RAMBOLL ENVIRON

ENVIRONMENT & HEALTH

MEMORANDUM

Date: November 16, 2017

To: Carey Upton, Chief Operations Officer

From: Ramboll Environ US Corporation

Subject: **2017 Post-BMP and Post-Encapsulation Verification PCB Sampling for Malibu High School and Juan Cabrillo Elementary School**

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This memorandum summarizes sampling activities related to polychlorinated biphenyls (PCBs) that were conducted during the 2017 summer break by Ramboll Environ US Corporation (Ramboll Environ) on behalf of the Santa Monica-Malibu Unified School District (SMMUSD or District), at Malibu High School (MHS) and Juan Cabrillo Elementary School (JCES). The sampling activities described herein include:

- Air and surface wipe sampling for PCBs to evaluate the efficacy of annual best management practices (BMP) cleaning (post-BMP samples) in pre-1981 buildings that have not been demolished or renovated with window, door, and floor modernization projects;
- Surface wipe sampling for PCBs to evaluate the efficacy of remaining surfaces encapsulated during the 2015 summer break (post-encapsulation verification samples); and
- Sampling and disposal of waste residuals generated during the BMP cleaning at the schools.

In summary, based on the information presented in this memorandum as well as our other reports regarding our indoor investigations at MHS and JCES, Ramboll Environ concludes the following:

- BMP cleaning in unrenovated pre-1981 buildings remains effective as exposure data at MHS and JCES shows PCB levels are below USEPA benchmarks for schools (i.e., <1 microgram per 100 square centimeters, or <1 µg/100 cm^2 for surface wipes and USEPA's Exposure Levels for Evaluation of PCBs in Indoor School Air for air samples[1]; thus demonstrating that these schools continue to be

[1] USEPA. 2016. Exposure Levels for Evaluation of PCBs in Indoor School Air. February 26. Available online: https://www.epa.gov/pcbs/exposure-levels-evaluation-polychlorinated-biphenyls-pcbs-indoor-school-air.

protective of public health and meet the TSCA standard for no unreasonable risk as previously concluded by USEPA ("USEPA's 2014 Approval Letter"[2]). Since these results are consistent with the results from previous post-BMP sampling conducted by Ramboll Environ, Ramboll Environ recommends that the District continue to implement BMP cleaning in unrenovated pre-1981 buildings at the same frequency. Given these results and the anticipated conclusion of modernization projects at MHS and JCES in 2019, Ramboll Environ does not recommend that sampling be continued.

  - The District seeks USEPA's confirmation of this conclusion and approval of this supplement to the Application to discontinue sampling, per USEPA's November 2015 Approval Letter.[3]

- Encapsulation is an effective method for managing substrates previously in contact with PCBs ≥50 parts per million (ppm), as PCB concentrations on encapsulated surfaces are below the USEPA benchmark of <1 µg/100 cm^2 for surface wipes as required by USEPA's November 2015 Approval Letter. Given these results and the anticipated conclusion of modernization projects in 2018 that will remove the remaining encapsulated areas in MHS Building J, Ramboll Environ does not recommend that sampling be continued after removal of the remaining encapsulated areas.

  - The District seeks USEPA's confirmation of this conclusion and approval of this supplement to the Application to discontinue sampling with the removal of the remaining encapsulated area in Building J, per USEPA's November 2015 Approval Letter.

INTRODUCTION

In 2017, the District has demolished Buildings A and E at MHS, will demolish Building B/C at MHS, and has conducted modernization projects for windows, doors, and floors in Buildings F, G, and I at MHS. MHS Buildings D and J and JCES Buildings A, B, C, D, and E are the only pre-1981 buildings at MHS and JCES that have not been either demolished or renovated with modernization projects, as summarized in Table 1.

The sampling described in this memorandum was conducted and completed in accordance with the July *2014 Site-Specific PCB-Related Building Materials Management, Characterization and Remediation Plan for the Library and Building E Rooms 1, 5, and 8 at Malibu High School* ("MHS Specific Plan")[4], as supplemented by the *Supplemental Removal Information for the Library, Building E - Rooms 1, 5, and 8 and Building G - Room 506 at Malibu High School* ("Supplement")[5], and as approved by USEPA Region IX ("USEPA's 2014 Approval Letter" and "USEPA's November 2015 Approval Letter"). The sampling and analysis methods were the same as those documented in previous Ramboll Environ reports regarding sampling at MHS and JCES, including the following:

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[2] USEPA. 2014. Letter from Jared Blumenfeld/USEPA to Sandra Lyon/SMMUSD. October 31. Available online: http://www.smmusd.org/PublicNotices/EnvDocs/EPAtoSL_103114.pdf

[3] USEPA. 2015. Letter from Jeff Scott/USEPA to Sandra Lyon/SMMUSD. November 2. Available online: http://www.smmusd.org/publicnotices/MalibuSupplementalApproval.pdf

[4] ENVIRON. 2014. Site-Specific PCB-Related Building Materials Management, Characterization and Remediation Plan for the Library and Building E Rooms 1, 5, and 8 at Malibu High School. July 3. Available online: http://www.smmusd.org/PublicNotices/PCBRemediationPlan070314.pdf

[5] ENVIRON. 2014. Supplemental Removal Information for the Library, Building E - Rooms 1, 5, and 8 and Building G - Room 506 at Malibu High School. September 26. Available online: http://smmusd.org/PublicNotices/MHSSuppRemovalSSP092614.pdf

- Ramboll Environ's December 2014 PCB Inspection and Sampling Report for Malibu High School and Juan Cabrillo Elementary School ("2014 Summer Sampling Report")[6],
- March 2015 2014/2015 Winter Break PCB Sampling Report for Malibu High School and Juan Cabrillo Elementary School ("2014/2015 Winter Sampling Report")[7],
- October 2015 Conclusion of PCB Sampling Pilot Study and 2015 PCB Removal Activities Report for Malibu High school and Juan Cabrillo Elementary School[8], and
- December 2016 Post-BMP, Post-Encapsulation Verification, and PCB Remediation Activity PCB Sampling for Malibu High School and Juan Cabrillo Elementary School ("2016 Summer Sampling Report").[9]

PCB SAMPLING METHODOLOGY

Objectives

There were two objectives for the 2017 summer break PCB sampling event:

1. Conduct additional post-BMP sampling in accordance with USEPA's November 2015 Approval Letter. A representative subset of regularly occupied rooms in unrenovated pre-1981 buildings were randomly selected for post-BMP sampling. In addition, post-BMP air and surface wipe sampling was performed in the rooms where caulk with PCBs ≥50 ppm was removed during the 2015 summer break and encapsulation used on adjacent porous substrates in accordance with USEPA's November 2015 Approval Letter.

