifiers	Quantitation Limit	Dilution Factor	Date Analyzed
202	2,2',3,3',5,5',6,6'-Octachlorobiphenyl	9.80		3.02	1	04/16/09 00:26
203	2,2',3,4,4',5,5',6-Octachlorobiphenyl	26.7		3.02	1	04/16/09 00:26
204	2,2',3,4,4',5,6,6'-Octachlorobiphenyl	U		3.02	1	04/16/09 00:26
205	2,3,3',4,4',5,5',6-Octachlorobiphenyl	3.08		3.02	1	04/16/09 00:26
206	2,2',3,3',4,4',5,5',6-Nonachlorobiphenyl	27.3		3.02	1	04/16/09 00:26
207	2,2',3,3',4,4',5,6,6'-Nonachlorobiphenyl	9.37		3.02	1	04/16/09 00:26
208	2,2',3,3',4,5,5',6,6'-Nonachlorobiphenyl	10.9		3.02	1	04/16/09 00:26
209	2,2',3,3',4,4',5,5',6,6'-Decachlorobiphenyl	71.4		3.02	1	04/16/09 00:26
1-3	Total Monochlorobiphenyl	2.29	J	3.02	1	04/16/09 00:26
4-15	Total Dichlorobiphenyl	40.9	B	3.02	1	04/16/09 00:26
16-39	Total Trichlorobiphenyl	38.2	B	3.02	1	04/16/09 00:26
40-81	Total Tetrachlorobiphenyl	72.3	B	3.02	1	04/16/09 00:26
82-127	Total Pentachlorobiphenyl	202	B	3.02	1	04/16/09 00:26
128-169	Total Hexachlorobiphenyl	258	B	3.02	1	04/16/09 00:26
170-193	Total Heptachlorobiphenyl	281	B	3.02	1	04/16/09 00:26
194-205	Total Octachlorobiphenyl	133	B	3.02	1	04/16/09 00:26
206-208	Total Nonachlorobiphenyl	47.6		3.02	1	04/16/09 00:26
209	Decachlorobiphenyl	71.4		3.02	1	04/16/09 00:26

Surrogates

Congener Number:	Analyte	Result ng/mL	Flags Qualifiers	Quantitation Limit	Dilution Factor	Date Analyzed
1L	Surrogate: 13C12-2-Monochlorobiphenyl	32.1		32 %	15-150	04/16/09 00:26
3L	Surrogate: 13C12-4-Monochlorobiphenyl	38.5		38 %	15-150	04/16/09 00:26
4L	Surrogate: 13C12-2,2'-Dichlorobiphenyl	39.0		39 %	25-150	04/16/09 00:26
15L	Surrogate: 13C12-4,4'-Dichlorobiphenyl	72.6		73 %	25-150	04/16/09 00:26
19L	Surrogate: 13C12-2,2',6-Trichlorobiphenyl	49.1		49 %	25-150	04/16/09 00:26
37L	Surrogate: 13C12-3,4,4'-Trichlorobiphenyl	73.5		74 %	25-150	04/16/09 00:26
54L	Surrogate: 13C12-2,2',6,6'-Tetrachlorobiphenyl	53.1		53 %	25-150	04/16/09 00:26
77L	Surrogate: 13C12-3,3',4,4'-Tetrachlorobiphenyl	68.3		68 %	25-150	04/16/09 00:26
81L	Surrogate: 13C12-3,4,4',5-Tetrachlorobiphenyl	65.8		66 %	25-150	04/16/09 00:26
104L	Surrogate: 13C12-2,2',4,6,6'-Pentachlorobiphenyl	56.2		56 %	25-150	04/16/09 00:26
105L	Surrogate: 13C12-2,3,3',4,4'-Pentachlorobiphenyl	59.0		59 %	25-150	04/16/09 00:26
114 L	Surrogate: 13C12-2,3,4,4',5-Pentachlorobiphenyl	54.6		55 %	25-150	04/16/09 00:26
118 L	Surrogate: 13C12-2,3',4,4',5-Pentachlorobiphenyl	58.2		58 %	25-150	04/16/09 00:26





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Site Name: Kettleman Hills Waste Management Facility
Station ID: North
Sample Matrix: Solid
Project #: NSF 470
Lab ID: 0904005-06
Date Collected: 03/31/2009

PCB Congeners

Surrogates

Table with 7 columns: Congener Number, Analyte, Result (ng/mL), Flags/Qualifiers, Quantitation Limit, Dilution Factor, Date Analyzed. Rows list various PCB congeners and their surrogate values.



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Site Name: Kettleman Hills Waste Management Facility
Station ID: Northwest
Sample Matrix: Solid
Project #: NSF 470
Lab ID: 0904005-07
Date Collected: 04/01/2009

PCB Congeners

Targets

Batch: BI71205 Sample Weight: %Solids: 97.40 Sample Wet Weight: 6.96g Method/SOP#: EPA 1668a

Table with 7 columns: Congener Number, Analyte, Result (pg/g dry), Flags/Qualifiers, Quantitation Limit, Dilution Factor, Date Analyzed. Rows list various PCB congeners and their results.



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<b>Site Name:</b> Kettleman Hills Waste Management Facility	<b>Project #:</b> NSF 470
<b>Station ID:</b> Northwest	<b>Lab ID:</b> 0904005-07
<b>Sample Matrix:</b> Solid	<b>Date Collected:</b> 04/01/2009

PCB Congeners

Targets (Continued)

Batch: BI71205    Sample Weight:    %Solids: 97.40    Sample Wet Weight: 6.96g    Method/SOP#: EPA 1668a

Congener Number:	Analyte	Result pg/g dry	Flags Qualifiers	Quantitation Limit	Dilution Factor	Date Analyzed
46	2,2',3,6'-Tetrachlorobiphenyl	0.932	J	2.95	1	04/16/09 01:31
48	2,2',4,5-Tetrachlorobiphenyl	U		2.95	1	04/16/09 01:31
49/69	2,2',4,5'-TeCB/2,3',4,6-TeCB	4.99	B	2.95	1	04/16/09 01:31
50/53	2,2',4,6-TeCB/2,2',5,6'-TeCB	1.20	J	2.95	1	04/16/09 01:31
52	2,2',5,5'-Tetrachlorobiphenyl	7.46	B	2.95	1	04/16/09 01:31
54	2,2',6,6'-Tetrachlorobiphenyl	U		2.95	1	04/16/09 01:31
55	2,3,3',4-Tetrachlorobiphenyl	U		2.95	1	04/16/09 01:31
56	2,3,3',4'-Tetrachlorobiphenyl	17.1	B	2.95	1	04/16/09 01:31
57	2,3,3',5-Tetrachlorobiphenyl	U		2.95	1	04/16/09 01:31
58	2,3,3',5'-Tetrachlorobiphenyl	U		2.95	1	04/16/09 01:31
59/62/75	2,3,3',6-TeCB/2,3,4,6-TeCB/2,4,4',6-TeCB	U		2.95	1	04/16/09 01:31
60	2,3,4,4'-Tetrachlorobiphenyl	U		2.95	1	04/16/09 01:31
61/70/74/76	TeCB-61/70/74/76	26.9	B	2.95	1	04/16/09 01:31
63	2,3,4',5-Tetrachlorobiphenyl	U		2.95	1	04/16/09 01:31
64	2,3,4',6-Tetrachlorobiphenyl	3.54	B, EMPC	2.95	1	04/16/09 01:31
66	2,3',4,4'-Tetrachlorobiphenyl	12.3	B	2.95	1	04/16/09 01:31
67	2,3',4,5-Tetrachlorobiphenyl	U		2.95	1	04/16/09 01:31
68	2,3',4,5'-Tetrachlorobiphenyl	U		2.95	1	04/16/09 01:31
72	2,3',5,5'-Tetrachlorobiphenyl	U		2.95	1	04/16/09 01:31
77	3,3',4,4'-Tetrachlorobiphenyl	9.26	B	2.95	1	04/16/09 01:31
78	3,3',4,5-Tetrachlorobiphenyl	U		2.95	1	04/16/09 01:31
79	3,3',4,5'-Tetrachlorobiphenyl	U		2.95	1	04/16/09 01:31
80	3,3',5,5'-Tetrachlorobiphenyl	U		2.95	1	04/16/09 01:31
81	3,4,4',5-Tetrachlorobiphenyl	U		2.95	1	04/16/09 01:31
82	2,2',3,3',4-Pentachlorobiphenyl	4.81	B	2.95	1	04/16/09 01:31
83/99/112	2,2',3,3',5-PeCB/2,2',4,4',5-PeCB/2,3,3',5,6-PeCB	9.53	B	2.95	1	04/16/09 01:31
84	2,2',3,3',6-Pentachlorobiphenyl	4.90		2.95	1	04/16/09 01:31
85/116/117	2,2',3,4,4'-PeCB/2,3,4,5,6-PeCB/2,3,4',5,6-PeCB	4.57	B	2.95	1	04/16/09 01:31
86/87/97/109/119/125	PeCB-86/87/97/109/119/125	16.5		2.95	1	04/16/09 01:31
88/91	2,2',3,4,6-PeCB/2,2',3,4',6-PeCB	3.25		2.95	1	04/16/09 01:31
89	2,2',3,4,6'-Pentachlorobiphenyl	U		2.95	1	04/16/09 01:31
90/101/113	2,2',3,4',5-PeCB/2,2',4,5,5'-PeCB/2,3,3',5',6-PeCB	18.1	B	2.95	1	04/16/09 01:31
92	2,2',3,5,5'-Pentachlorobiphenyl	4.16		2.95	1	04/16/09 01:31
93/100	2,2',3,5,6-PeCB/2,2',4,4',6-PeCB	U		2.95	1	04/16/09 01:31
94	2,2',3,5,6'-Pentachlorobiphenyl	U		2.95	1	04/16/09 01:31
95	2,2',3,5',6-Pentachlorobiphenyl	10.6	B	2.95	1	04/16/09 01:31
96	2,2',3,6,6'-Pentachlorobiphenyl	U		2.95	1	04/16/09 01:31
98/102	2,2',3,4',6-PeCB/2,2',4,5,6'-PeCB	U		2.95	1	04/16/09 01:31



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Site Name: Kettleman Hills Waste Management Facility
Station ID: Northwest
Sample Matrix: Solid
Project #: NSF 470
Lab ID: 0904005-07
Date Collected: 04/01/2009

PCB Congeners

Targets (Continued)

Batch: BI71205 Sample Weight: %Solids: 97.40 Sample Wet Weight: 6.96g Method/SOP#: EPA 1668a

Table with 7 columns: Congener Number, Analyte, Result (pg/g dry), Flags/Qualifiers, Quantitation Limit, Dilution Factor, Date Analyzed. Rows list various PCB congeners and their results.



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Site Name: Kettleman Hills Waste Management Facility
Station ID: Northwest
Sample Matrix: Solid
Project #: NSF 470
Lab ID: 0904005-07
Date Collected: 04/01/2009

PCB Congeners

Targets (Continued)

Batch: BI71205 Sample Weight: %Solids: 97.40 Sample Wet Weight: 6.96g Method/SOP#: EPA 1668a

Table with 7 columns: Congener Number, Analyte, Result (pg/g dry), Flags/Qualifiers, Quantitation Limit, Dilution Factor, Date Analyzed. Rows list various PCB congeners like 155, 156/157, 158, etc., with their respective results and flags.



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<b>Site Name:</b> Kettleman Hills Waste Management Facility	<b>Project #:</b> NSF 470
<b>Station ID:</b> Northwest	<b>Lab ID:</b> 0904005-07
<b>Sample Matrix:</b> Solid	<b>Date Collected:</b> 04/01/2009

PCB Congeners

Targets (Continued)

Batch: BI71205    Sample Weight:    %Solids: 97.40    Sample Wet Weight: 6.96g    Method/SOP#: EPA 1668a

Congener Number:	Analyte	Result pg/g dry	Flags Qualifiers	Quantitation Limit	Dilution Factor	Date Analyzed
202	2,2',3,3',5,5',6,6'-Octachlorobiphenyl	3.54	B	2.95	1	04/16/09 01:31
203	2,2',3,4,4',5,5',6-Octachlorobiphenyl	9.29	B	2.95	1	04/16/09 01:31
204	2,2',3,4,4',5,6,6'-Octachlorobiphenyl	U		2.95	1	04/16/09 01:31
205	2,3,3',4,4',5,5',6-Octachlorobiphenyl	U		2.95	1	04/16/09 01:31
206	2,2',3,3',4,4',5,5',6-Nonachlorobiphenyl	6.96	B	2.95	1	04/16/09 01:31
207	2,2',3,3',4,4',5,6,6'-Nonachlorobiphenyl	U		2.95	1	04/16/09 01:31
208	2,2',3,3',4,5,5',6,6'-Nonachlorobiphenyl	2.63	B, J	2.95	1	04/16/09 01:31
209	2,2',3,3',4,4',5,5',6,6'-Decachlorobiphenyl	5.02	B	2.95	1	04/16/09 01:31
1-3	Total Monochlorobiphenyl	U		2.95	1	04/16/09 01:31
4-15	Total Dichlorobiphenyl	43.2	B	2.95	1	04/16/09 01:31
16-39	Total Trichlorobiphenyl	117	B	2.95	1	04/16/09 01:31
40-81	Total Tetrachlorobiphenyl	107	B	2.95	1	04/16/09 01:31
82-127	Total Pentachlorobiphenyl	195	B	2.95	1	04/16/09 01:31
128-169	Total Hexachlorobiphenyl	149	B	2.95	1	04/16/09 01:31
170-193	Total Heptachlorobiphenyl	137	B	2.95	1	04/16/09 01:31
194-205	Total Octachlorobiphenyl	40.1	B	2.95	1	04/16/09 01:31
206-208	Total Nonachlorobiphenyl	9.62	B	2.95	1	04/16/09 01:31
209	Decachlorobiphenyl	5.02	B	2.95	1	04/16/09 01:31

Surrogates

Congener Number:	Analyte	Result ng/mL	Flags Qualifiers	Quantitation Limit	Dilution Factor	Date Analyzed
1L	Surrogate: 13C12-2-Monochlorobiphenyl	4.08	A	4 %	15-150	04/16/09 01:31
3L	Surrogate: 13C12-4-Monochlorobiphenyl	5.32	A	5 %	15-150	04/16/09 01:31
4L	Surrogate: 13C12-2,2'-Dichlorobiphenyl	5.73	A	6 %	25-150	04/16/09 01:31
15L	Surrogate: 13C12-4,4'-Dichlorobiphenyl	13.5	A	14 %	25-150	04/16/09 01:31
19L	Surrogate: 13C12-2,2',6-Trichlorobiphenyl	8.15	A	8 %	25-150	04/16/09 01:31
37L	Surrogate: 13C12-3,4,4'-Trichlorobiphenyl	17.4	A	17 %	25-150	04/16/09 01:31
54L	Surrogate: 13C12-2,2',6,6'-Tetrachlorobiphenyl	9.25	A	9 %	25-150	04/16/09 01:31
77L	Surrogate: 13C12-3,3',4,4'-Tetrachlorobiphenyl	19.1	A	19 %	25-150	04/16/09 01:31
81L	Surrogate: 13C12-3,4,4',5-Tetrachlorobiphenyl	17.7	A	18 %	25-150	04/16/09 01:31
104L	Surrogate: 13C12-2,2',4,6,6'-Pentachlorobiphenyl	10.8	A	11 %	25-150	04/16/09 01:31
105L	Surrogate: 13C12-2,3,3',4,4'-Pentachlorobiphenyl	18.2	A	18 %	25-150	04/16/09 01:31
114 L	Surrogate: 13C12-2,3,4,4',5-Pentachlorobiphenyl	15.8	A	16 %	25-150	04/16/09 01:31
118 L	Surrogate: 13C12-2,3',4,4',5-Pentachlorobiphenyl	16.7	A	17 %	25-150	04/16/09 01:31





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Site Name: Kettleman Hills Waste Management Facility
Station ID: Northwest
Sample Matrix: Solid
Project #: NSF 470
Lab ID: 0904005-07
Date Collected: 04/01/2009

PCB Congeners

Surrogates

Table with 7 columns: Congener Number, Analyte, Result (ng/mL), Flags/Qualifiers, Quantitation Limit, Dilution Factor, Date Analyzed. Rows list various PCB congeners and their surrogate values.



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<b>Site Name:</b> Kettleman Hills Waste Management Facility	<b>Project #:</b> NSF 470
<b>Station ID:</b> Southwest	<b>Lab ID:</b> 0904005-01
<b>Sample Matrix:</b> Solid	<b>Date Collected:</b> 03/31/2009

Classical Chemistry Parameters

Targets

Analyte	Result % by Weight	Flags Qualifiers	Quantitation Limit	Dilution	Prepared	Analyzed	Method/SOP#
% Solids	97.3			1	04/02/09	04/10/09 16:12	USGS I-5753-85



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<b>Site Name:</b> Kettleman Hills Waste Management Facility	<b>Project #:</b> NSF 470
<b>Station ID:</b> South	<b>Lab ID:</b> 0904005-02
<b>Sample Matrix:</b> Solid	<b>Date Collected:</b> 03/31/2009

Classical Chemistry Parameters

Targets

Analyte	Result % by Weight	Flags Qualifiers	Quantitation Limit	Dilution	Prepared	Analyzed	Method/SOP#
% Solids	97.3			1	04/02/09	04/10/09 16:12	USGS I-5753-85



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<b>Site Name:</b> Kettleman Hills Waste Management Facility	<b>Project #:</b> NSF 470
<b>Station ID:</b> B-18	<b>Lab ID:</b> 0904005-03
<b>Sample Matrix:</b> Solid	<b>Date Collected:</b> 04/01/2009

Classical Chemistry Parameters

Targets

Analyte	Result % by Weight	Flags Qualifiers	Quantitation Limit	Dilution	Prepared	Analyzed	Method/SOP#
% Solids	97.5			1	04/02/09	04/10/09 16:12	USGS I-5753-85



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<b>Site Name:</b> Kettleman Hills Waste Management Facility	<b>Project #:</b> NSF 470
<b>Station ID:</b> B-99	<b>Lab ID:</b> 0904005-04
<b>Sample Matrix:</b> Solid	<b>Date Collected:</b> 04/01/2009

Classical Chemistry Parameters

Targets

Analyte	Result % by Weight	Flags Qualifiers	Quantitation Limit	Dilution	Prepared	Analyzed	Method/SOP#
% Solids	97.5			1	04/02/09	04/10/09 16:12	USGS I-5753-85



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<b>Site Name:</b> Kettleman Hills Waste Management Facility	<b>Project #:</b> NSF 470
<b>Station ID:</b> Northeast	<b>Lab ID:</b> 0904005-05
<b>Sample Matrix:</b> Solid	<b>Date Collected:</b> 03/31/2009

Classical Chemistry Parameters

Targets

Analyte	Result % by Weight	Flags Qualifiers	Quantitation Limit	Dilution	Prepared	Analyzed	Method/SOP#
% Solids	97.6			1	04/02/09	04/10/09 16:12	USGS I-5753-85





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<b>Site Name:</b> Kettleman Hills Waste Management Facility	<b>Project #:</b> NSF 470
<b>Station ID:</b> North	<b>Lab ID:</b> 0904005-06
<b>Sample Matrix:</b> Solid	<b>Date Collected:</b> 03/31/2009

Classical Chemistry Parameters

Targets

Analyte	Result % by Weight	Flags Qualifiers	Quantitation Limit	Dilution	Prepared	Analyzed	Method/SOP#
% Solids	98.0			1	04/02/09	04/10/09 16:12	USGS I-5753-85



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<b>Site Name:</b> Kettleman Hills Waste Management Facility	<b>Project #:</b> NSF 470
<b>Station ID:</b> Northwest	<b>Lab ID:</b> 0904005-07
<b>Sample Matrix:</b> Solid	<b>Date Collected:</b> 04/01/2009

Classical Chemistry Parameters

Targets

Analyte	Result % by Weight	Flags Qualifiers	Quantitation Limit	Dilution	Prepared	Analyzed	Method/SOP#
% Solids	97.4			1	04/02/09	04/10/09 16:12	USGS I-5753-85



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Fort Meade, Maryland 20755-5350



**Site Name: Kettleman Hills Waste Management Facility** **Project #: NSF 470**

**QC Data**  
**Classical Chemistry Parameters**

Analyte	Result	Quantitation Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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**Batch BD90202 - PD60/PD105**

<b>Duplicate (BD90202-DUP1)</b>	<b>Source: 0904005-01</b>	Prepared: 04/02/09 14:11	Analyzed: 04/10/09 16:12		
% Solids	97.1	% by Weight	97.3	0.2	20



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Site Name: Kettleman Hills Waste Management Facility Project #: NSF 470

QC Data
PCB Congeners

Table with 11 columns: Congener Number, Analyte, Result, Quantitation Limit, Units, Spike Level, Source Result, %REC, %REC Limits, RPD, RPD Limit, Notes

Batch BI71205 - EPA 3540C PCB Congeners

Blank (BI71205-BLK2)

Prepared: 04/06/09 16:45 Analyzed: 04/15/09 13:18

Main data table with 11 columns: Congener Number, Analyte, Result, Quantitation Limit, Units, Spike Level, Source Result, %REC, %REC Limits, RPD, RPD Limit, Notes. Contains 44 rows of PCB congener data.



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Site Name: Kettleman Hills Waste Management Facility Project #: NSF 470

QC Data
PCB Congeners

Table with 11 columns: Congener Number, Analyte, Result, Quantitation Limit, Units, Spike Level, Source Result, %REC, %REC Limits, RPD, RPD Limit, Notes

Batch BI71205 - EPA 3540C PCB Congeners

Blank (BI71205-BLK2)

Prepared: 04/06/09 16:45 Analyzed: 04/15/09 13:18

Main data table with 11 columns: Congener Number, Analyte, Result, Quantitation Limit, Units, Spike Level, Source Result, %REC, %REC Limits, RPD, RPD Limit, Notes. Contains 94 rows of PCB congener data.



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Site Name: Kettleman Hills Waste Management Facility Project #: NSF 470

QC Data
PCB Congeners

Table with 11 columns: Congener Number, Analyte, Result, Quantitation Limit, Units, Spike Level, Source Result, %REC, %REC Limits, RPD, RPD Limit, Notes

Batch BI71205 - EPA 3540C PCB Congeners

Blank (BI71205-BLK2)

Prepared: 04/06/09 16:45 Analyzed: 04/15/09 13:18

Main data table with 11 columns: Congener Number, Analyte, Result, Quantitation Limit, Units, Spike Level, Source Result, %REC, %REC Limits, RPD, RPD Limit, Notes. Contains 30 rows of PCB congener data.





UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Region 3 Environmental Science Center  
 Office of Analytical Services and Quality Assurance  
 701 Mapes Road  
 Fort Meade, Maryland 20755-5350



**Site Name: Kettleman Hills Waste Management Facility** **Project #: NSF 470**

**QC Data**  
**PCB Congeners**

Congener Number:	Analyte	Result	Quantitation Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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**Batch BI71205 - EPA 3540C PCB Congeners**

**Blank (BI71205-BLK2)**

Prepared: 04/06/09 16:45 Analyzed: 04/15/09 13:18

150	2,2',3,4',6,6'-Hexachlorobiphenyl	U	4.00	pg/g wet							
152	2,2',3,5,6,6'-Hexachlorobiphenyl	U	4.00	"							
153/168	2,2',4,4',5,5'-HxCB/2,3',4,4',5',6-HxCB	8.16	4.00	"							
154	2,2',4,4',5,6'-Hexachlorobiphenyl	U	4.00	"							
155	2,2',4,4',6,6'-Hexachlorobiphenyl	U	4.00	"							
156/157	2,3,3',4,4',5-HxCB/2,3,3',4,4',5'-HxCB	5.16	4.00	"							
158	2,3,3',4,4',6-Hexachlorobiphenyl	U	4.00	"							
159	2,3,3',4,5,5'-Hexachlorobiphenyl	U	4.00	"							
160	2,3,3',4,5,6-Hexachlorobiphenyl	U	4.00	"							
161	2,3,3',4,5',6-Hexachlorobiphenyl	U	4.00	"							
162	2,3,3',4,5,5'-Hexachlorobiphenyl	54.0	4.00	"							EMPC
164	2,3,3',4,5',6-Hexachlorobiphenyl	U	4.00	"							
165	2,3,3',5,5',6-Hexachlorobiphenyl	U	4.00	"							
167	2,3',4,4',5,5'-Hexachlorobiphenyl	2.20	4.00	"							J
169	3,3',4,4',5,5'-Hexachlorobiphenyl	1.99	4.00	"							J
170	2,2',3,3',4,4',5-Heptachlorobiphenyl	32.9	4.00	"							EMPC
171/173	2,2',3,3',4,4',6-HpCB/2,2',3,3',4,5,6-HpCB	U	4.00	"							
172	2,2',3,3',4,5,5'-Heptachlorobiphenyl	U	4.00	"							
174	2,2',3,3',4,5,6-Heptachlorobiphenyl	6.76	4.00	"							
175	2,2',3,3',4,5',6-Heptachlorobiphenyl	U	4.00	"							
176	2,2',3,3',4,6,6'-Heptachlorobiphenyl	U	4.00	"							
177	2,2',3,3',4,5',6'-Heptachlorobiphenyl	U	4.00	"							
178	2,2',3,3',5,5',6-Heptachlorobiphenyl	U	4.00	"							
179	2,2',3,3',5,6,6'-Heptachlorobiphenyl	2.35	4.00	"							J
180/193	2,2',3,4,4',5,5'-HpCB/2,3,3',4,5,5',6-HpCB	7.72	4.00	"							
181	2,2',3,4,4',5,6-Heptachlorobiphenyl	U	4.00	"							
182	2,2',3,4,4',5,6'-Heptachlorobiphenyl	U	4.00	"							
183/185	2,2',3,4,4',5',6-HpCB/2,2',3,4,5,5',6-HpCB	U	4.00	"							
184	2,2',3,4,4',6,6'-Heptachlorobiphenyl	U	4.00	"							
186	2,2',3,4,5,6,6'-Heptachlorobiphenyl	U	4.00	"							
187	2,2',3,4',5,5',6-Heptachlorobiphenyl	3.10	4.00	"							J
188	2,2',3,4',5,6,6'-Heptachlorobiphenyl	U	4.00	"							
189	2,3,3',4,4',5,5'-Heptachlorobiphenyl	2.49	4.00	"							J
190	2,3,3',4,4',5,6-Heptachlorobiphenyl	U	4.00	"							
191	2,3,3',4,4',5',6-Heptachlorobiphenyl	U	4.00	"							
192	2,3,3',4,5,5',6-Heptachlorobiphenyl	U	4.00	"							
194	2,2',3,3',4,4',5,5'-Octachlorobiphenyl	3.84	4.00	"							J



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Region 3 Environmental Science Center
Office of Analytical Services and Quality Assurance
701 Mapes Road
Fort Meade, Maryland 20755-5350



Site Name: Kettleman Hills Waste Management Facility Project #: NSF 470

QC Data
PCB Congeners

Table with 11 columns: Congener Number, Analyte, Result, Quantitation Limit, Units, Spike Level, Source Result, %REC, %REC Limits, RPD, RPD Limit, Notes

Batch BI71205 - EPA 3540C PCB Congeners

Blank (BI71205-BLK2)

Prepared: 04/06/09 16:45 Analyzed: 04/15/09 13:18

Main data table listing PCB congeners (195-209) and total congeners (1-3, 4-15, 16-39, 40-81, 82-127, 128-169, 170-193, 194-205, 206-208, 209) with columns for congener name, result, limit, units, spike level, source result, %REC, %REC limits, RPD, RPD limit, and notes.

Table listing surrogate congeners (1L-123L) with columns for surrogate name, result, units, spike level, source result, %REC, %REC limits, RPD, RPD limit, and notes.



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Region 3 Environmental Science Center
Office of Analytical Services and Quality Assurance
701 Mapes Road
Fort Meade, Maryland 20755-5350



Site Name: Kettleman Hills Waste Management Facility Project #: NSF 470

QC Data
PCB Congeners

Table with 11 columns: Congener Number, Analyte, Result, Quantitation Limit, Units, Spike Level, Source Result, %REC, %REC Limits, RPD, RPD Limit, Notes

Batch BI71205 - EPA 3540C PCB Congeners

Blank (BI71205-BLK2)

Prepared: 04/06/09 16:45 Analyzed: 04/15/09 13:18

Table listing PCB congeners for blank BI71205-BLK2 with columns for congener name, result, units, spike level, source result, %REC, and RPD.

LCS (BI71205-BS1)

Prepared: 04/06/09 16:45 Analyzed: 04/15/09 14:21

Table listing PCB congeners for LCS BI71205-BS1 with columns for congener name, result, units, spike level, source result, %REC, and RPD.