2. Conduct post-encapsulation verification surface wipe sampling in the rooms where caulk with PCBs ≥ 50 ppm was removed and PCB remediation wastes remain in accordance with USEPA's November 2015 Approval Letter. The two rooms included in this portion of the 2017 summer break sampling were MHS Building J (700, Old Gymnasium) Room 704/704 Hallway and 705.[10]

Methods

Methods, sampling techniques, and benchmarks evaluated in the 2017 summer break PCB sampling event are the same as those used in previous reports. Total PCBs in air samples were conservatively compared to USEPA's age-specific Exposure Levels for Evaluating PCBs in Indoor School Air.[11] The

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[6] ENVIRON. 2014. PCB Inspection and Sampling Report for Malibu High School and Juan Cabrillo Elementary School. December. Available online: http://www.smmusd.org/PublicNotices/EnvDocs/PCBInspectionSamplingReport.pdf & http://www.smmusd.org/publicnotices/EnvDocs/AppendixR-MHS-JCESReports.pdf

[7] ENVIRON. 2015. 2014/2015 Winter Break PCB Sampling Report for Malibu High School and Juan Cabrillo Elementary School. March. Available online: http://www.smmusd.org/PublicNotices/EnvDocs/ENVIRONWinter1415Sampling.pdf & http://www.smmusd.org/publicnotices/EnvDocs/AppendixE-Winter1415Sampling.pdf

[8] Ramboll Environ. 2015. Conclusion of PCB Sampling Pilot Study and 2015 PCB Removal Activities Report for Malibu High school and Juan Cabrillo Elementary School. October. Available online: http://www.smmusd.org/publicnotices/EnvDocs/Summer15SMM-PCBSampReport.pdf

[9] Ramboll Environ. 2016. 2016 Post-BMP, Post-Encapsulation Verification, and PCB Remediation Activity PCB Sampling for Malibu High School and Juan Cabrillo Elementary School. December. Available online: http://www.smmusd.org/publicnotices/Summer2016PCBSampling2.pdf & http://www.smmusd.org/publicnotices/Summ2016PCBSampleAppend2.pdf

[10] Post-encapsulation verification sampling was not conducted in the following buildings, as these buildings were demolished or renovated during Summer 2017: Building A (800, Great White Shark) Library; Building E (000, Blue Shark) Room 1 and 3; Building G (500, Angel Shark) Rooms 505 and 506; and Building I (400, Leopard Shark) Room 401. In addition, post-encapsulation verification sampling for the four rooms with encapsulated surfaces at JCES (Building F Rooms 18, 19, 22 and 23) was not conducted because the District renovated those rooms during Summer 2016.

[11] According to USEPA, the exposure levels were rounded to the nearest hundred ng/m^3.

health-protective USEPA Exposure Levels for Evaluating PCBs in Indoor School Air are summarized below:

USEPA Exposure Levels for Evaluating PCBs in Indoor School Air (nanograms per cubic meter, or ng/m³)

Age	1-<2 yr	2-<3 yr	3-<6 yr	6-<12 yr Elementary School	12-<15 yr Middle School	15-<19 yr High School	19+ yr Faculty/ Adult
ng/m³	100	100	200	300	500	600	500

Total PCBs in surface wipe samples collected at the schools were compared to 1 µg/100 cm², the value conservatively being used by USEPA Region IX as a surface wipe benchmark for schools. Samples were evaluated in accordance with Appendix D of the MHS Specific Plan, which was approved by USEPA Region IX in USEPA's 2014 Approval Letter.

Post-encapsulation verification surface wipe samples were compared to the cleanup goal of less than (<) 1 µg/100 cm² specified in USEPA's 2014 Approval Letter.

SUMMARY OF POST-BMP AND POST-ENCAPSULATION FINDINGS

Post-BMP Sampling

As indicated in Table 2, airborne levels of PCBs in post-BMP samples were not detected at concentrations above the specified laboratory reporting limit[12] in eight of the nine samples (including one duplicate), which were collected from seven rooms. The one room with a detection of PCBs had a reported concentration of 100 ng/m³. As this room (704/704 Hallway) is a faculty office/hallway that is not regularly occupied by children under three years old, PCB concentrations in air were determined to be less than the applicable USEPA Exposure Levels for Evaluating PCBs in Indoor School Air. A summary of sampling results is included in Attachment A, and laboratory reports are included in Attachment B.

As indicated in Table 3, all of the post-BMP surface wipe samples (including duplicates and replicates) were below the laboratory reporting limit for PCBs (non-detected). Therefore, PCB concentrations in surface wipes were below USEPA's Region IX surface wipe benchmark for schools of 1 µg/100 cm². A summary of sampling results is included in Attachment A, and laboratory reports are included in Attachment B.

Post-Encapsulation Verification Sampling

The two rooms included in this portion of the 2017 summer break sampling were MHS Building J (700, Old Gymnasium) Room 704/704 Hallway and 705. As indicated in Table 3, three out of four of the surface wipe results from these two rooms were below the laboratory reporting limit (non-detected) for PCBs except for one surface wipe sample; this sample was detected at 0.11 µg/100 cm², less than about a tenth of the USEPA Region IX surface wipe benchmark for schools of 1 µg/100 cm² specified as the evaluation criteria in USEPA's November 2015 Approval Letter. Therefore, all surface samples collected for post-encapsulation verification were below USEPA's Region IX specified criteria of 1 µg/100 cm². A summary of sampling results is included in Attachment A, and laboratory reports are included in Attachment B.

[12] The laboratory reporting limit for the samples ranges from 67 ng/m³ to 70 ng/m³.

Post-encapsulation verification sampling was not conducted in the following buildings, as these buildings were demolished or renovated during Summer 2017: Building A (800, Great White Shark) Library; Building E (000, Blue Shark) Room 1 and 3; Building G (500, Angel Shark) Rooms 505 and 506; and Building I (400, Leopard Shark) Room 401, as described in Table 1. In addition, post-encapsulation verification sampling for the four rooms with encapsulation at JCES (Building F Rooms 18, 19, 22 and 23) was not conducted because the District renovated those rooms during Summer 2016.[13] Ramboll Environ understands that the demolition and renovation work is being documented by another District contractor, Alta Environmental, and that those reports will be posted to the District's website when they are completed.