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Region 3 Environmental Science Center
Office of Analytical Services and Quality Assurance
701 Mapes Road
Fort Meade, Maryland 20755-5350



Site Name: Kettleman Hills Waste Management Facility Project #: NSF 470

QC Data
PCB Congeners

Table with 11 columns: Congener Number, Analyte, Result, Quantitation Limit, Units, Spike Level, Source Result, %REC, %REC Limits, RPD, RPD Limit, Notes

Batch BI71205 - EPA 3540C PCB Congeners

LCS (BI71205-BS1)

Prepared: 04/06/09 16:45 Analyzed: 04/15/09 14:21

Main data table with 11 columns: Congener Number, Analyte, Result, Quantitation Limit, Units, Spike Level, Source Result, %REC, %REC Limits, RPD, RPD Limit, Notes. Contains 209 rows of data.



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Region 3 Environmental Science Center
Office of Analytical Services and Quality Assurance
701 Mapes Road
Fort Meade, Maryland 20755-5350



Site Name: Kettleman Hills Waste Management Facility Project #: NSF 470

QC Data
PCB Congeners

Table with 11 columns: Congener Number, Analyte, Result, Quantitation Limit, Units, Spike Level, Source Result, %REC, %REC Limits, RPD, RPD Limit, Notes

Batch BI71205 - EPA 3540C PCB Congeners

Main data table with columns for Congener Number, Analyte, Result, Quantitation Limit, Units, Spike Level, Source Result, %REC, %REC Limits, RPD, RPD Limit, Notes. Includes sub-sections for Matrix Spike and Surrogate data.



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Region 3 Environmental Science Center
Office of Analytical Services and Quality Assurance
701 Mapes Road
Fort Meade, Maryland 20755-5350



Site Name: Kettleman Hills Waste Management Facility Project #: NSF 470

QC Data
PCB Congeners

Table with 11 columns: Congener Number, Analyte, Result, Quantitation Limit, Units, Spike Level, Source Result, %REC, %REC Limits, RPD, RPD Limit, Notes

Batch BI71205 - EPA 3540C PCB Congeners

Matrix Spike (BI71205-MS1) table with columns for Congener, Source, Prepared, Analyzed, and various measurement values.

Matrix Spike Dup (BI71205-MSD1) table with columns for Congener, Source, Prepared, Analyzed, and various measurement values.





UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Region 3 Environmental Science Center
Office of Analytical Services and Quality Assurance
701 Mapes Road
Fort Meade, Maryland 20755-5350



Site Name: Kettleman Hills Waste Management Facility Project #: NSF 470

QC Data
PCB Congeners

Table with 11 columns: Congener Number, Analyte, Result, Quantitation Limit, Units, Spike Level, Source Result, %REC, %REC Limits, RPD, RPD Limit, Notes

Batch BI71205 - EPA 3540C PCB Congeners

Matrix Spike Dup (BI71205-MSD1)

Source: 0904005-07

Prepared: 04/06/09 16:45

Analyzed: 04/16/09 03:48

Main data table with 11 columns: Congener Number, Analyte, Result, Quantitation Limit, Units, Spike Level, Source Result, %REC, %REC Limits, RPD, RPD Limit, Notes. Includes rows for congeners 169-209 and 1L-178L.



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Region 3 Environmental Science Center  
Office of Analytical Services and Quality Assurance  
701 Mapes Road  
Fort Meade, Maryland 20755-5350



<b>Site Name: Kettleman Hills Waste Management Facility</b>	<b>Project #: NSF 470</b>
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**Notes and Definitions**

- J The identification of the analyte is acceptable; the reported value is an estimate.
- EMPC The theoretical ion abundance ratio of the two m/z ions do not meet the 25% criteria, and the result is an Estimated Maximum Possible Concentration.
- C See narrative for comments and observations concerning this result.
- B Not detected substantially above (10 times) the level reported in the laboratory or field blanks (including field, trip, rinsate, and equipment blanks).
- A Quality control value is outside acceptance limits.
- NR Not Reported
- RPD Relative Percent Difference
- U Analyte included in the analysis, but not detected at or above the quantitation limit.

Quantitation Limit: The lowest concentration of an analyte that can be reliably measured within specified limits of precision and accuracy for a specific laboratory analytical method and that takes into account analytical adjustments made during sample preparation and analysis.

SOLID SAMPLE RESULTS - REPORTING PROTOCOL: Solid samples where % Solids (percent dry wt at 105 degrees C) has been performed, are analyzed wet and converted to a dry weight result for reporting purposes. This is routine for organics and most inorganic analyses. When metals and mercury analyses are requested, solid samples are routinely analyzed and reported on a dry weight basis. Solid samples for metals/mercury are prepared for analysis by an initial drying at 60 degree C and homogenization before digestion. Oil-type samples will be analyzed and reported on a wet weight basis for all analyses because of the nature of the sample. Any exceptions to the protocol will be noted with a qualifier

May 19, 2009

**TestAmerica Project Number: G9D030338**

PO/Contract: 0742-816-02

Haley Hudson  
Wenck Associates, Inc.  
11113 Houze Road  
Suite 200  
Roswell, GA 30076

Dear Ms. Hudson,

This report contains the analytical results for the samples received under chain of custody by TestAmerica on April 3, 2009. These samples are associated with your KHF SOIL project.

The test results in this report meet all NELAC requirements for parameters that accreditation is required or available. Any exceptions to NELAC requirements are noted in the case narrative. The case narrative is an integral part of this report.

If you have any questions, please feel free to call me at (916) 374-4384.

Sincerely,



Karen Dahl  
Project Manager

## Table of Contents

# TestAmerica West Sacramento Project Number G9D030338

Case Narrative

Quality Assurance Program

Sample Description Information

Chain of Custody Documentation

SOLID, 1668, WHO PCB congeners

Samples: 1, 2, 3, 4, 5, 6, 7, 8

Sample Data Sheets

Method Blank Report

Laboratory QC Reports

SOLID, D 2216-90, Percent Moisture

Samples: 1, 2, 3, 4, 5, 6, 7, 8

Sample Data Sheets

Laboratory QC Reports

Full Raw Data Package

## Case Narrative

### TestAmerica West Sacramento Project Number G9D030338

#### General Comments

As requested, a 10:1 composite was performed on samples 1-8.

#### SOLID, 1668, WHO PCB congeners

Samples: 1, 2, 3, 4, 5, 6, 7, 8, 8

As discussed, the associated method blank contains a positive result for PCB 118 (2.3 pg/g). Since the associated results for this analyte were greater than 5X the amount present in the method blank, no corrective action was performed.

Samples: 1, 2, 3, 4, 5, 6, 7

The extracts for these samples were diluted 5X due to matrix interferences that were observed in the undiluted analyses. The detection limits were elevated accordingly.

Samples: 1, 3, 4, 5, 8

These samples have some high internal standard recoveries. The target analytes associated with these internal standards are 'ND' well below the detection limit except for sample 8. Sample 8 has a positive hit for PCB 156. This target analyte result compares to the value reported for the duplicate analysis performed on this sample. The duplicate analysis had an acceptance recovery for this internal standard. There should be no impact on the data.

Samples: 2, 6

The PCB 77 detection limits were elevated for these samples due to matrix interferences. These elevated detection limits have been flagged with a 'G' qualifier and may be considered maximum possible concentrations.

Samples: 8

The PCB 77 & PCB 123 detection limits were elevated for these samples due to matrix interferences. These elevated detection limits have been flagged with a 'G' qualifier and may be considered maximum possible concentrations.

Sample: 2

This sample had low recoveries for two internal standards. The data quality is not considered affected if the internal standard signal-to-noise ratio is greater than 10:1, which is achieved for all internal standards in the sample. There should be no impact on the data.

## Case Narrative

### TestAmerica West Sacramento Project Number G9D030338

Sample: 8

The PCB 189 result for this sample has been flagged with a 'Q' qualifier since its ion abundance ratio did not meet acceptance criteria. This analyte has been reported as an 'estimated maximum possible concentration' since its quantitation was based on a theoretical ion abundance ratio.

Samples: 1, 2, 3, 4, 5, 6, 7, 8

The duplicate analysis, which was performed on sample 8, has a high RPD for PCB 167.

There are no other anomalies associated with this project.



### TestAmerica Laboratories West Sacramento Certifications/Accreditations

Certifying State	Certificate #	Certifying State	Certificate #
Alaska	UST-055	New York*	11666
Arizona	AZ0708	Oregon*	CA 200005
Arkansas	88-0691	Pennsylvania	68-1272
California*	01119CA	South Carolina	87014
Colorado	NA	Texas	T104704399-08-TX
Connecticut	PH-0691	Utah*	QUAN1
Florida*	E87570	Virginia	00178
Georgia	960	Washington	C1281
Hawaii	NA	West Virginia	9930C, 334
Illinois	200060	Wisconsin	998204680
Kansas*	E-10375	NFESC	NA
Louisiana*	30612	USACE	NA
Michigan	9947	USDA Foreign Plant	37-82605
Nevada	CA44	USDA Foreign Soil	P330-09-00055
New Jersey*	CA005	US Fish & Wildlife	LE148388-0
New Mexico	NA	Guam	NA

\*NELAP accredited. A more detailed parameter list is available upon request. Updated 3/25/2009

### QC Parameter Definitions

**QC Batch:** The QC batch consists of a set of up to 20 field samples that behave similarly (i.e., same matrix) and are processed using the same procedures, reagents, and standards at the same time.

**Method Blank:** An analytical control consisting of all reagents, which may include internal standards and surrogates, and is carried through the entire analytical procedure. The method blank is used to define the level of laboratory background contamination.

**Laboratory Control Sample and Laboratory Control Sample Duplicate (LCS/LCSD):** An aliquot of blank matrix spiked with known amounts of representative target analytes. The LCS (and LCSD as required) is carried through the entire analytical process and is used to monitor the accuracy of the analytical process independent of potential matrix effects. If an LCSD is performed, it may also be used to evaluate the precision of the process.

**Duplicate Sample (DU):** Different aliquots of the same sample are analyzed to evaluate the precision of an analysis.

**Surrogates:** Organic compounds not expected to be detected in field samples, which behave similarly to target analytes. These are added to every sample within a batch at a known concentration to determine the efficiency of the sample preparation and analytical process.

**Matrix Spike and Matrix Spike Duplicate (MS/MSD):** An MS is an aliquot of a matrix fortified with known quantities of specific compounds and subjected to an entire analytical procedure in order to indicate the appropriateness of the method for a particular matrix. The percent recovery for the respective compound(s) is then calculated. The MSD is a second aliquot of the same matrix as the matrix spike, also spiked, in order to determine the precision of the method.

**Isotope Dilution:** For isotope dilution methods, isotopically labeled analogs (internal standards) of the native target analytes are spiked into the sample at time of extraction. These internal standards are used for quantitation, and monitor and correct for matrix effects. Since matrix effects on method performance can be judged by the recovery of these analogs, there is little added benefit of performing MS/MSD for these methods. MS/MSD are only performed for client or QAPP requirements.

**Control Limits:** The reported control limits are either based on laboratory historical data, method requirements, or project data quality objectives. The control limits represent the estimated uncertainty of the test results.

## Sample Summary

### TestAmerica West Sacramento Project Number G9D030338

<u>WO#</u>	<u>Sample #</u>	<u>Client Sample ID</u>	<u>Sampling Date</u>	<u>Received Date</u>
K9LD2	1	090331-SW-01-S TO 10-S-COMPOSITE	3/31/2009 09:55 AM	4/3/2009 09:35 AM
K9LD3	2	090331-NE-01-S TO 10-S COMPOSITE	3/31/2009 12:27 PM	4/3/2009 09:35 AM
K9LD4	3	090331-N-01-S TO 10-S-COMPOSITE	3/31/2009 03:36 PM	4/3/2009 09:35 AM
K9LD5	4	090331-S-01-S TO 10-S-COMPOSITE	3/31/2009 05:59 PM	4/3/2009 09:35 AM
K9LD6	5	090401-NW-01-S TO 10-S-COMPOSITE	4/1/2009 08:35 AM	4/3/2009 09:35 AM
K9LD7	6	090401-B18-01-S TO 10-S-COMPOSITE	4/1/2009 08:50 AM	4/3/2009 09:35 AM
K9LD8	7	090401-W-01-S TO 10-S-COMPOSITE	4/1/2009 01:35 PM	4/3/2009 09:35 AM
K9LD9	8	090401-SE-01-S TO 10-S-COMPOSITE	4/1/2009 03:38 PM	4/3/2009 09:35 AM

#### Notes(s):

- The analytical results of the samples listed above are presented on the following pages.
- All calculations are performed before rounding to avoid round-off errors in calculated results.
- Results noted as "ND" were not detected at or above the stated limit.
- This report must not be reproduced, except in full, without the written approval of the laboratory.
- Results for the following parameters are never reported on a dry weight basis: color, corrosivity, density, flashpoint, ignitability, layers, odor, paint filter test, pH, porosity, pressure, reactivity, redox potential, specific gravity, spot tests, solids, solubility, temperature, viscosity, and weight.

# TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

## Chain of Custody Record

G9D030338

Temperature on Receipt \_\_\_\_\_  
 Drinking Water? Yes  No

TAL-4124 (1/007)

Client: Chemical Waste Management, Inc. Project Manager: Paul Turek Date: 04/02/09 Chain of Custody Number: 107201

Address: 35251 Old Skyline Road Telephone Number (Area Code)/Fax Number: (559) 386-6151 Lab Number: \_\_\_\_\_ Page: 1 of 1

City: Kettleman City State: CA Zip Code: 93239 Site Contact: Steve Holsinger Lab Contact: Karen Dahl

Project Name and Location (State): XHF Carrier/Waybill Number: FEO EX

Sample I.D. No. and Description (Containers for each sample may be combined on one line)	Date	Time	Matrix				Containers & Preservatives					Analysis (Attach list if more space is needed)	Special Instructions/ Conditions of Receipt	
			Air	Soil	Sed.	Unknown	Unpres.	H2SO4	HNO3	HCl	NaOH			ZnAc/NaOH
090331 - SW-01-S-DVS	3/31/09	9:55		X				X						
090331 - SW-02-S-DVS	3/31/09	10:12		X				X						
090331 - SW-03-S-DVS	3/31/09	10:27		X				X						
090331 - SW-04-S-DVS	3/31/09	10:45		X				X						
090331 - SW-05-S-DVS	3/31/09	11:00		X				X						
090331 - SW-06-S-DVS	3/31/09	11:15		X				X						
090331 - SW-07-S-DVS	3/31/09	11:27		X				X						
090331 - SW-08-S-DVS	3/31/09	11:40		X				X						
090331 - SW-09-S-DVS	3/31/09	11:52		X				X						
090331 - SW-10-S-DVS	3/31/09	12:02		X				X						
090331 - SW-FS-S-DVS	3/31/09	12:35		X				X						
TEMP BLANK	N/A	N/A					X							HOLD - 40ml DIH <sub>2</sub> O

Possible Hazard Identification:  Non-Hazard  Flammable  Skin Irritant  Poison B  Unknown  Return To Client  Disposal By Lab  Archive For \_\_\_\_\_ Months (A fee may be assessed if samples are retained longer than 1 month)

QC Requirements (Specify): \_\_\_\_\_

Sample Disposal: \_\_\_\_\_

Turn Around Time Required:  24 Hours  48 Hours  7 Days  14 Days  21 Days  Other: STD

1. Relinquished By: SE E Flou Date: 04/02/09 Time: 1700

2. Relinquished By: \_\_\_\_\_ Date: \_\_\_\_\_ Time: \_\_\_\_\_

3. Relinquished By: \_\_\_\_\_ Date: \_\_\_\_\_ Time: \_\_\_\_\_

1. Received By: [Signature] Date: 4-3-09 Time: 1315

2. Received By: \_\_\_\_\_ Date: \_\_\_\_\_ Time: \_\_\_\_\_

3. Received By: \_\_\_\_\_ Date: \_\_\_\_\_ Time: \_\_\_\_\_

Comments: \* 12 WHO 1997 Dioxin-like PCB Congeners per agreement with Wack

DISTRIBUTION: WHITE - Returned to Client with Report; CANARY - Stays with the Sample; PINK - Field Copy

# TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

## Chain of Custody Record

TAL-4124 (1007)

Client: Chemical Waste Management, Inc. Project Manager: Paul Turek Date: 04/02/09 Chain of Custody Number: 107207  
 Address: 35251 Old Skyline Road Telephone Number (Area Code)/Fax Number: (559) 386-6151 Lab Number:          Page 1 of 1  
 City: Kettleman City State: CA Zip Code: 93239 Lab Contact: Karen Dahl  
 Project Name and Location (State): KHF Carrier/Waybill Number: FE0 FX

Sample I.D. No. and Description (Containers for each sample may be combined on one line)	Date	Time	Matrix				Containers & Preservatives					Analysis (Attach list if more space is needed)	Special Instructions/ Conditions of Receipt	
			Air	Aqueous	Sed	Soil	Unpres	H2SO4	HNO3	HCl	NaOH			ZnAc/NaOH
090331 - NE-01-S - <del>SEH</del> SEH	3-31-09	12:27			X	X	X	X	X					
090331 - NE-02-S - <del>SEH</del> SEH	3-31-09	12:10			X	X	X	X	X					
090331 - NE-03-S - <del>SEH</del> SEH	3-31-09	11:54			X	X	X	X	X					
090331 - NE-04-S - <del>SEH</del> SEH	3-31-09	11:39			X	X	X	X	X					
090331 - NE-05-S - <del>SEH</del> SEH	3-31-09	11:26			X	X	X	X	X					
090331 - NE-06-S - <del>SEH</del> SEH	3-31-09	11:10			X	X	X	X	X					
090331 - NE-07-S - <del>SEH</del> SEH	3-31-09	10:55			X	X	X	X	X					
090331 - NE-08-S - <del>SEH</del> SEH	3-31-09	10:40			X	X	X	X	X					
090331 - NE-09-S - <del>SEH</del> SEH	3-31-09	10:18			X	X	X	X	X					
090331 - NE-10-S - <del>SEH</del> SEH	3-31-09	9:55			X	X	X	X	X					
090331 - NE-SPLITS - SEH	03-31-09	12:22			X	X	X	X	X					
TEMP. BLANK	N/A	N/A			X									

Possible Hazard Identification:  Non-Hazard  Flammable  Skin Irritant  Poison B  Unknown  Return To Client  Disposal By Lab  Archive For 12 Months  (A fee may be assessed if samples are retained longer than 1 month)

Turn Around Time Required:  24 Hours  48 Hours  7 Days  14 Days  21 Days  Other: STD

QC Requirements (Specify)	Received By	Date	Time
1. Relinquished By	<u>Steve Zook</u>	<u>04/02/09</u>	<u>1700</u>
2. Relinquished By	<u>Cliff Berg</u>	<u>4-3-09</u>	<u>1300</u>
3. Relinquished By			

Comments: \* 12 WHO Dioxin-like PCB Congeners per agreement w/ m Wenck Samplers initials WLB or SEH

DISTRIBUTION: WHITE - Returned to Client with Report; CANARY - Slays with the Sample; PINK - Field Copy

# TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

Temperature on Receipt \_\_\_\_\_  
 Drinking Water? Yes  No

## Chain of Custody Record

TAL-4124 (1007)

Client: **Chemical Waste Management, Inc.** Date: **04/02/09** Chain of Custody Number: **108094**

Address: **35251 Old Skyline Road** Telephone Number (Area Code)/Fax Number: \_\_\_\_\_ Page **1** of **1**

City: **Kettleman City** State: **CA** Zip Code: **93239** Lab Contact: **Karen Dahl**

Project Name and Location (State): **KHF** Carrier/Dayoff Number: **FED EX**

Contract/Purchase Order/Quote No.: **0742-816-02**

Sample I.D. No. and Description (Containers for each sample may be combined on one line)	Date	Time	Matrix					Containers & Preservatives					Special Instructions/ Conditions of Receipt		
			Air	Aqueous	Sed.	Soil	Unpres.	H2SO4	HNO3	HCl	NaOH	ZnAc/NaOH			
090331 - N-01-S-SEH	3-31-09	15:36				X	X	X							
090331 - N-02-S-SEH	3-31-09	15:52				X	X	X							
090331 - N-03-S-SEH	3-31-09	16:05				X	X	X							
090331 - N-04-S-SEH	3-31-09	16:23				X	X	X							
090331 - N-05-S-SEH	3-31-09	16:42				X	X	X							
090331 - N-06-S-SEH	3-31-09	17:02				X	X	X							
090331 - N-07-S-SEH	3-31-09	17:15				X	X	X							
090331 - N-08-S-SEH	3-31-09	17:29				X	X	X							
090331 - N-09-S-SEH	3-31-09	17:42				X	X	X							
090331 - N-10-S-SEH	3-31-09	17:55				X	X	X							
090331 - N-SPTS-SEH	03-31-09	18:00				X	X	X							
TEMP BLANK	N/A	N/A	X												40 ml DTH2O

Sample Disposal:  Return To Client  Archive For 12 Months (A fee may be assessed if samples are retained longer than 1 month)

Possible Hazard Identification:  Non-Hazard  Flammable  Skin Irritant  Poison B  Unknown

Turn Around Time Required:  24 Hours  48 Hours  7 Days  14 Days  21 Days  Other: **STD**

GC Requirements (Specify)	1. Received By	Date	Time
	<i>[Signature]</i>	04/02/09	17:00

Comments: \* 12 WHO 1997 Dioxin-Like PCB Congeners per agreement with Wenck.

DISTRIBUTION: WHITE - Returned to Client with Report; CANARY - Stays with the Sample; PINK - Field Copy

# TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

## Chain of Custody Record

Temperature on Receipt \_\_\_\_\_

Drinking Water? Yes  No

TAL-4124 (1007)

Client: Chemical Waste Management, Inc.  
 Address: 35251 Old Skyline Road  
 City: Kettleman City State: CA Zip Code: 93239  
 Project Name and Location (State): XHF  
 Carrier/Waybill Number: FE0 EX  
 Contract/Purchase Order/Quote No.: 0742-816-02

Project Manager: Paul Turek  
 Telephone Number (Area Code)/Fax Number: (559) 386-6151  
 Lab Contact: Karen Dahl

Date: 04/02/09  
 Chain of Custody Number: 107203  
 Page: 1 of 1

Analysis (Attach list if more space is needed)

Sample I.D. No. and Description (Containers for each sample may be combined on one line)	Date	Time	Matrix					Containers & Preservatives					Special Instructions/ Conditions of Receipt		
			Air	Aqueous	Sed	Soil	Unpres	H2SO4	HNO3	HCl	NaOH	ZnAc/NaOH			
090331 - S-01-S-R5F	11/4/97	1739			X	X	X	X	X	X	X	X	X	X	
090331 - S-02-S-R5F	1600	1748			X	X	X	X	X	X	X	X	X	X	
090331 - S-03-S-R5F	1615	1734			X	X	X	X	X	X	X	X	X	X	
090331 - S-04-S-R5F	1715				X	X	X	X	X	X	X	X	X	X	
090331 - S-05-S-R5F	1705				X	X	X	X	X	X	X	X	X	X	
090331 - S-06-S-R5F	1644				X	X	X	X	X	X	X	X	X	X	
090331 - S-07-S-R5F	1630				X	X	X	X	X	X	X	X	X	X	
090331 - S-08-S-R5F	1615				X	X	X	X	X	X	X	X	X	X	
090331 - S-09-S-R5F	1600				X	X	X	X	X	X	X	X	X	X	
090331 - S-10-S-R5F	1544	3/21/09			X	X	X	X	X	X	X	X	X	X	
090331 - S-SPLITS - DVS	03/31/09	1810			X										
TEMP BLANK	N/A	N/A			X										40 ml DIH <sub>2</sub> O

Possible Hazard Identification:  
 Non-Hazard  Flammable  Skin Irritant  Poison B  Unknown  Return To Client  Disposal By Lab  Archive For 12 Months  (A fee may be assessed if samples are retained longer than 1 month)

QC Requirements (Specify):

1. Relinquished By: Steve Holshouser Date: 04/02/09 Time: 1700  
 2. Relinquished By: Date: Date: Time: Time:  
 3. Relinquished By: Date: Date: Time: Time:

Comments: \* 12 W40 1997 Dioxin-like PCB Congeners per agreement with Wlenck

DISTRIBUTION: WHITE - Returned to Client with Report; CANARY - Stays with the Sample; PINK - Field Copy



# TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

Temperature on Receipt \_\_\_\_\_

Drinking Water? Yes  No

## Chain of Custody Record

TAL-4124 (1/007)

Client: Chemical Waste Management, Inc. Date: 04/02/09 Chain of Custody Number: 107205  
 Address: 35251 Old Skyline Road Telephone Number (Area Code)/Fax Number: (559) 386-6151 Page: 1 of 1  
 City: Kettleman City State: CA Zip Code: 93239 Lab Contact: Karen Dahl

Project Name and Location (State): KHF Site Contact: Steve Holstouwer Lab Contact: Karen Dahl  
 Carrier/Waybill Number: FEO EX

Sample I.D. No. and Description (Containers for each sample may be combined on one line)	Date	Time	Matrix					Containers & Preservatives					Special Instructions/ Conditions of Receipt			
			Air	Aqueous	Sed.	Soil	Unpres.	H2SO4	HNO3	HCl	NaOH	ZnAc/NaOH				
090401 - NW-01-S- <del>SEH</del> WLB	4-1-09	8:35				X	X									
090401 - NW-02-S- <del>SEH</del> WLB	4-1-09	8:55				X	X									
090401 - NW-03-S- <del>SEH</del> WLB	4-1-09	9:10				X	X									
090401 - NW-04-S- <del>SEH</del> WLB	4-1-09	9:30				X	X									
090401 - NW-05-S- <del>SEH</del> WLB	4-1-09	9:45				X	X									
090401 - NW-06-S-SEH	4-1-09	10:00				X	X									
090401 - NW-07-S-SEH	4-1-09	10:12				X	X									
090401 - NW-08-S-SEH	4-1-09	10:29				X	X									
090401 - NW-09-S-SEH	4-1-09	10:47				X	X									
090401 - NW-10-S-SEH	4-1-09	11:00				X	X									
090401 - NW-SPLITS-WLB	04-01-09	11:05				X	X									

Possible Hazard Identification:  Non-Hazard  Flammable  Skin Irritant  Poison B  Unknown  Return To Client  Disposal By Lab  Archive For 12 Months (A fee may be assessed if samples are retained longer than 1 month)

Turn Around Time Required:  24 Hours  48 Hours  7 Days  14 Days  21 Days  Other: STD

1. Relinquished By: Steve Holstouwer Date: 04/02/09 Time: 17:00  
 2. Relinquished By: [Signature] Date: 4-3-09 Time: 13:00  
 3. Relinquished By: \_\_\_\_\_ Date: \_\_\_\_\_ Time: \_\_\_\_\_

Comments: \* 12 WHO 1997 Dioxin-like PCB Congeners per agreement with Wenck  
 DISTRIBUTION: WHITE - Returned to Client with Report; CANARY - Stays with the Sample; PINK - Field Copy

# TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

Temperature on Receipt \_\_\_\_\_  
 Drinking Water? Yes  No

## Chain of Custody Record

TAL-4124 (1007)

Client: Chemical Waste Management, Inc. Date: 04/02/09 Chain of Custody Number: 108098  
 Address: 35251 Old Skyline Road Lab Number: \_\_\_\_\_ Page: 1 of 1  
 City: Kefferman City State: CA Zip Code: 93239 Telephone Number (Area Code)/Fax Number: \_\_\_\_\_  
 Project Name and Location (State): KHF Site Contact: Steve Holsrouser Lab Contact: Karen Dahl  
 Carrier/Vehicle Number: FED EX

Sample I.D. No. and Description (Containers for each sample may be combined on one line)	Date	Time	Matrix					Containers & Preservatives					Special Instructions/ Conditions of Receipt	
			Air	Aqueous	Sed.	Soil	Unpres	H2SO4	HNO3	HCl	NaOH	ZnAc/NaOH		
090401 - B18-01-S-RJF	4/1/09	8:50			X	X	X	X	X	X	X	X	X	
090401 - B18-02-S-RJF	4/1/09	9:05			X	X	X	X	X	X	X	X	X	
090401 - B18-03-S-RJF	4/1/09	9:20			X	X	X	X	X	X	X	X	X	
090401 - B18-04-S-RJF	4/1/09	9:26			X	X	X	X	X	X	X	X	X	
090401 - B18-05-S-RJF	4/1/09	9:45			X	X	X	X	X	X	X	X	X	
090401 - B18-06-S-RJF	4/1/09	10:08			X	X	X	X	X	X	X	X	X	
090401 - B18-07-S-RJF	4/1/09	10:24			X	X	X	X	X	X	X	X	X	
090401 - B18-08-S-RJF	4/1/09	10:37			X	X	X	X	X	X	X	X	X	
090401 - B18-09-S-RJF	4/1/09	10:55			X	X	X	X	X	X	X	X	X	
090401 - B18-10-S-RJF	4/1/09	11:07			X	X	X	X	X	X	X	X	X	
090401 - B18-FS-S-RJF	4/1/09	11:23			X	X	X	X	X	X	X	X	X	
TEMP BLANK	N/A	N/A			X									HOLD - 40m / DIH <sub>2</sub> O