WASTE MANAGEMENT

Cleaning residuals generated during the 2017 annual BMP cleaning of the schools consisted of the following:

- BMP dust collected by District custodial personnel during cleaning of all interior room surfaces where dust may accumulate, including floor surfaces and exterior equipment surfaces. The dust was collected with a vacuum equipped with a HEPA filter, and stored in one 55-gallon drum onsite.
- BMP cleaning materials such as wipes, mops, and rags, stored in one 55-gallon drum onsite.
- BMP wash water collected by District personnel during wet cleaning of all interior surfaces, including flooring (i.e., vinyl tiles, painted/sealed concrete, wood), mirrors, powder shelves, and enameled surfaces in lavatories, as well as sinks, commodes, and urinals. BMP wash water was containerized in a Baker tank located onsite.

Waste Sampling and Analysis

Ramboll Environ collected one composite sample of BMP dust and one sample of BMP wash water at the end of the summer for waste characterization purposes. As recommended in the 2016 Summer Sampling Report, the drum of BMP cleaning materials was characterized as BMP dust sample results. The BMP wash water sample was analyzed for PCBs by USEPA Method 8082 and the BMP dust sample was analyzed for PCBs by USEPA Method 8082 and total metals by USEPA Methods 6010B and 7471A as recommended in the 2016 Summer Sampling Report. Sampling results are summarized below and included in Tables C-1 to C-3 in Attachment C. Laboratory reports are provided in Attachment D.

Waste Classification and Disposal

As indicated on Table C-1, PCBs were not reported in the dust composite sample above the laboratory reporting limit of 1.5 milligrams per kilogram (mg/kg). The hazardous waste threshold for PCBs is 50 mg/kg. With the exception of chromium and copper, all metals were well below relevant hazardous waste thresholds.[14] Upon further Waste Extraction Test (WET) analysis, chromium and copper were confirmed to not exceed their respective Soluble Threshold Limit Concentration (STLC) thresholds (see Table C-2). Based on the data collected, the dust would not be considered a hazardous waste under federal or California regulations. The drum of dust will be transported offsite by a District contractor for non-hazardous solid waste disposal.

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[13] Ramboll Environ. 2016. 2016 Post-BMP, Post-Encapsulation Verification, and PCB Remediation Activity PCB Sampling for Malibu High School and Juan Cabrillo Elementary School. December. Available online: http://www.smmusd.org/publicnotices/Summer2016PCBSampling2.pdf & http://www.smmusd.org/publicnotices/Summ2016PCBSampleAppend2.pdf

[14] 20 times the Toxicity Characteristic Leaching Procedure (TCLP), California Total Toxicity Concentration Limit (TTLC), and 10 times the Soluble Threshold Limit Concentration (STLC).

PCBs were not reported in the wash water sample above the laboratory reporting limit of 0.00056 milligrams per liter (mg/l), as summarized on Table C-3. The hazardous waste threshold for PCBs is 5 mg/l. The BMP water will be managed as non-hazardous waste and transported offsite by a District contractor for disposal.

As shown in Tables C-1 to C-3, concentration trends demonstrate that BMP cleaning procedures have been effective at reducing original accumulated dusts with PCBs and metals and that there have been no significant accumulations of PCBs and metals in dust in the year since the 2014 BMP cleaning event. The concentrations of metals in BMP dust generated in future annual cleaning activities are expected to be similar or lower than the concentrations observed in the 2017 study. Similarly, PCBs have not been detected in BMP wash water since 2015, and it is likely that the results for BMP wash water generated during future BMP activities would be similar to the classification determined in 2014 to 2017 (i.e., managed as non-hazardous waste). Given the consistency of these results since 2015 demonstrating that these materials are classified as non-hazardous waste, Ramboll Environ concludes that sufficient characterization testing has been performed and no further testing is required unless conditions at the schools change.

QUALITY CONTROL

Data Quality

Ramboll Environ maintains a QA/QC standard for all of its work products. Duplicate samples were collected to evaluate data precision. One duplicate air sample (approximately 13% of the 8 post-BMP primary samples) and 3 duplicate surface wipe samples (approximately 11% of the 28 post-BMP and post-encapsulation primary samples) were collected. Replicate samples were collected to evaluate the collection efficacy of the surface wipe sampling. Three replicate surface wipe samples (approximately 11% of the 28 post-BMP and post-encapsulation primary samples) were collected.

Field blank samples were used to assess the potential presence of contaminants arising from field sampling procedures. One field blank air sample and one field blank surface wipe sample were collected for each day of sampling, for a total of two field blank air samples and two field blank surface wipe samples. All of these field blanks were reported as non-detect above the laboratory reporting limit for PCBs.

Additionally, ambient air samples were collected to evaluate the concentrations of PCBs in the outdoor air around MHS and JCES. One ambient air sample was collected during each 24-hour sampling event. Over the course of the 2017 summer break sampling event, 2 ambient air samples were collected, all of which were not detected above the PCB laboratory reporting limit,[15] indicating that PCB concentrations in ambient air in the immediate vicinity of the two campuses are relatively low.

Data Validation

Laboratory Data Consultants, Inc. (LDC) in Carlsbad, California, performed Level III third-party data validation for all air and surface wipe samples collected during the 2017 summer sampling event at MHS and JCES, following the procedures described in the USEPA *Contract Laboratory Program National Functional Guidelines*.[16] No data qualifiers were identified. Data validation reports are presented in Attachment B.

[15] The laboratory reporting limit for the ambient air samples was 70 ng/m^3.

[16] USEPA. 2008. National Functional Guidelines for Superfund Organic Methods Data Review. June. Available online: http://www.epa.gov/superfund/programs/clp/download/somnfg.pdf.

CONCLUSIONS

The work described in this report was performed in consultation with USEPA Region IX to comply with USEPA's policies and regulations on PCBs under the Toxic Substances Control Act (TSCA) at MHS and JCES. Based on the information presented in this as well as our other reports regarding our indoor investigations at MHS and JCES, Ramboll Environ concludes the following:

- Exposure Data Show PCB Levels are Below USEPA Exposure Levels

  The results from the 2017 summer break sampling event at MHS and JCES presented in this report demonstrate that conditions in the schools continue to be protective of public health and meet the TSCA standard for no unreasonable risk as described in USEPA's 2014 Approval Letter:

  – In the 2017 summer break sampling event, PCBs were not detected in air at concentrations above the specified laboratory reporting limit for 8 of the 9 indoor samples collected. The remaining sample was detected above the laboratory reporting limit, but below relevant USEPA Exposure Levels for Evaluating PCBs in Indoor School Air.

  – All surface wipe samples collected during the 2017 summer break sampling event were below USEPA's Region IX surface wipe benchmark for schools of 1 µg/100 cm^2.