Sample Disposal:  Return To Client  Disposal By Lab  Archive For 12 Months (A fee may be assessed if samples are retained longer than 1 month)

Possible Hazard Identification:  Non-Hazard  Flammable  Skin Irritant  Poison B  Unknown  Other: STD

Turn Around Time Required:  24 Hours  48 Hours  7 Days  14 Days  21 Days  Other: STD

QC Requirements (Specify): \_\_\_\_\_

1. Relinquished By: SE E Ak Date: 04/02/09 Time: 1700  
 2. Relinquished By: \_\_\_\_\_ Date: \_\_\_\_\_ Time: \_\_\_\_\_  
 3. Relinquished By: \_\_\_\_\_ Date: \_\_\_\_\_ Time: \_\_\_\_\_

1. Received By: [Signature] Date: 4-3-09 Time: 1330  
 2. Received By: \_\_\_\_\_ Date: \_\_\_\_\_ Time: \_\_\_\_\_  
 3. Received By: \_\_\_\_\_ Date: \_\_\_\_\_ Time: \_\_\_\_\_

Comments: \*12 1997 WHO Dioxin-like PCB Congeners per agreement with Newark  
 DISTRIBUTION: WHITE - Returned to Client with Report; CANARY - Stays with the Sample; PINK - Field Copy

# TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

## Chain of Custody Record

TAL-4124 (1007)

Client: **Chemical Waste Management, Inc.**  
 Address: **35251 Old Skyline Road**  
 City: **Kettleman City** State: **CA** Zip Code: **93239**  
 Project Name and Location (State): **KHF**  
 Contract/Purchase Order/Quote No.: **0742-816-02**

Project Manager: **Paul Turek**  
 Telephone Number (Area Code)/Fax Number: **(559) 386-6151**  
 Site Contact: **Steve Holsheiser** Lab Contact: **Karen Dahl**  
 Carrier/Maybill Number: **FED EX**

Chain of Custody Number: **108092**  
 Date: **04/02/09**  
 Lab Number: **108092**  
 Page: **1** of **1**

Sample I.D. No. and Description (Containers for each sample may be combined on one line)	Date	Time	Matrix			Containers & Preservatives						Analysis (Attach list if more space is needed)	Special Instructions/ Conditions of Receipt				
			Air	Aqueous	Sed	Soil	Unpres	H2SO4	HNO3	HCl	NaOH			ZnAc	HNO3		
090401 - W-01-S- <del>816-02</del> w/b	4-1-09	13:35			X	X	X	X	X								
090401 - W-02-S- <del>816-02</del> w/b	4-1-09	13:44			X	X	X	X	X								
090401 - W-03-S- <del>816-02</del> w/b	4-1-09	13:55			X	X	X	X	X								
090401 - W-04-S- <del>816-02</del> w/b	4-1-09	14:05			X	X	X	X	X								
090401 - W-05-S- <del>816-02</del> w/b	4-1-09	14:25			X	X	X	X	X								
090401 - W-06-S- <del>816-02</del> w/b	4-1-09	14:35			X	X	X	X	X								
090401 - W-07-S- <del>816-02</del> w/b	4-1-09	14:45			X	X	X	X	X								
090401 - W-08-S- <del>816-02</del> w/b	4-1-09	15:00			X	X	X	X	X								
090401 - W-09-S- <del>816-02</del> w/b	4-1-09	15:10			X	X	X	X	X								
090401 - W-10-S- <del>816-02</del> w/b	4-1-09	15:25			X	X	X	X	X								
TEMP BLANK	N/A	N/A			X												40N/12A-DIH2O

Possible Hazard Identification:  
 Non-Hazard  Flammable  Skin Irritant  Poison B  Unknown  Return To Client  Disposal By Lab  Archive For 12 Months (A fee may be assessed if samples are retained longer than 1 month)

Turn Around Time Required:  
 24 Hours  48 Hours  7 Days  14 Days  21 Days  Other STD

1. Relinquished By: Steve E Holsheiser Date: 04/02/09 Time: 1700  
 2. Relinquished By: \_\_\_\_\_ Date: \_\_\_\_\_ Time: \_\_\_\_\_  
 3. Relinquished By: \_\_\_\_\_ Date: \_\_\_\_\_ Time: \_\_\_\_\_

1. Received By: [Signature] Date: 4-3-09 Time: 1400  
 2. Received By: \_\_\_\_\_ Date: \_\_\_\_\_ Time: \_\_\_\_\_  
 3. Received By: \_\_\_\_\_ Date: \_\_\_\_\_ Time: \_\_\_\_\_

Comments: \* 12 WHO 1997 Dioxin-Like PCB Congeners per agreement with Wack  
 DISTRIBUTION: WHITE - Returned to Client with Report; CANARY - Stays with the Sample; PINK - Field Copy

**Chain of Custody Record**

**TestAmerica**

THE LEADER IN ENVIRONMENTAL TESTING

Temperature on Receipt \_\_\_\_\_  
 Drinking Water? Yes  No

TAL-4124 (1007)  
 Client: **Chemical Waste Management, Inc.**  
 Address: **35251 Old Skyline Road**  
 City: **Kettleman City** State: **CA** Zip Code: **93239**  
 Project Name and Location (State): **KHF**  
 Contract/Purchase Order/Quote No.: **0742-816-02**  
 Project Manager: **Paul Turck**  
 Telephone Number (Area Code)/Fax Number: **(559) 386-6151**  
 Date: **04/02/09**  
 Chain of Custody Number: **108095**  
 Lab Number: \_\_\_\_\_ Page **1** of **1**

Sample I.D. No. and Description (Containers for each sample may be combined on one line)	Date	Time	Matrix				Containers & Preservatives					Analysis (Attach list if more space is needed)	Special Instructions/ Conditions of Receipt	
			Air	Aqueous	Sed.	Soil	Unpres	H2SO4	HNO3	HCl	NaOH			ZnAc/NaOH
090401 - SE-01-S - R5F	4/1/09	1538			X	X	X	X	X	X	X	X	X	
090401 - SE-02-S - R5F	4/1/09	1528			X	X	X	X	X	X	X	X	X	
090401 - SE-03-S - R5F	4/1/09	1517			X	X	X	X	X	X	X	X	X	
090401 - SE-04-S - R5F	4/1/09	1505			X	X	X	X	X	X	X	X	X	
090401 - SE-05-S - R5F	4/1/09	1452			X	X	X	X	X	X	X	X	X	
090401 - SE-06-S - R5F	4/1/09	1435			X	X	X	X	X	X	X	X	X	
090401 - SE-07-S - R5F	4/1/09	1423			X	X	X	X	X	X	X	X	X	
090401 - SE-08-S - R5F	4/1/09	1413			X	X	X	X	X	X	X	X	X	
090401 - SE-09-S - R5F	4/1/09	1400			X	X	X	X	X	X	X	X	X	
090401 - SE-10-S - R5F	4/1/09	1350			X	X	X	X	X	X	X	X	X	
TEMP BLANK	N/A	N/A												40ml VOA DIH <sub>2</sub> O

Possible Hazard Identification:  
 Non-Hazard  Flammable  Skin Irritant  Poison B  Unknown  
 Disposal By Lab  Archive For **12** Months (A fee may be assessed if samples are retained longer than 1 month)  
 Turn Around Time Required:  
 24 Hours  48 Hours  7 Days  14 Days  21 Days  Other: **STD**  
 Sample Disposal:  
 Return To Client  
 OC Requirements (Specify):  
 1. Received By: **Steve E. Robinson** Date: **04/02/09** Time: **1700**  
 2. Received By: **Chy Hye** Date: **4-3-09** Time: **1330**  
 3. Received By: \_\_\_\_\_ Date: \_\_\_\_\_ Time: \_\_\_\_\_

Comments: **\* 12 W/HO 1997 Dioxin-like PCB Congeners per agreement with Wack**  
 DISTRIBUTION: WHITE - Returned to Client with Report; CANARY - Stays with the Sample; PINK - Field Copy

CLIENT Wenck PM KD LOG # 57784

LOT# (QUANTIMS ID) C9D620348 QUOTE# 81307 LOCATION WFI - 2<sup>nd</sup> floor

DATE RECEIVED 4-3-09 TIME RECEIVED 9:35 Initials AD Date 4-3-09

- DELIVERED BY
- FEDEX
  - AIRBORNE
  - UPS
  - TAL COURIER
  - OTHER
  - CA OVERNIGHT
  - GOLDENSTATE
  - BAX GLOBAL
  - VALLEY LOGISTICS
  - MORGAN HILL COURIER
  - CLIENT
  - DHL
  - GO-GETTERS
  - MORGAN HILL COURIER

CUSTODY SEAL STATUS  INTACT  BROKEN  N/A

CUSTODY SEAL #(S) Seals

SHIPPING CONTAINER(S)  TAL  CLIENT  N/A

TEMPERATURE RECORD (IN °C) IR 4  5  OTHER

COC #(S) 167201, 207, 108094, 98, 92, 95

TEMPERATURE BLANK Observed: \_\_\_\_\_ Corrected: \_\_\_\_\_

SAMPLE TEMPERATURE  
Observed: See temp. sheet Average: \_\_\_\_\_ Corrected Average: \_\_\_\_\_

COLLECTOR'S NAME:  Verified from COC  Not on COC

pH MEASURED  YES  ANOMALY  N/A

LABELED BY \_\_\_\_\_

LABELS CHECKED BY \_\_\_\_\_

PEER REVIEW  NA

SHORT HOLD TEST NOTIFICATION SAMPLE RECEIVING  
WETCHEM  N/A  
VOA-ENCORES  N/A

METALS NOTIFIED OF FILTER/PRESERVE VIA VERBAL & EMAIL  N/A

COMPLETE SHIPMENT RECEIVED IN GOOD CONDITION WITH APPROPRIATE TEMPERATURES, CONTAINERS, PRESERVATIVES  N/A

CLOUSEAU  TEMPERATURE EXCEEDED (2 °C - 6 °C)<sup>1</sup>  N/A

WET ICE  BLUE ICE  GEL PACK  NO COOLING AGENTS USED  PM NOTIFIED

Notes: See

\*1 Acceptable temperature range for State of Wisconsin samples is ≤4°C.











Lot ID: \_\_\_\_\_

690030338

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
VOA*	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/
VOAh*	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/
AGB																				
AGBs																				
250AGB																				
250AGBs																				
250AGBn																				
500AGB																				
___AGJ																				
500AGJ																				
250AGJ																				
125AGJ	10	10	10	10	10	10	10	10	1	1	1	1	1	1						
___CGJ																				
500CGJ																				
250CGJ																				
125CGJ																				
PJ																				
PJn																				
500PJ																				
500PJn																				
500PJna																				
500PJzn/na																				
250PJ																				
250PJn																				
250PJna																				
250PJzn/na																				
Acetate Tube																				
___"CT																				
Encore																				
Folder/filter																				
PUF																				
Petri/Filter																				
XAD Trap																				
Ziploc																				

h = hydrochloric acid    s = sulfuric acid    na = sodium hydroxide    n = nitric acid    zn = zinc acetate

Number of VOAs with air bubbles present / total number of VOA's

# SOLID, 1668, WHO PCB congeners

Wenck Associates, Inc.

Client Sample ID: 090331-SW-01-S TO 10-S-COMPOSITE

Trace Level Organic Compounds

Lot-Sample #...: G9D030338-001    Work Order #...: K9LD21AC    Matrix.....: SOLID  
 Date Sampled...: 03/31/09    Date Received...: 04/03/09  
 Prep Date.....: 04/17/09    Analysis Date...: 04/22/09  
 Prep Batch #...: 9106484  
 Dilution Factor: 5  
 % Moisture.....: 2.2

PARAMETER	RESULT	DETECTION LIMIT	UNITS	METHOD
PCB 77 (BZ)	ND	10	pg/g	EPA-14 1668
PCB 81 (BZ)	ND	10	pg/g	EPA-14 1668
PCB 105 (BZ)	11 C	10	pg/g	EPA-14 1668
PCB 114 (BZ)	ND	10	pg/g	EPA-14 1668
PCB 118 (BZ)	15 C,B	10	pg/g	EPA-14 1668
PCB 123 (BZ)	ND	10	pg/g	EPA-14 1668
PCB 126 (BZ)	ND	10	pg/g	EPA-14 1668
PCB 156 (BZ)	ND	10	pg/g	EPA-14 1668
PCB 157 (BZ)	ND	10	pg/g	EPA-14 1668
PCB 167 (BZ)	ND	10	pg/g	EPA-14 1668
PCB 169 (BZ)	ND	10	pg/g	EPA-14 1668
PCB 189 (BZ)	ND	10	pg/g	EPA-14 1668

INTERNAL STANDARDS	PERCENT RECOVERY	RECOVERY LIMITS
13C12-PCB 77	99	(25 - 150)
13C12-PCB 81	93	(25 - 150)
13C12-PCB 118	105	(25 - 150)
13C12-PCB 114	93	(25 - 150)
13C12-PCB 105	92	(25 - 150)
13C12-PCB 126	90	(25 - 150)
13C12-PCB 167	140	(25 - 150)
13C12-PCB 156	142	(25 - 150)
13C12-PCB 157	143	(25 - 150)
13C12-PCB 169	151 *	(25 - 150)
13C12-PCB 189	152 *	(25 - 150)

**NOTE (S) :**

Results and reporting limits have been adjusted for dry weight

C Co-eluting isomer

B Method blank contamination. The associated method blank contains the target analyte at a reportable level.

\* Surrogate recovery is outside stated control limits

Wenck Associates, Inc.

Client Sample ID: 090331-NE-01-S TO 10-S COMPOSITE

Trace Level Organic Compounds

Lot-Sample #...: G9D030338-002    Work Order #...: K9LD31AC    Matrix.....: SOLID  
 Date Sampled...: 03/31/09    Date Received...: 04/03/09  
 Prep Date.....: 04/17/09    Analysis Date...: 04/22/09  
 Prep Batch #...: 9106484  
 Dilution Factor: 5  
 % Moisture.....: 2.4

PARAMETER	RESULT	DETECTION LIMIT	UNITS	METHOD
PCB 77 (BZ)	ND G	15	pg/g	EPA-14 1668
PCB 81 (BZ)	ND	10	pg/g	EPA-14 1668
PCB 105 (BZ)	65 C	10	pg/g	EPA-14 1668
PCB 114 (BZ)	ND	10	pg/g	EPA-14 1668
PCB 118 (BZ)	100 C,B	10	pg/g	EPA-14 1668
PCB 123 (BZ)	ND	10	pg/g	EPA-14 1668
PCB 126 (BZ)	ND	10	pg/g	EPA-14 1668
PCB 156 (BZ)	29	10	pg/g	EPA-14 1668
PCB 157 (BZ)	ND	10	pg/g	EPA-14 1668
PCB 167 (BZ)	16	10	pg/g	EPA-14 1668
PCB 169 (BZ)	ND	10	pg/g	EPA-14 1668
PCB 189 (BZ)	ND	10	pg/g	EPA-14 1668

INTERNAL STANDARDS	PERCENT RECOVERY	RECOVERY LIMITS
13C12-PCB 77	28	(25 - 150)
13C12-PCB 81	29	(25 - 150)
13C12-PCB 118	27	(25 - 150)
13C12-PCB 114	25 *	(25 - 150)
13C12-PCB 105	24 *	(25 - 150)
13C12-PCB 126	26	(25 - 150)
13C12-PCB 167	30	(25 - 150)
13C12-PCB 156	31	(25 - 150)
13C12-PCB 157	30	(25 - 150)
13C12-PCB 169	38	(25 - 150)
13C12-PCB 189	32	(25 - 150)

**NOTE (S) :**

Results and reporting limits have been adjusted for dry weight

G Elevated reporting limit The reporting limit is elevated due to matrix interference.

C Co-eluting isomer

B Method blank contamination The associated method blank contains the target analyte at a reportable level

\* Surrogate recovery is outside stated control limits.



Wenck Associates, Inc.

Client Sample ID: 090331-N-01-S TO 10-S-COMPOSITE

Trace Level Organic Compounds

Lot-Sample #...: G9D030338-003    Work Order #...: K9LD41AC    Matrix.....: SOLID  
 Date Sampled...: 03/31/09    Date Received...: 04/03/09  
 Prep Date.....: 04/17/09    Analysis Date...: 04/22/09  
 Prep Batch #...: 9106484  
 Dilution Factor: 5  
 % Moisture.....: 0.77

PARAMETER	RESULT	DETECTION LIMIT	UNITS	METHOD
PCB 77 (BZ)	ND	10	pg/g	EPA-14 1668
PCB 81 (BZ)	ND	10	pg/g	EPA-14 1668
<b>PCB 105 (BZ)</b>	<b>12 C</b>	<b>10</b>	<b>pg/g</b>	<b>EPA-14 1668</b>
PCB 114 (BZ)	ND	10	pg/g	EPA-14 1668
<b>PCB 118 (BZ)</b>	<b>19 C,B</b>	<b>10</b>	<b>pg/g</b>	<b>EPA-14 1668</b>
PCB 123 (BZ)	ND	10	pg/g	EPA-14 1668
PCB 126 (BZ)	ND	10	pg/g	EPA-14 1668
PCB 156 (BZ)	ND	10	pg/g	EPA-14 1668
PCB 157 (BZ)	ND	10	pg/g	EPA-14 1668
PCB 167 (BZ)	ND	10	pg/g	EPA-14 1668
PCB 169 (BZ)	ND	10	pg/g	EPA-14 1668
PCB 189 (BZ)	ND	10	pg/g	EPA-14 1668

INTERNAL STANDARDS	PERCENT RECOVERY	RECOVERY LIMITS
13C12-PCB 77	106	(25 - 150)
13C12-PCB 81	108	(25 - 150)
13C12-PCB 118	89	(25 - 150)
13C12-PCB 114	93	(25 - 150)
13C12-PCB 105	93	(25 - 150)
13C12-PCB 126	102	(25 - 150)
13C12-PCB 167	151 *	(25 - 150)
13C12-PCB 156	150	(25 - 150)
13C12-PCB 157	152 *	(25 - 150)
13C12-PCB 169	158 *	(25 - 150)
13C12-PCB 189	155 *	(25 - 150)

**NOTE (S) :**

Results and reporting limits have been adjusted for dry weight

C Co-eluting isomer

B Method blank contamination The associated method blank contains the target analyte at a reportable level

\* Surrogate recovery is outside stated control limits.

Wenck Associates, Inc.

Client Sample ID: 090331-S-01-S TO 10-S-COMPOSITE

Trace Level Organic Compounds

Lot-Sample #...: G9D030338-004    Work Order #...: K9LD51AC    Matrix.....: SOLID  
 Date Sampled...: 03/31/09    Date Received...: 04/03/09  
 Prep Date.....: 04/17/09    Analysis Date...: 04/22/09  
 Prep Batch #...: 9106484  
 Dilution Factor: 5  
 % Moisture.....: 0.96

PARAMETER	RESULT	DETECTION LIMIT	UNITS	METHOD
PCB 77 (BZ)	ND	10	pg/g	EPA-14 1668
PCB 81 (BZ)	ND	10	pg/g	EPA-14 1668
PCB 105 (BZ)	21 C	10	pg/g	EPA-14 1668
PCB 114 (BZ)	ND	10	pg/g	EPA-14 1668
PCB 118 (BZ)	29 C,B	10	pg/g	EPA-14 1668
PCB 123 (BZ)	ND	10	pg/g	EPA-14 1668
PCB 126 (BZ)	ND	10	pg/g	EPA-14 1668
PCB 156 (BZ)	ND	10	pg/g	EPA-14 1668
PCB 157 (BZ)	ND	10	pg/g	EPA-14 1668
PCB 167 (BZ)	ND	10	pg/g	EPA-14 1668
PCB 169 (BZ)	ND	10	pg/g	EPA-14 1668
PCB 189 (BZ)	ND	10	pg/g	EPA-14 1668

INTERNAL STANDARDS	PERCENT RECOVERY	RECOVERY LIMITS
13C12-PCB 77	104	(25 - 150)
13C12-PCB 81	104	(25 - 150)
13C12-PCB 118	94	(25 - 150)
13C12-PCB 114	87	(25 - 150)
13C12-PCB 105	89	(25 - 150)
13C12-PCB 126	96	(25 - 150)
13C12-PCB 167	144	(25 - 150)
13C12-PCB 156	145	(25 - 150)
13C12-PCB 157	141	(25 - 150)
13C12-PCB 169	158 *	(25 - 150)
13C12-PCB 189	149	(25 - 150)

**NOTE (S) :**

Results and reporting limits have been adjusted for dry weight

C Co-eluting isomer

B Method blank contamination The associated method blank contains the target analyte at a reportable level

\* Surrogate recovery is outside stated control limits.

Wenck Associates, Inc.

Client Sample ID: 090401-NW-01-S TO 10-S-COMPOSITE

Trace Level Organic Compounds

Lot-Sample #...: G9D030338-005    Work Order #...: K9LD61AC    Matrix.....: SOLID  
 Date Sampled...: 04/01/09    Date Received...: 04/03/09  
 Prep Date.....: 04/17/09    Analysis Date...: 04/22/09  
 Prep Batch #...: 9106484  
 Dilution Factor: 5  
 % Moisture.....: 1.6

PARAMETER	RESULT	DETECTION LIMIT	UNITS	METHOD
PCB 77 (BZ)	ND	10	pg/g	EPA-14 1668
PCB 81 (BZ)	ND	10	pg/g	EPA-14 1668
PCB 105 (BZ)	ND	10	pg/g	EPA-14 1668
PCB 114 (BZ)	ND	10	pg/g	EPA-14 1668
<b>PCB 118 (BZ)</b>	<b>18 C,B</b>	<b>10</b>	<b>pg/g</b>	<b>EPA-14 1668</b>
PCE 123 (BZ)	ND	10	pg/g	EPA-14 1668
PCB 126 (BZ)	ND	10	pg/g	EPA-14 1668
PCB 156 (BZ)	ND	10	pg/g	EPA-14 1668
PCB 157 (BZ)	ND	10	pg/g	EPA-14 1668
PCB 167 (BZ)	ND	10	pg/g	EPA-14 1668
PCB 169 (BZ)	ND	10	pg/g	EPA-14 1668
PCB 189 (BZ)	ND	10	pg/g	EPA-14 1668

INTERNAL STANDARDS	PERCENT RECOVERY	RECOVERY LIMITS
13C12-PCB 77	102	(25 - 150)
13C12-PCB 81	98	(25 - 150)
13C12-PCB 118	90	(25 - 150)
13C12-PCB 114	94	(25 - 150)
13C12-PCB 105	97	(25 - 150)
13C12-PCB 126	106	(25 - 150)
13C12-PCB 167	146	(25 - 150)
13C12-PCB 156	155 *	(25 - 150)
13C12-PCB 157	149	(25 - 150)
13C12-PCB 169	163 *	(25 - 150)
13C12-PCB 189	161 *	(25 - 150)

**NOTE (S) :**

Results and reporting limits have been adjusted for dry weight

C Co-eluting isomer

B Method blank contamination The associated method blank contains the target analyte at a reportable level

\* Surrogate recovery is outside stated control limits

Wenck Associates, Inc.

Client Sample ID: 090401-B18-01-S TO 10-S-COMPOSITE

Trace Level Organic Compounds

Lot-Sample #...: G9D030338-006    Work Order #...: K9LD71AC    Matrix.....: SOLID  
 Date Sampled...: 04/01/09    Date Received...: 04/03/09  
 Prep Date.....: 04/17/09    Analysis Date...: 04/22/09  
 Prep Batch #...: 9106484  
 Dilution Factor: 5  
 % Moisture.....: 2.1

PARAMETER	RESULT	DETECTION LIMIT	UNITS	METHOD
PCB 77 (BZ)	ND G	18	pg/g	EPA-14 1668
PCB 81 (BZ)	ND	10	pg/g	EPA-14 1668
PCB 105 (BZ)	62 C	10	pg/g	EPA-14 1668
PCB 114 (BZ)	ND	10	pg/g	EPA-14 1668
PCB 118 (BZ)	85 C,B	10	pg/g	EPA-14 1668
PCB 123 (BZ)	ND G	15	pg/g	EPA-14 1668
PCB 126 (BZ)	ND	10	pg/g	EPA-14 1668
PCB 156 (BZ)	31	10	pg/g	EPA-14 1668
PCB 157 (BZ)	ND	10	pg/g	EPA-14 1668
PCB 167 (BZ)	13	10	pg/g	EPA-14 1668
PCB 169 (BZ)	ND	10	pg/g	EPA-14 1668
PCB 189 (BZ)	ND	10	pg/g	EPA-14 1668

INTERNAL STANDARDS	PERCENT RECOVERY	RECOVERY LIMITS
13C12-PCB 77	86	(25 - 150)
13C12-PCB 81	85	(25 - 150)
13C12-PCB 118	98	(25 - 150)
13C12-PCB 114	73	(25 - 150)
13C12-PCB 105	74	(25 - 150)
13C12-PCB 126	83	(25 - 150)
13C12-PCB 167	114	(25 - 150)
13C12-PCB 156	117	(25 - 150)
13C12-PCB 157	115	(25 - 150)
13C12-PCB 169	119	(25 - 150)
13C12-PCB 189	115	(25 - 150)

**NOTE (S) :**

- Results and reporting limits have been adjusted for dry weight
- G Elevated reporting limit The reporting limit is elevated due to matrix interference.
  - C Co-eluting isomer
  - B Method blank contamination. The associated method blank contains the target analyte at a reportable level

Wenck Associates, Inc.

Client Sample ID: 090401-W-01-S TO 10-S-COMPOSITE

Trace Level Organic Compounds

Lot-Sample #...: G9D030338-007    Work Order #...: K9LD81AC    Matrix.....: SOLID  
 Date Sampled...: 04/01/09    Date Received...: 04/03/09  
 Prep Date.....: 04/17/09    Analysis Date...: 04/24/09  
 Prep Batch #...: 9106484  
 Dilution Factor: 5  
 % Moisture.....: 1.8

PARAMETER	RESULT	DETECTION LIMIT	UNITS	METHOD
PCB 77 (BZ)	ND	10	pg/g	EPA-14 1668
PCB 81 (BZ)	ND	10	pg/g	EPA-14 1668
PCB 105 (BZ)	10 C	10	pg/g	EPA-14 1668
PCB 114 (BZ)	ND	10	pg/g	EPA-14 1668
PCB 118 (BZ)	19 C,B	10	pg/g	EPA-14 1668
PCB 123 (BZ)	ND	10	pg/g	EPA-14 1668
PCB 126 (BZ)	ND	10	pg/g	EPA-14 1668
PCB 156 (BZ)	ND	10	pg/g	EPA-14 1668
PCB 157 (BZ)	ND	10	pg/g	EPA-14 1668
PCB 167 (BZ)	ND	10	pg/g	EPA-14 1668
PCB 169 (BZ)	ND	10	pg/g	EPA-14 1668
PCB 189 (BZ)	ND	10	pg/g	EPA-14 1668

INTERNAL STANDARDS	PERCENT RECOVERY	RECOVERY LIMITS
13C12-PCB 77	101	(25 - 150)
13C12-PCB 81	98	(25 - 150)
13C12-PCB 118	87	(25 - 150)
13C12-PCB 114	91	(25 - 150)
13C12-PCB 105	94	(25 - 150)
13C12-PCB 126	106	(25 - 150)
13C12-PCB 167	115	(25 - 150)
13C12-PCB 156	120	(25 - 150)
13C12-PCB 157	119	(25 - 150)
13C12-PCB 169	127	(25 - 150)
13C12-PCB 189	123	(25 - 150)

**NOTE (S) :**

Results and reporting limits have been adjusted for dry weight

C Co-eluting isomer

B Method blank contamination The associated method blank contains the target analyte at a reportable level.

Wenck Associates, Inc.