  Conclusion: Given that the results of the 2017 summer break sampling event demonstrate that exposures in all of the regularly occupied rooms that were sampled continue to be below the USEPA benchmarks with the District's implementation of BMPs, Ramboll Environ concludes that conditions at MHS and JCES continue to be protective of public health and meet the TSCA standard for no unreasonable risk as previously concluded by USEPA with the District's use of BMPs. Given the consistency in the results over the last three summers, Ramboll Environ concludes that sampling for BMP efficacy in the remaining unrenovated pre-1981 buildings is no longer necessary.

- Encapsulation is an Effective Method for Managing Substrates Previously in Contact with PCBs ≥50 ppm

  The results from the post-encapsulation verification at MHS demonstrate that conditions in rooms with encapsulated building materials continue to be protective of public health and meet the TSCA standard for no unreasonable risk as described in USEPA's 2014 Approval Letter:

  – All post-encapsulation verification surface wipe samples collected during the 2017 summer break sampling event were below USEPA's Region IX surface wipe benchmark for schools of 1 µg/100 cm^2.

  Conclusion: Given that the results of the post-encapsulation verification sampling demonstrate that exposures in all rooms containing encapsulated building materials continue to be below the USEPA benchmark, Ramboll Environ concludes that conditions at MHS continue to be protective of public health and meet the TSCA standard for no unreasonable risk. Since the only remaining building with encapsulation (MHS Building J) is scheduled for renovation during Summer 2018, Ramboll Environ concludes that post-encapsulation verification sampling is no longer necessary.

Attachments:

A: Tables for Summer 2017 Air and Surface Wipe PCB Sampling at MHS and JCES

B: Laboratory Analytical Reports and Data Validation Reports for Air and Surface Wipe Sampling

C: Tables for Summer 2017 Waste Characterization Sampling

D: Laboratory Analytical Reports for Waste Characterization

TABLES

Table 1. Construction Years for MHS and JCES Buildings
Malibu High School and Juan Cabrillo Elementary School
Malibu, California

School	Building	Year Constructed	Known Past or Planned Renovations
MHS	A (800, Great White Shark)	1963	Demolished 2017; Plan to replace with a new two-story Classroom/Library/Administration Building by 2020.
MHS	B/C (900, Whale Shark)	1963	Plan to demolish in 2017; Plan to replace with a new two-story Classroom/Library/Administration Building by 2020.
MHS	D (100 & 200, Mako Shark)	1963	Some windows & doors replaced and/or retrofitted in 1993; Plan to replace or retrofit all pre-1979 windows & doors by 2020; Plan to upgrade and install HVAC by 2021.
MHS	E (000, Blue Shark)	1963	Demolished 2017; Plan to replace building with new 12-classroom building by 2020.
MHS	F (300, Thresher Shark)	1963	Some windows & doors replaced and/or retrofitted in 1993; Repaced/Retrofited all pre-1979 windows & doors in 2017; Plan to upgrade and install HVAC by 2021.
MHS	G (500, Angel Shark)	1963	Some windows & doors replaced and/or retrofitted in 1993; Repaced/Retrofited all pre-1979 windows & doors in 2017; Plan to upgrade and install HVAC by 2021.
MHS	H (Cafeteria/Auditorium)	1963	Bulding renovated into Theater in 1993; Plan to replace or retrofit all pre-1979 windows & doors by 2020; Plan to upgrade and install HVAC by 2021.
MHS	I (400, Leopard Shark)	1963	Some windows & doors replaced and/or retrofitted in 1993; Repaced/Retrofited all pre-1979 windows & doors in 2017; Plan to upgrade and install HVAC by 2021.
MHS	J (700, Old Gymnasium)	1963	Plan to replace or retrofit all pre-1979 windows & doors by 2020; Plan to upgrade and install HVAC by 2021.
MHS	K (600, Hammerhead Shark)	2002	None
MHS	Relocatables Next to Building G (500, Angel Shark)	1998	Plan to rennovate into temporary offices in 2017; Plan to remove by 2020.
MHS	New Gymnasium	2002	Plan to upgrade and install HVAC by 2021.
MHS	Malibu Boys and Girls Teen Center[a]	2000	None
MHS	Swimming Pool and Equipment Building	1975	Building was repaired in 1994
MHS	City of Malibu Office by the Pool[a]	1997	None
JCES	A	1958	Windows & some doors retrofitted in 1993; Other doors to be replaced by 2020; Plan to upgrade and install HVAC by 2021.
JCES	B	1955	Windows & some doors retrofitted in 1993; Other doors to be replaced by 2020; Plan to upgrade and install HVAC by 2021.
JCES	C	1957	Windows & some doors retrofitted in 1993; Other doors to be replaced by 2020; Removed and replaced interior walls in Room 6 in 2016; Plan to upgrade and install HVAC by 2021.
JCES	D	1958	Windows & some doors retrofitted in 1993; Other doors to be replaced by 2020; Plan to upgrade and install HVAC by 2021.
JCES	E	1965	Windows & some doors retrofitted in 1993; Other doors to be replaced by 2020; Plan to upgrade and install HVAC by 2021.
JCES	F	1961/1965	All pre-1979 windows, that had not been previously retrofitted, were replaced in 2016; Some pre-1979 doors/frames were replaced in 2016; the remaining identified pre-1979 doors/frames are scheduled to be replaced by 2020; Plan to upgrade and install HVAC by 2021.
JCES	G	1995	Plan to upgrade and install HVAC by 2021.
JCES	Building at Rear of Playground (Rooms 24 & 25)	1999	None
JCES	Building Next to Kindergarten Yard (Cottages- Buildings H & I)	1992	None

Notes:
1. Blue highlighted buildings were constructed pre-1981. Buildings not highlighted were constructed post-1981.
2. Orange highlighted buildings were constructed pre-1981 and have undergone renovations to replace doors, windows, and floors.
3. Green highlighted buildings were constructed pre-1981 and were demolished (or will be demolished) in 2017.
[a] Building is not owned by SMMUSD.

Abbreviations:
JCES = Juan Cabrillo Elementary School
MHS = Malibu High School
SMMUSD = Santa Monica-Malibu Unified School District
HVAC = heating ventilation and air conditioning

Reference:
Atkins, formerly PBS&J. 2011. *Santa Monica-Malibu Unified School District Malibu Middle and High School Campus Improvement Project Environmental Impact Report.* Volume 1: Draft EIR. July.