Client Sample ID: 090401-SE-01-S TO 10-S-COMPOSITE

Trace Level Organic Compounds

Lot-Sample #...: G9D030338-008    Work Order #...: K9LD91AC    Matrix.....: SOLID  
 Date Sampled...: 04/01/09    Date Received...: 04/03/09  
 Prep Date.....: 04/17/09    Analysis Date...: 04/30/09  
 Prep Batch #...: 9106484  
 Dilution Factor: 1  
 % Moisture.....: 8.5

PARAMETER	RESULT	DETECTION LIMIT	UNITS	METHOD
PCB 77 (BZ)	ND G	10	pg/g	EPA-14 1668
PCB 81 (BZ)	ND	2.2	pg/g	EPA-14 1668
PCB 105 (BZ)	33 C	2.2	pg/g	EPA-14 1668
PCB 114 (BZ)	ND	2.2	pg/g	EPA-14 1668
PCB 118 (BZ)	46 C,B	2.2	pg/g	EPA-14 1668
PCB 123 (BZ)	ND G	3.6	pg/g	EPA-14 1668
PCB 126 (BZ)	ND	2.2	pg/g	EPA-14 1668
PCB 156 (BZ)	10	2.2	pg/g	EPA-14 1668
PCB 157 (BZ)	ND	2.2	pg/g	EPA-14 1668
PCB 167 (BZ)	2.7	2.2	pg/g	EPA-14 1668
PCB 169 (BZ)	ND	2.2	pg/g	EPA-14 1668
PCB 189 (BZ)	2.6 Q	2.2	pg/g	EPA-14 1668

INTERNAL STANDARDS	PERCENT RECOVERY	RECOVERY LIMITS
13C12-PCB 77	106	(25 - 150)
13C12-PCB 81	106	(25 - 150)
13C12-PCB 118	91	(25 - 150)
13C12-PCB 114	94	(25 - 150)
13C12-PCB 105	98	(25 - 150)
13C12-PCB 126	103	(25 - 150)
13C12-PCB 167	141	(25 - 150)
13C12-PCB 156	156 *	(25 - 150)
13C12-PCB 157	157 *	(25 - 150)
13C12-PCB 169	167 *	(25 - 150)
13C12-PCB 189	147	(25 - 150)

**NOTE (S) :**

Results and reporting limits have been adjusted for dry weight

G Elevated reporting limit The reporting limit is elevated due to matrix interference

C Co-eluting isomer

B Method blank contamination The associated method blank contains the target analyte at a reportable level.

Q Estimated maximum possible concentration (EMPC)

\* Surrogate recovery is outside stated control limits

Wenck Associates, Inc.

Client Sample ID: 090401-SE-01 TO 10-S-RJF-COMPOSITE DUP

Trace Level Organic Compounds

Lot-Sample #...: G9D030338-008    Work Order #...: K9LD91AD    Matrix.....: SOLID  
 Date Sampled...: 04/01/09    Date Received...: 04/03/09  
 Prep Date.....: 04/17/09    Analysis Date...: 04/30/09  
 Prep Batch #...: 9106484  
 Dilution Factor: 1  
 % Moisture.....: 8.5

PARAMETER	RESULT	DETECTION LIMIT	UNITS	METHOD
PCB 77 (BZ)	ND G	11	pg/g	EPA-14 1668
PCB 81 (BZ)	ND	2.2	pg/g	EPA-14 1668
PCB 105 (BZ)	28 C	2.2	pg/g	EPA-14 1668
PCB 114 (BZ)	ND	2.2	pg/g	EPA-14 1668
PCB 118 (BZ)	51 C, B	2.2	pg/g	EPA-14 1668
PCB 123 (BZ)	ND G	5.4	pg/g	EPA-14 1668
PCB 126 (BZ)	ND	2.2	pg/g	EPA-14 1668
PCB 156 (BZ)	13	2.2	pg/g	EPA-14 1668
PCB 157 (BZ)	ND	2.2	pg/g	EPA-14 1668
PCB 167 (BZ)	5.2	2.2	pg/g	EPA-14 1668
PCB 169 (BZ)	ND	2.2	pg/g	EPA-14 1668
PCB 189 (BZ)	4.3	2.2	pg/g	EPA-14 1668

INTERNAL STANDARDS	PERCENT RECOVERY	RECOVERY LIMITS
13C12-PCB 77	104	(25 - 150)
13C12-PCB 81	107	(25 - 150)
13C12-PCB 118	86	(25 - 150)
13C12-PCB 114	90	(25 - 150)
13C12-PCB 105	92	(25 - 150)
13C12-PCB 126	97	(25 - 150)
13C12-PCB 167	141	(25 - 150)
13C12-PCB 156	146	(25 - 150)
13C12-PCB 157	148	(25 - 150)
13C12-PCB 169	157 *	(25 - 150)
13C12-PCB 189	144	(25 - 150)

**NOTE (S) :**

Results and reporting limits have been adjusted for dry weight

G Elevated reporting limit The reporting limit is elevated due to matrix interference

C Co-eluting isomer

B Method blank contamination The associated method blank contains the target analyte at a reportable level.

\* Surrogate recovery is outside stated control limits



# QC DATA ASSOCIATION SUMMARY

G9D030338

Sample Preparation and Analysis Control Numbers

<u>SAMPLE#</u>	<u>MATRIX</u>	<u>ANALYTICAL METHOD</u>	<u>LEACH BATCH #</u>	<u>PREP BATCH #</u>	<u>MS RUN#</u>
001	SOLID	ASTM D 2216-90		9118505	9118327
	SOLID	EPA-14 1668		9106484	9110267
002	SOLID	ASTM D 2216-90		9118505	9118327
	SOLID	EPA-14 1668		9106484	9110267
003	SOLID	ASTM D 2216-90		9118505	9118327
	SOLID	EPA-14 1668		9106484	9110267
004	SOLID	ASTM D 2216-90		9118505	9118327
	SOLID	EPA-14 1668		9106484	9110267
005	SOLID	ASTM D 2216-90		9118505	9118327
	SOLID	EPA-14 1668		9106484	9110267
006	SOLID	ASTM D 2216-90		9118505	9118327
	SOLID	EPA-14 1668		9106484	9110267
007	SOLID	ASTM D 2216-90		9118505	9118327
	SOLID	EPA-14 1668		9106484	9110267
008	SOLID	ASTM D 2216-90		9118505	9118327
	SOLID	EPA-14 1668		9106484	9110267

METHOD BLANK REPORT

Trace Level Organic Compounds

Client Lot #...: G9D030338      Work Order #...: K98KC1AA      Matrix.....: SOLID  
 MB Lot-Sample #: G9D160000-484  
 Prep Date.....: 04/17/09  
 Analysis Date...: 04/21/09      Prep Batch #...: 9106484  
 Dilution Factor: 1

PARAMETER	RESULT	DETECTION		METHOD
		LIMIT	UNITS	
PCB 77 (BZ)	ND	2.0	pg/g	EPA-14 1668
PCB 81 (BZ)	ND	2.0	pg/g	EPA-14 1668
PCB 105 (BZ)	ND	2.0	pg/g	EPA-14 1668
PCB 114 (BZ)	ND	2.0	pg/g	EPA-14 1668
<b>PCB 118 (BZ)</b>	<b>2.3 C</b>	<b>2.0</b>	<b>pg/g</b>	<b>EPA-14 1668</b>
PCB 123 (BZ)	ND	2.0	pg/g	EPA-14 1668
PCB 126 (BZ)	ND	2.0	pg/g	EPA-14 1668
PCB 156 (BZ)	ND	2.0	pg/g	EPA-14 1668
PCB 157 (BZ)	ND	2.0	pg/g	EPA-14 1668
PCB 167 (BZ)	ND	2.0	pg/g	EPA-14 1668
PCB 169 (BZ)	ND	2.0	pg/g	EPA-14 1668
PCB 189 (BZ)	ND	2.0	pg/g	EPA-14 1668

INTERNAL STANDARDS	PERCENT	RECOVERY
	RECOVERY	LIMITS
13C12-PCB 77	79	(25 - 150)
13C12-PCB 81	78	(25 - 150)
13C12-PCB 118	67	(25 - 150)
13C12-PCB 114	70	(25 - 150)
13C12-PCB 105	74	(25 - 150)
13C12-PCB 126	86	(25 - 150)
13C12-PCB 167	102	(25 - 150)
13C12-PCB 156	114	(25 - 150)
13C12-PCB 157	109	(25 - 150)
13C12-PCB 169	124	(25 - 150)
13C12-PCB 189	118	(25 - 150)

**NOTE(S) :**

Calculations are performed before rounding to avoid round-off errors in calculated results

C Co-eluting isomer.

LABORATORY CONTROL SAMPLE DATA REPORT

Trace Level Organic Compounds

Client Lot #...: G9D030338      Work Order #...: K98KC1AC      Matrix.....: SOLID  
 LCS Lot-Sample#: G9D160000-484  
 Prep Date.....: 04/17/09      Analysis Date...: 04/21/09  
 Prep Batch #...: 9106484  
 Dilution Factor: 1

<u>PARAMETER</u>	<u>SPIKE AMOUNT</u>	<u>MEASURED AMOUNT</u>	<u>UNITS</u>	<u>PERCENT RECOVERY</u>	<u>METHOD</u>
PCB 77 (BZ)	200	229	pg/g	114	EPA-14 1668
PCB 81 (BZ)	200	233	pg/g	116	EPA-14 1668
PCB 105 (BZ)	200	260	pg/g	130	EPA-14 1668
PCB 114 (BZ)	200	259	pg/g	129	EPA-14 1668
PCB 118 (BZ)	200	259	pg/g	130	EPA-14 1668
PCB 123 (BZ)	200	255	pg/g	127	EPA-14 1668
PCB 126 (BZ)	200	252	pg/g	126	EPA-14 1668
PCB 156 (BZ)	200	225	pg/g	113	EPA-14 1668
PCB 157 (BZ)	200	230	pg/g	115	EPA-14 1668
PCB 167 (BZ)	200	246	pg/g	123	EPA-14 1668
PCB 169 (BZ)	200	225	pg/g	113	EPA-14 1668
PCB 189 (BZ)	200	208	pg/g	104	EPA-14 1668

<u>INTERNAL STANDARD</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>
13C12-PCB 77	77	(25 - 150)
13C12-PCB 81	73	(25 - 150)
13C12-PCB 118	60	(25 - 150)
13C12-PCB 114	66	(25 - 150)
13C12-PCB 105	68	(25 - 150)
13C12-PCB 126	80	(25 - 150)
13C12-PCB 167	103	(25 - 150)
13C12-PCB 156	111	(25 - 150)
13C12-PCB 157	108	(25 - 150)
13C12-PCB 169	122	(25 - 150)
13C12-PCB 189	117	(25 - 150)

**NOTE (S) :**

Calculations are performed before rounding to avoid round-off errors in calculated results  
 Bold print denotes control parameters

LABORATORY CONTROL SAMPLE EVALUATION REPORT

Trace Level Organic Compounds

Client Lot #...: G9D030338      Work Order #...: K98KC1AC      Matrix.....: SOLID  
 LCS Lot-Sample#: G9D160000-484  
 Prep Date.....: 04/17/09      Analysis Date...: 04/21/09  
 Prep Batch #...: 9106484  
 Dilution Factor: 1

<u>PARAMETER</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>	<u>METHOD</u>
PCB 77 (BZ)	114	(50 - 150)	EPA-14 1668
PCB 81 (BZ)	116	(50 - 150)	EPA-14 1668
PCB 105 (BZ)	130	(50 - 150)	EPA-14 1668
PCB 114 (BZ)	129	(50 - 150)	EPA-14 1668
PCB 118 (BZ)	130	(50 - 150)	EPA-14 1668
PCB 123 (BZ)	127	(50 - 150)	EPA-14 1668
PCB 126 (BZ)	126	(50 - 150)	EPA-14 1668
PCB 156 (BZ)	113	(50 - 150)	EPA-14 1668
PCB 157 (BZ)	115	(50 - 150)	EPA-14 1668
PCB 167 (BZ)	123	(50 - 150)	EPA-14 1668
PCB 169 (BZ)	113	(50 - 150)	EPA-14 1668
PCB 189 (BZ)	104	(50 - 150)	EPA-14 1668

<u>INTERNAL STANDARD</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>
13C12-PCB 77	77	(25 - 150)
13C12-PCB 81	73	(25 - 150)
13C12-PCB 118	60	(25 - 150)
13C12-PCB 114	66	(25 - 150)
13C12-PCB 105	68	(25 - 150)
13C12-PCB 126	80	(25 - 150)
13C12-PCB 167	103	(25 - 150)
13C12-PCB 156	111	(25 - 150)
13C12-PCB 157	108	(25 - 150)
13C12-PCB 169	122	(25 - 150)
13C12-PCB 189	117	(25 - 150)

**NOTE (S) :**

Calculations are performed before rounding to avoid round-off errors in calculated results  
 Bold print denotes control parameters

MATRIX SPIKE SAMPLE DATA REPORT

Trace Level Organic Compounds

Client Lot #...: G9D030338      Work Order #...: K9LD71AD-MS      Matrix.....: SOLID  
 MS Lot-Sample #: G9D030338-006      K9LD71AE-MSD  
 Date Sampled...: 04/01/09      Date Received...: 04/03/09  
 Prep Date.....: 04/17/09      Analysis Date...: 04/22/09  
 Prep Batch #...: 9106484  
 Dilution Factor: 5      % Moisture.....: 2.1

PARAMETER	SAMPLE AMOUNT	SPIKE AMT	MEASRD AMOUNT	UNITS	PERCNT RECVRY	RPD	METHOD
PCB 77 (BZ)	ND	204	259	pg/g	127		EPA-14 1668
	ND	204	260	pg/g	127	0.23	EPA-14 1668
PCB 81 (BZ)	ND	204	236	pg/g	115		EPA-14 1668
	ND	204	230	pg/g	112	2.5	EPA-14 1668
PCB 105 (BZ)	62	204	348	pg/g	140 C		EPA-14 1668
	62	204	330	pg/g	131 C	5.2	EPA-14 1668
PCB 114 (BZ)	ND	204	266	pg/g	130		EPA-14 1668
	ND	204	263	pg/g	129	1.3	EPA-14 1668
PCB 118 (BZ)	85	204	349	pg/g	129 C		EPA-14 1668
	85	204	360	pg/g	134 C	3.0	EPA-14 1668
PCB 123 (BZ)	ND	204	286	pg/g	140		EPA-14 1668
	ND	204	273	pg/g	133	4.9	EPA-14 1668
PCB 126 (BZ)	ND	204	258	pg/g	126		EPA-14 1668
	ND	204	248	pg/g	121	4.1	EPA-14 1668
PCB 156 (BZ)	31	204	275	pg/g	119		EPA-14 1668
	31	204	264	pg/g	114	4.0	EPA-14 1668
PCB 157 (BZ)	ND	204	236	pg/g	116		EPA-14 1668
	ND	204	225	pg/g	110	4.8	EPA-14 1668
PCB 167 (BZ)	13	204	231	pg/g	107		EPA-14 1668
	13	204	246	pg/g	114	6.1	EPA-14 1668
PCB 169 (BZ)	ND	204	226	pg/g	111		EPA-14 1668
	ND	204	219	pg/g	107	3.5	EPA-14 1668
PCB 189 (BZ)	ND	204	219	pg/g	107		EPA-14 1668
	ND	204	209	pg/g	102	4.8	EPA-14 1668

INTERNAL STANDARDS	PERCENT RECOVERY	RECOVERY LIMITS
13C12-PCB 77	97	(25 - 150)
	91	(25 - 150)
13C12-PCB 81	98	(25 - 150)
	94	(25 - 150)
13C12-PCB 118	95	(25 - 150)
	88	(25 - 150)
13C12-PCB 114	84	(25 - 150)
	78	(25 - 150)
13C12-PCB 105	84	(25 - 150)
	79	(25 - 150)
13C12-PCB 126	93	(25 - 150)
	91	(25 - 150)

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MATRIX SPIKE SAMPLE DATA REPORT

Trace Level Organic Compounds

Client Lot #...: G9D030338      Work Order #...: K9LD71AD-MS      Matrix.....: SOLID  
MS Lot-Sample #: G9D030338-006      K9LD71AE-MSD

<u>INTERNAL STANDARDS</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>
13C12-PCB 167	133	(25 - 150)
	132	(25 - 150)
13C12-PCB 156	137	(25 - 150)
	137	(25 - 150)
13C12-PCB 157	132	(25 - 150)
	132	(25 - 150)
13C12-PCB 169	140	(25 - 150)
	137	(25 - 150)
13C12-PCB 189	132	(25 - 150)
	131	(25 - 150)

**NOTE (S) :**

Calculations are performed before rounding to avoid round-off errors in calculated results

Bold print denotes control parameters

Results and reporting limits have been adjusted for dry weight

C Co-eluting isomer.