Table 2. Summary of Post-BMP Air Sample Results for MHS and JCES Buildings as Compared to USEPA Exposure Levels for Evaluating PCBs in Indoor School Air[1]
Malibu High School and Juan Cabrillo Elementary School
Malibu, California

School	Number of Indoor Samples	Below Reporting Limit[1] (RL)	Above RL to 200 ng/m^3 [2]	Above 200 ng/m^3
Post-BMP				
MHS	4	3	1 (max: 100 ng/m^3)	None
JCES	5	5	None	None

Note:
1. The laboratory RL for the samples ranges from 67 ng/m^3 to 70 ng/m^3.
2. No concentrations were greater than the lowest USEPA's Exposure Levels for Evaluating PCBs in Indoor School Air of 200, 300, 500, 600, and 500 ng/m^3 for age three to less than six years old, elementary school (six to less than 12 years old), middle school, high school, and faculty/adults, respectively (USEPA, 2016).

Abbreviations:
BMP = Best Management Practices
JCES = Juan Cabrillo Elementary School
MHS = Malibu High School
ng/m^3 = nanogram per cubic meter
PCB = polychlorinated biphenyl
RL = Reporting limit
USEPA = United States Environmental Protection Agency

References:
USEPA. 2016. Exposure Levels for Evaluation of PCBs in Indoor School Air. February 26. Available online: https://www.epa.gov/pcbs/exposure-levels-evaluation-polychlorinated-biphenyls-pcbs-indoor-school-air.

Table 3. Summary of Post-BMP and Post-Encapsulation Verification Surface Wipe Sample Results for MHS and JCES Buildings as Compared to the USEPA Region IX Benchmark[1]

Malibu High School and Juan Cabrillo Elementary School

Malibu, California

School	Number of Samples	Below Reporting Limit[1] (RL)	Above RL and Below 1 µg/100 cm^2 [2]	Above 1 µg/100 cm^2
Post-BMP				
MHS	15	15	None	None
JCES	15	15	None	None
Post-Encapsulation Verification[3]				
MHS	4	3	1 (max: 0.11 µg/100 cm^2)	None

Note:

1. The laboratory RL for the surface wipe samples is 0.1 µg/100 cm^2
2. USEPA Region IX benchmark for surface wipe samples is 1 µg/100 cm^2.
3. Post-encapsulation verification sampling was not performed in the following buildings, as these buildings were demolished or renovated during Summer 2017: Building A (800, Great White Shark) Library, Building E (000, Blue Shark) Room 1 and 3, Building G (500, Angel Shark) Rooms 505 and 506, Building I (400, Leopard Shark) Room 401. In addition, post-encapsulation verification sampling for the four rooms at JCES (Building F Rooms 18, 19, 22 and 23) was not performed because the District renovated those rooms during Summer 2016.

Abbreviations:

BMP = Best Management Practices

JCES = Juan Cabrillo Elementary School

MHS = Malibu High School

RL = Reporting limit

USEPA = United States Environmental Protection Agency

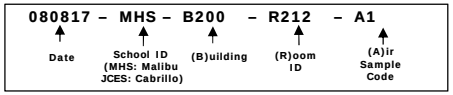
µg/100 cm^2 = microgram per 100 square centimeter

ATTACHMENT A
TABLES FOR SUMMER 2017 AIR AND SURFACE WIPE PCB SAMPLING AT MHS AND JCES

Table A-1. Summary of Post-BMP Air Sampling Results for Summer Break 2017 Sampling
Malibu High School and Juan Cabrillo Elementary School
Malibu, California

Building	Room Placard ID	Floor Plan Room ID	Room Description	Sampling Date[a]	Sample ID	Total PCBs (ng/m^3)
MHS						
D (100/200, Mako Shark)	212	212	Classroom	8/8/2017	080817-MHS-B200-R212-A1	ND (<69)
H (Cafeteria/Auditorium)	605A	120	Office	8/8/2017	080817-MHS-BH-R605A-A1	ND (<70)
J (700, Old Gymnasium)	704/704 Hallway	117/115A	Faculty Office/Hallway	8/8/2017	080817-MHS-B700-R704-A1	100
	705	115	Office	8/8/2017	080817-MHS-B700-R705-A1	ND (<68)
JCES						
A	Teachers' Lounge	100A	Teachers' Lounge	8/7/2017	080717-JCES-BA-RTL-A1	ND (<69)
B	R5	5	Kindergarten Classroom	8/7/2017	080717-JCES-BB-R5-A1	ND (<68)
C	R11	11	3rd Grade Classroom	8/7/2017	080717-JCES-BC-R11-A1	ND (<68)
D	R14	14	Classroom	8/7/2017	080717-JCES-BD-R14-A1	ND (<67)
			Classroom (Duplicate)	8/7/2017	080717-JCES-BD-R14-A2	ND (<70)
Field Blanks and Ambient				8/7/2017	080717-JCES-AOD	ND (<70)
					080717-JCES-AFB	NA
				8/8/2017	080817-JCES-AOD	ND (<70)
					080817-JCES-AFB	NA

Notes:
1. Analytical report P1703866 was provided by the laboratory, ALS Environmental. Samples were analyzed by USEPA method TO-10A.
2. DVR (39422A: EPA Level III) was provided by LDC. No data qualifiers were identified.
3. If no Aroclors were detected, total PCBs are shown as less than (<) the highest method reporting limit.
4. Duplicate samples were collected adjacent to the primary sample.
5. Example of sample ID:



[a] Air samples were collected over a 24-hour period with the lights on, windows and doors closed, and ventilation off. Start date is given.

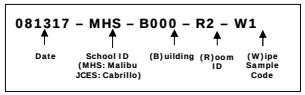
Abbreviations:
ng/m^3 = nanograms per cubic meter
BMP = Best Management Practice
DVR = data validation report
FB = field blank
JCES = Juan Cabrillo Elementary School
LDC = Laboratory Data Consultants, Inc.
MHS = Malibu High School
NA = not applicable
ND = Compound was analyzed for but not detected above the laboratory reporting limit
OD = outdoor
PCB = polychlorinated biphenyl
TO = toxic organic
USEPA = United States Environmental Protection Agency

Table A-2. Summary of Post-BMP Surface Wipe Sampling Results for Summer Break 2017
Sampling Malibu High School and Juan Cabrillo Elementary School
Malibu, California

Building	Room Placard ID	Floor Plan Room ID	Room Description	Suggested Sample Location	Surface Description	Sampling Date	Sample ID	Total PCB Surface Wipe Concentration
MHS								
D (100/200, Mako Shark)	212	212	Classroom	Student desk	laminate	8/8/2017	080817-MHS-B200-R212-W1	ND (<0.10)
				Student desk (duplicate)	laminate		080817-MHS-B200-R212-W2	ND (<0.10)
				Teacher desk	laminate		080817-MHS-B200-R212-W3	ND (<0.10)
				Bookshelf	wood		080817-MHS-B200-R212-W4	ND (<0.10)
H (Cafeteria/Auditorium)	605A	120	Office	Bookshelf	wood	8/8/2017	080817-MHS-BH-R605A-W1	ND (<0.10)
				Table	laminate		080817-MHS-BH-R605A-W2	ND (<0.10)
				Table (replicate)	laminate		080817-MHS-BH-R605A-W3	ND (<0.10)
				Desk	laminate		080817-MHS-BH-R605A-W4	ND (<0.10)
J (700, Old Gymnasium)	704/704 Hallway	117/115A	Faculty Office/Hallway	Desk	laminate	8/8/2017	080817-MHS-B700-R704-W1	ND (<0.10)
				Desk	laminate		080817-MHS-B700-R704-W2	ND (<0.10)
				File cabinet	metal		080817-MHS-B700-R704-W3	ND (<0.10)
	705	115	Office	Desk	laminate	8/8/2017	080817-MHS-B700-R705-W1	ND (<0.10)
				Bookshelf	plastic		080817-MHS-B700-R705-W2	ND (<0.10)
				Bookshelf (replicate)	plastic		080817-MHS-B700-R705-W3	ND (<0.10)
				Wall (near light switch)	painted stucco		080817-MHS-B700-R705-W4	ND (<0.10)
JCES								
A	Teachers' Lounge	100A	Teachers' Lounge	counter top, sink adjacent	laminate	8/7/2017	080717-JCES-BA-RTL-W1	ND (<0.10)
				bookshelf	painted wood		080717-JCES-BA-RTL-W2	ND (<0.10)
				bookshelf (replicate)	painted wood		080717-JCES-BA-RTL-W3	ND (<0.10)
				table	wood		080717-JCES-BA-RTL-W4	ND (<0.10)
B	R5	5	Kindergarten Classroom	Student desk	wood	8/7/2017	080717-JCES-BB-R5-W1	ND (<0.10)
				Counter top (sink adjacent)	laminate		080717-JCES-BB-R5-W2	ND (<0.10)
				Bookshelf	wood		080717-JCES-BB-R5-W3	ND (<0.10)
C	R11	11	3rd Grade Classroom	Student desk	wood	8/7/2017	080717-JCES-BC-R11-W1	ND (<0.10)
				Counter top (sink adjacent)	laminate		080717-JCES-BC-R11-W2	ND (<0.10)
				Teacher desk	wood		080717-JCES-BC-R11-W3	ND (<0.10)
				Teacher desk (duplicate)	wood		080717-JCES-BC-R11-W4	ND (<0.10)
D	R14	14	Classroom	Student desk	wood	8/7/2017	080717-JCES-BD-R14-W1	ND (<0.10)
				Counter top (sink adjacent)	laminate		080717-JCES-BD-R14-W2	ND (<0.10)
				Counter top (sink adjacent) (duplicate)	laminate		080717-JCES-BD-R14-W3	ND (<0.10)
				Bookshelf	laminate		080717-JCES-BD-R14-W4	ND (<0.10)
Field Blanks						8/7/2017	080717-WFB-HEX	ND (<0.10)
						8/8/2017	080817-WFB-HEX	ND (<0.10)

Notes:

1. Analytical reports (1708436 and 1708532) were provided by the laboratory, ALS Environmental. Samples were analyzed by USEPA method SW 8082. Sample area was 100 cm^2.
2. DVRs (39422B and 39422C: EPA Level III) were provided by LDC. No data qualifiers were identified.
3. If no Aroclors were detected, total PCBs are shown as less than (<) the highest method reporting limit.
4. Duplicate samples were collected adjacent to the primary sample. Replicate samples were collected in the same location as the primary sample, after the primary sample was collected.
5. Example of sample ID:



Abbreviations:

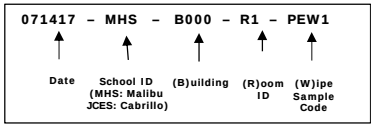
µg/100 cm^2 = micrograms per 100 square centimeters
cm^2 = square centimeters
BMP = Best Management Practice
FB = field blank
HEX = hexane
JCES = Juan Cabrillo Elementary School
MHS = Malibu High School
ND = Testing result not detected above the reporting limit
PCB = polychlorinated biphenyl
SW = solid waste
USEPA = United States Environmental Protection Agency

RAMBOLL ENVIRON

Table A-3. Summary of Post-Encapsulation Verification Surface Wipe Sampling Results for Summer Break 2017 Sampling
Malibu High School and Juan Cabrillo Elementary School
Malibu, California

Building	Room Placard ID	Floor Plan Room ID	Room Description	Sample Location	Surface Description	Sampling Date	Sample ID	Total PCB Surface Wipe Concentration (µg/100 cm^2)
MHS								
J (700, Old Gymnasium)	704/704 Hallway	117/115A	Faculty Office/Hallway	Window sill	encapsulated ceramic tile	8/8/2017	080817-MHS-B700-R704-PEW1	ND (<0.10)
				Window sill	encapsulated ceramic tile		080817-MHS-B700-R704-PEW2	ND (<0.10)
				Wall	encapsulated plaster		080817-MHS-B700-R704-PEW3	ND (<0.10)
	705	115	Office	Window sill	painted encapsulated ceramic tile	8/8/2017	080817-MHS-B700-R705-PEW1	0.11
Field Blanks						8/8/2017	080817-WFB-HEX	ND (<0.10)

Notes:
1. Analytical reports (1708532 and 1708535) were provided by the laboratory, ALS Environmental. Samples were analyzed by USEPA method SW 8082. Sample area was 100 cm^2.
2. DVRs (39422C and 39422D: EPA Level III) were provided by LDC. No data qualifiers were identified.
3. If no Aroclors were detected, total PCBs are shown as less than (<) the highest method reporting limit.
4. Duplicate samples were collected adjacent to the primary sample. Replicate samples were collected in the same location as the primary sample, after the primary sample was collected.
5. Example of sample ID:



Abbreviations:
µg/100 cm^2 = micrograms per 100 square centimeters
cm^2 = square centimeters
BMP = Best Management Practice
FB = field blank
HEX = hexane
JCES = Juan Cabrillo Elementary School
MHS = Malibu High School
NA = not applicable
ND = Testing result not detected above the reporting limit
PCB = polychlorinated biphenyl
PE = post-encapsulation
SW = solid waste
USEPA = United States Environmental Protection Agency

ATTACHMENT B
LABORATORY ANALYTICAL REPORTS AND DATA VALIDATION REPORTS FOR AIR AND SURFACE WIPE SAMPLING

LABORATORY REPORT #P1703866 (Air)
SAMPLE DATE: AUGUST 7-9, 2017

MHS Building D (100/200, Mako Shark)
MHS Building H (Cafeteria/Auditorium)
MHS Building J (700, Old Gymnasium)
JCES Building A
JCES Building B
JCES Building C
JCES Building D

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www.alsglobal.com

LABORATORY REPORT

August 23, 2017

Yi Tian
Ramboll Environ US Corporation
18100 Von Karman Avenue, Suite 600
Irvine, CA 92612

RE: SMMUSD-Malibu, CA / 04-33980Z

Dear Yi:

Enclosed are the results of the samples submitted to our laboratory on August 9, 2017. For your reference, these analyses have been assigned our service request number P1703866.