MATRIX SPIKE SAMPLE EVALUATION REPORT

Trace Level Organic Compounds

Client Lot #...: G9D030338      Work Order #...: K9LD71AD-MS      Matrix.....: SOLID  
 MS Lot-Sample #: G9D030338-006      K9LD71AE-MSD  
 Date Sampled...: 04/01/09      Date Received...: 04/03/09  
 Prep Date.....: 04/17/09      Analysis Date...: 04/22/09  
 Prep Batch #...: 9106484  
 Dilution Factor: 5      % Moisture.....: 2.1

<u>PARAMETER</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>	<u>RPD</u>	<u>RPD LIMITS</u>	<u>METHOD</u>
PCB 77 (BZ)	127	(50 - 150)			EPA-14 1668
	127	(50 - 150)	0.23	(0-50)	EPA-14 1668
PCB 81 (BZ)	115	(50 - 150)			EPA-14 1668
	112	(50 - 150)	2.5	(0-50)	EPA-14 1668
PCB 105 (BZ)	140 C	(50 - 150)			EPA-14 1668
	131 C	(50 - 150)	5.2	(0-50)	EPA-14 1668
PCB 114 (BZ)	130	(50 - 150)			EPA-14 1668
	129	(50 - 150)	1.3	(0-50)	EPA-14 1668
PCB 118 (BZ)	129 C	(50 - 150)			EPA-14 1668
	134 C	(50 - 150)	3.0	(0-50)	EPA-14 1668
PCB 123 (BZ)	140	(50 - 150)			EPA-14 1668
	133	(50 - 150)	4.9	(0-50)	EPA-14 1668
PCB 126 (BZ)	126	(50 - 150)			EPA-14 1668
	121	(50 - 150)	4.1	(0-50)	EPA-14 1668
PCB 156 (BZ)	119	(50 - 150)			EPA-14 1668
	114	(50 - 150)	4.0	(0-50)	EPA-14 1668
PCB 157 (BZ)	116	(50 - 150)			EPA-14 1668
	110	(50 - 150)	4.8	(0-50)	EPA-14 1668
PCB 167 (BZ)	107	(50 - 150)			EPA-14 1668
	114	(50 - 150)	6.1	(0-50)	EPA-14 1668
PCB 169 (BZ)	111	(50 - 150)			EPA-14 1668
	107	(50 - 150)	3.5	(0-50)	EPA-14 1668
PCB 189 (BZ)	107	(50 - 150)			EPA-14 1668
	102	(50 - 150)	4.8	(0-50)	EPA-14 1668

<u>INTERNAL STANDARDS</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>
13C12-PCB 77	97	(25 - 150)
	91	(25 - 150)
13C12-PCB 81	98	(25 - 150)
	94	(25 - 150)
13C12-PCB 118	95	(25 - 150)
	88	(25 - 150)
13C12-PCB 114	84	(25 - 150)
	78	(25 - 150)
13C12-PCB 105	84	(25 - 150)
	79	(25 - 150)
13C12-PCB 126	93	(25 - 150)
	91	(25 - 150)

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MATRIX SPIKE SAMPLE EVALUATION REPORT

Trace Level Organic Compounds

Client Lot #...: G9D030338      Work Order #...: K9LD71AD-MS      Matrix.....: SOLID  
 MS Lot-Sample #: G9D030338-006      K9LD71AE-MSD

<u>INTERNAL STANDARDS</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>
13C12-PCB 167	133	(25 - 150)
	132	(25 - 150)
13C12-PCB 156	137	(25 - 150)
	137	(25 - 150)
13C12-PCB 157	132	(25 - 150)
	132	(25 - 150)
13C12-PCB 169	140	(25 - 150)
	137	(25 - 150)
13C12-PCB 189	132	(25 - 150)
	131	(25 - 150)

**NOTE (S) :**

Calculations are performed before rounding to avoid round-off errors in calculated results

Bold print denotes control parameters

Results and reporting limits have been adjusted for dry weight

C Co-eluting isomer



**SAMPLE DUPLICATE EVALUATION REPORT**

**Trace Level Organic Compounds**

Client Lot #...: G9D030338      Work Order #...: K9LD91AC -SMP Matrix.....: SOLID  
 SD Lot-Sample #: G9D030338-008      K9LD91AD -DUP  
 Date Sampled...: 04/01/09      Date Received...: 04/03/09  
 Prep Date.....: 04/17/09      Analysis Date...: 04/30/09  
 Prep Batch #...: 9106484  
 Dilution Factor: 1  
 % Moisture.....: 8.5

PARAMETER	SAMPLE RESULT	DUPLICATE RESULT	UNITS	RPD		METHOD
				RPD	LIMIT	
PCB 77 (BZ)	ND	ND	pg/g	0	(0-50)	EPA-14 1668
PCB 81 (BZ)	ND	ND	pg/g	0	(0-50)	EPA-14 1668
PCB 105 (BZ)	33 C	28 C	pg/g	16	(0-50)	EPA-14 1668
PCB 114 (BZ)	ND	ND	pg/g	0	(0-50)	EPA-14 1668
PCB 118 (BZ)	46 C,B	51 C,B	pg/g	12	(0-50)	EPA-14 1668
PCB 123 (BZ)	ND	ND	pg/g	0	(0-50)	EPA-14 1668
PCB 126 (BZ)	ND	ND	pg/g	0	(0-50)	EPA-14 1668
PCB 156 (BZ)	10	13	pg/g	24	(0-50)	EPA-14 1668
PCB 157 (BZ)	ND	ND	pg/g	0	(0-50)	EPA-14 1668
PCB 167 (BZ)	2.7	5.2	pg/g	65	(0-50)	EPA-14 1668
PCB 169 (BZ)	ND	ND	pg/g	0	(0-50)	EPA-14 1668
PCB 189 (BZ)	2.6 Q	4.3	pg/g	49	(0-50)	EPA-14 1668

SURROGATE RECOVERY	SAMPLE % RECOVERY	DUPLICATE % RECOVERY	RECOVERY LIMITS
13C12-PCB 81	106	107	(25 - 150)
13C12-PCB 118	91	86	(25 - 150)
13C12-PCB 114	94	90	(25 - 150)
13C12-PCB 105	98	92	(25 - 150)
13C12-PCB 126	103	97	(25 - 150)
13C12-PCB 167	141	141	(25 - 150)
13C12-PCB 156	156 *	146	(25 - 150)
13C12-PCB 157	157 *	148	(25 - 150)
13C12-PCB 169	167 *	157	(25 - 150)
13C12-PCB 189	147	144	(25 - 150)

**NOTE (S) :**

- Calculations are performed before rounding to avoid round-off errors in calculated results
- Results and reporting limits have been adjusted for dry weight
- C Co-eluting isomer
- B Method blank contamination. The associated method blank contains the target analyte at a reportable level.
- Q Estimated maximum possible concentration (EMPC)
- \* Surrogate recovery is outside stated control limits

# SOLID, D 2216-90, Percent Moisture

Wenck Associates, Inc.

Client Sample ID: 090331-SW-01-S TO 10-S-COMPOSITE

General Chemistry

Lot-Sample #...: G9D030338-001    Work Order #...: K9LD2    Matrix.....: SOLID  
Date Sampled...: 03/31/09    Date Received..: 04/03/09  
% Moisture.....: 2.2

<u>PARAMETER</u>	<u>RESULT</u>	<u>RL</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>PREP BATCH #</u>
Percent Moisture	2.2	0.10	%	ASTM D 2216-90	04/28-04/29/09	9118505

Dilution Factor: 1

Wenck Associates, Inc.

Client Sample ID: 090331-NE-01-S TO 10-S COMPOSITE

General Chemistry

Lot-Sample #....: G9D030338-002      Work Order #....: K9LD3      Matrix.....: SOLID  
Date Sampled....: 03/31/09      Date Received...: 04/03/09  
% Moisture.....: 2.4

<u>PARAMETER</u>	<u>RESULT</u>	<u>RL</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>PREP BATCH #</u>
Percent Moisture	2.4	0.10	%	ASTM D 2216-90	04/28-04/29/09	9118505

Dilution Factor: 1

Wenck Associates, Inc.

Client Sample ID: 090331-N-01-S TO 10-S-COMPOSITE

General Chemistry

Lot-Sample #...: G9D030338-003    Work Order #...: K9LD4    Matrix.....: SOLID  
Date Sampled...: 03/31/09    Date Received..: 04/03/09  
% Moisture.....: 0.77

<u>PARAMETER</u>	<u>RESULT</u>	<u>RL</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>PREP BATCH #</u>
Percent Moisture	0.78	0.10	%	ASTM D 2216-90	04/28-04/29/09	9118505

Dilution Factor: 1

Wenck Associates, Inc.

Client Sample ID: 090331-S-01-S TO 10-S-COMPOSITE

General Chemistry

Lot-Sample #...: G9D030338-004    Work Order #...: K9LD5    Matrix.....: SOLID  
Date Sampled...: 03/31/09    Date Received...: 04/03/09  
% Moisture.....: 0.96

<u>PARAMETER</u>	<u>RESULT</u>	<u>RL</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>PREP BATCH #</u>
Percent Moisture	0.96	0.10	%	ASTM D 2216-90	04/28-04/29/09	9118505

Dilution Factor: 1

Wenck Associates, Inc.

Client Sample ID: 090401-NW-01-S TO 10-S-COMPOSITE

General Chemistry

Lot-Sample #...: G9D030338-005      Work Order #...: K9LD6      Matrix.....: SOLID  
Date Sampled...: 04/01/09      Date Received...: 04/03/09  
% Moisture.....: 1.6

<u>PARAMETER</u>	<u>RESULT</u>	<u>RL</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>PREP BATCH #</u>
Percent Moisture	1.6	0.10	%	ASTM D 2216-90	04/28-04/29/09	9118505

Dilution Factor: 1

Wenck Associates, Inc.

Client Sample ID: 090401-B18-01-S TO 10-S-COMPOSITE

General Chemistry

Lot-Sample #...: G9D030338-006    Work Order #...: K9LD7    Matrix.....: SOLID  
Date Sampled...: 04/01/09    Date Received..: 04/03/09  
% Moisture.....: 2.1

<u>PARAMETER</u>	<u>RESULT</u>	<u>RL</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>PREP BATCH #</u>
Percent Moisture	2.1	0.10	%	ASTM D 2216-90	04/28-04/29/09	9118505

Dilution Factor: 1



Wenck Associates, Inc.

Client Sample ID: 090401-W-01-S TO 10-S-COMPOSITE

General Chemistry

Lot-Sample #...: G9D030338-007    Work Order #...: K9LD8    Matrix.....: SOLID  
Date Sampled...: 04/01/09    Date Received..: 04/03/09  
% Moisture.....: 1.8

<u>PARAMETER</u>	<u>RESULT</u>	<u>RL</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION-</u> <u>ANALYSIS DATE</u>	<u>PREP</u> <u>BATCH #</u>
Percent Moisture	1.8	0.10	%	ASTM D 2216-90	04/28-04/29/09	9118505

Dilution Factor: 1

Wenck Associates, Inc.

Client Sample ID: 090401-SE-01-S TO 10-S-COMPOSITE

General Chemistry

Lot-Sample #...: G9D030338-008      Work Order #...: K9LD9      Matrix.....: SOLID  
Date Sampled...: 04/01/09      Date Received..: 04/03/09  
% Moisture.....: 8.5

<u>PARAMETER</u>	<u>RESULT</u>	<u>RL</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>PREP BATCH #</u>
Percent Moisture	8.5	0.10	%	ASTM D 2216-90	04/28-04/29/09	9118505

Dilution Factor: 1

# QC DATA ASSOCIATION SUMMARY

G9D030338

Sample Preparation and Analysis Control Numbers

<u>SAMPLE#</u>	<u>MATRIX</u>	<u>ANALYTICAL METHOD</u>	<u>LEACH BATCH #</u>	<u>PREP BATCH #</u>	<u>MS RUN#</u>
001	SOLID	ASTM D 2216-90		9118505	9118327
	SOLID	EPA-14 1668		9106484	9110267
002	SOLID	ASTM D 2216-90		9118505	9118327
	SOLID	EPA-14 1668		9106484	9110267
003	SOLID	ASTM D 2216-90		9118505	9118327
	SOLID	EPA-14 1668		9106484	9110267
004	SOLID	ASTM D 2216-90		9118505	9118327
	SOLID	EPA-14 1668		9106484	9110267
005	SOLID	ASTM D 2216-90		9118505	9118327
	SOLID	EPA-14 1668		9106484	9110267
006	SOLID	ASTM D 2216-90		9118505	9118327
	SOLID	EPA-14 1668		9106484	9110267
007	SOLID	ASTM D 2216-90		9118505	9118327
	SOLID	EPA-14 1668		9106484	9110267
008	SOLID	ASTM D 2216-90		9118505	9118327
	SOLID	EPA-14 1668		9106484	9110267



# SOLID, 1668, WHO PCB congeners