All analyses were performed according to our laboratory's NELAP and DoD-ELAP-approved quality assurance program. The test results meet requirements of the current NELAP and DoD-ELAP standards, where applicable, and except as noted in the laboratory case narrative provided. For a specific list of NELAP and DoD-ELAP-accredited analytes, refer to the certifications section at www.alsglobal.com. Results are intended to be considered in their entirety and apply only to the samples analyzed and reported herein.

If you have any questions, please call me at (805) 526-7161.

Respectfully submitted,

ALS | Environmental

Kate Kaneko
By Kate Kaneko at 4:42 pm, 08/23/17

Kate Kaneko
Project Manager

2655 Park Center Dr., Suite A
Simi Valley, CA 93065
T: +1 805 526 7161
F: +1 805 526 7270
www.alsglobal.com

Client: Ramboll Environ US Corporation
Project: SMMUSD-Malibu, CA / 04-33980Z

Service Request No: P1703866

CASE NARRATIVE

The samples were received intact under chain of custody on August 9, 2017 and were stored in accordance with the analytical method requirements. Please refer to the sample acceptance check form for additional information. The results reported herein are applicable only to the condition of the samples at the time of sample receipt.

Aroclors Analysis

The samples were extracted and analyzed for aroclors in accordance with EPA Method TO-10A. An aliquot of each extract was injected into a gas chromatograph with dual electron capture detectors (GC/ECD). This method is included on the laboratory's NELAP scope of accreditation, however it is not part of the DoD-ELAP accreditation. Any analytes flagged with an X are not included on the laboratory's NELAP accreditation.

Sample extraction was performed at the laboratory's off-site extraction facility located at 2360 Shasta Way, Suite G, Simi Valley, CA 93065.

The results of analyses are given in the attached laboratory report. All results are intended to be considered in their entirety, and ALS Environmental (ALS) is not responsible for utilization of less than the complete report.

Use of ALS Environmental (ALS)'s Name. Client shall not use ALS's name or trademark in any marketing or reporting materials, press releases or in any other manner ("Materials") whatsoever and shall not attribute to ALS any test result, tolerance or specification derived from ALS's data ("Attribution") without ALS's prior written consent, which may be withheld by ALS for any reason in its sole discretion. To request ALS's consent, Client shall provide copies of the proposed Materials or Attribution and describe in writing Client's proposed use of such Materials or Attribution. If ALS has not provided written approval of the Materials or Attribution within ten (10) days of receipt from Client, Client's request to use ALS's name or trademark in any Materials or Attribution shall be deemed denied. ALS may, in its discretion, reasonably charge Client for its time in reviewing Materials or Attribution requests. Client acknowledges and agrees that the unauthorized use of ALS's name or trademark may cause ALS to incur irreparable harm for which the recovery of money damages will be inadequate. Accordingly, Client acknowledges and agrees that a violation shall justify preliminary injunctive relief. For questions contact the laboratory.

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ALS Environmental – Simi Valley

CERTIFICATIONS, ACCREDITATIONS, AND REGISTRATIONS

Agency	Web Site	Number
Arizona DHS	http://www.azdhs.gov/preparedness/state-laboratory/lab-licensure-certification/index.php#laboratory-licensure-home	AZ0694
Florida DOH (NELAP)	http://www.doh.state.fl.us/lab/EnvLabCert/WaterCert.htm	E871020
Louisiana DEQ (NELAP)	http://www.deq.louisiana.gov/portal/DIVISIONS/PublicParticipationandPermitSupport/LouisianaLaboratoryAccreditationProgram.aspx	05071
Maine DHHS	http://www.maine.gov/dhhs/mecdc/environmental-health/water/dwp-services/labcert/labcert.htm	2016036
Minnesota DOH (NELAP)	http://www.health.state.mn.us/accreditation	1177034
New Jersey DEP (NELAP)	http://www.nj.gov/dep/oqa/	CA009
New York DOH (NELAP)	http://www.wadsworth.org/labcert/elap/elap.html	11221
Oregon PHD (NELAP)	http://public.health.oregon.gov/LaboratoryServices/EnvironmentalLaboratoryAccreditation/Pages/index.aspx	4068-004
Pennsylvania DEP	http://www.depweb.state.pa.us/labs	68-03307 (Registration)
PJLA (DoD ELAP)	http://www.pjlabs.com/search-accredited-labs	65818 (Testing)
Texas CEQ (NELAP)	http://www.tceq.texas.gov/field/qa/env_lab_accreditation.html	T104704413-17-8
Utah DOH (NELAP)	http://health.utah.gov/lab/environmental-lab-certification/	CA016272017-8
Washington DOE	http://www.ecy.wa.gov/programs/eap/labs/lab-accreditation.html	C946

Analyses were performed according to our laboratory's NELAP and DoD-ELAP approved quality assurance program. A complete listing of specific NELAP and DoD-ELAP certified analytes can be found in the certifications section at www.alsglobal.com, or at the accreditation body's website.

Each of the certifications listed above have an explicit Scope of Accreditation that applies to specific matrices/methods/analytes; therefore, please contact the laboratory for information corresponding to a particular certification.

ALS ENVIRONMENTAL

DETAIL SUMMARY REPORT

Client: Ramboll Environ US Corporation Service Request: P1703866
Project ID: SMMUSD-Malibu, CA / 04-33980Z

Date Received: 8/9/2017
Time Received: 14:00

Client Sample ID	Lab Code	Matrix	Date Collected	Time Collected	TO-10A - PCB Low Vol
080717-JCES-BA-RTL-A1	P1703866-001	Air	8/8/2017	08:41	X
080717-JCES-AOD	P1703866-002	Air	8/8/2017	08:56	X
080717-JCES-BB-R5-A1	P1703866-003	Air	8/8/2017	09:12	X
080717-JCES-BC-R11-A1	P1703866-004	Air	8/8/2017	09:40	X
080717-JCES-BD-R14-A1	P1703866-005	Air	8/8/2017	10:06	X
080717-JCES-BD-R14-A2	P1703866-006	Air	8/8/2017	10:06	X
080717-JCES-AFB	P1703866-007	Air	8/7/2017	10:30	X
080817-MHS-BH-R605A-A1	P1703866-008	Air	8/9/2017	09:26	X
080817-MHS-B200-R212-A1	P1703866-009	Air	8/9/2017	09:37	X
080817-MHS-AOD	P1703866-010	Air	8/9/2017	09:59	X
080817-MHS-B700-R705-A1	P1703866-011	Air	8/9/2017	10:45	X
080817-MHS-B700-R704-A1	P1703866-012	Air	8/9/2017	10:48	X
080817-MHS-AFB	P1703866-013	Air	8/8/2017	10:55	X

RAMBOLL ENVIRON

CHAIN-OF-CUSTODY FORM

№ 13135

P1703866

UST PROJECT OR IS EDF REQUIRED? YES (NO) IF YES, GLOBAL ID# ______ MSA # ______ WORK ORDER # ______

PROJECT NAME/FACILITY ID: SMMUSD

PROJECT LOCATION: Malibu, CA

PROJECT NUMBER: 04-339807

SAMPLER: Dishon, M. Raposo

DATE: 8/8/17 - 8/9/17

YEAR: 2017

FIELD PERSON#: Dishon, M. Raposo

PROJECT MANAGER: Y. Tian, T. Bowie

LABORATORY: ALS-Simi Valley

SIGNATURE:

SAMPLE ID NUMBER	SAMPLE DATE	SAMPLE TIME	SAMPLE DEPTH (F)	AIR SAMPLE VOLUME (L)	MATRIX: (A)IR; (G)AS; (W)ATER	NUMBER OF CONTAINERS	FILTERED/UNFILTERED (F/U)	PRESERVATION (SEE KEY)	ANALYSIS REQUIRED: EPA TO-10A	COMMENTS
080717-XCES-BA-R2TL-A1	8/7-8/8	0841	–	7275	A	1	–	NO	X	-001
080717-XCES-AOD	↓	0856	–	7150	↓	1	–	↓	X	-002
080717-XCES-B3-R5-A1	↓	0912	–	7361	↓	1	–	↓	X	-003
080717-XCES-BC-R11-A1	↓	0940	–	7389	↓	1	–	↓	X	-004
080717-XCES-BD-R14-A1	↓	1006	–	7433	↓	1	–	↓	X	-005
080717-XCES-BD-R14-A2	↓	1006	–	7174	↓	1	–	↓	X	-006
080717-XCES-AFB	8/7/17	1030	–	–	–	1	–	–	X	-007
080817-MHS-BH-R605A-A1	8/8-8/9	0926	–	7180	A	1	–	NO	X	-008
080817-MHS-B200-R212-A1	↓	0937	–	7215	↓	1	–	↓	X	-009
080817-MHS-AOD	↓	0859	–	7109	↓	1	–	↓	X	-010
080817-MHS-B700-R705-A1	↓	1045	–	7306	↓	1	–	↓	X	-011
080817-MHS-B700-R704-A1	–	1048	–	7304	↓	1	–	↓	X	-012
TOTAL				–		12	–			

H = HCL; N = HNO; S = H_2SO; U = UNKNOWN; NO = NONE; O = OTHER; V = VARIOUS

RELINQUISHED BY	TIME/DATE	RECEIVED BY COMPANY	TIME/DATE
	1315 8/9/17	Marco DCS	8-9-17
Marco	8/9/17	Henry Pepe 1400	8-9-17

TURNAROUND TIME (CIRCLE ONE): SAME DAY, 72 HOURS, 24 HOURS, 5 DAYS, 48 HOURS, (NORMAL)

SAMPLE INTEGRITY: INTACT Y N TEMP______

SAMPLE INTEGRITY: INTACT Y N

2°C KK

SWBU Office Locations:
- ☐ 18100 Von Karman Avenue, Suite 600, Irvine, CA 92612 +1 949 261 5151 +1 949 261 6202
- ☐ 707 Wilshire Boulevard, Suite 4950, Los Angeles, CA 90017 +1 213 943 6300 +1 213 943 6301
- ☐ 2111 East Highland Avenue, Suite 402, Phoenix, AZ 85016 +1 602 734 7700 +1 602 734-7701
- ☐ 501 West Broadway, Suite 800, San Diego, CA 92101 +1 619 400 4934

RAMBOLL ENVIRON

CHAIN-OF-CUSTODY FORM

№ 13136

UST PROJECT OR IS EDF REQUIRED? YES (NO) IF YES, GLOBAL ID# MSA # WORK ORDER #

PROJECT NAME/FACILITY ID: SMMUSD

PROJECT LOCATION: Malibu, CA

PROJECT NUMBER: 04-339807

SAMPLER: J. Dishon

DATE: 8/8/17 - 8/9/17

YEAR: 2017

FIELD PERSON#: J. Dishon, M. Raposo

PROJECT MANAGER: J. Tian, T. Bond

LABORATORY: ALS - Simi Valley

SIGNATURE:

SAMPLE ID NUMBER	SAMPLE DATE	SAMPLE TIME	SAMPLE DEPTH (F)	AIR SAMPLE VOLUME (L)	MATRIX: (A)IR; (G)AS; (W)ATER	NUMBER OF CONTAINERS	FILTERED/UNFILTERED (F/U)	PRESERVATION (SEE KEY)	ANALYSIS REQUIRED	EPA TO-10A	COMMENTS
080817-MHS-AFB	8/8/17	1055	-	-	A	1	-	No		X	-013
TOTAL											

H = HCL; N = HNO; S = H_2SO; U = UNKNOWN; NO = NONE; O = OTHER; V = VARIOUS

6 of 26

RELINQUISHED BY	TIME/DATE 1315 8/9/17	RECEIVED BY COMPANY Marco DCS	TIME/DATE 8-9-17	TURNAROUND TIME (CIRCLE ONE)	SAME DAY 72 HOURS
RELINQUISHED BY Marco	TIME/DATE 8-9-17	RECEIVED BY COMPANY Hong Peng 1400	TIME/DATE 8-9-17		24 HOURS 5 DAYS
RELINQUISHED BY	TIME/DATE	RECEIVED BY COMPANY	TIME/DATE		48 HOURS (NORMAL)
				SAMPLE INTEGRITY INTACT Y N TEMP___	SAMPLE INTEGRITY INTACT Y N

2°C ICE

SWBU Office Locations:
☐ 18100 Von Karman Avenue, Suite 600, Irvine, CA 92612 +1 949 261 5151 +1 949 261 6202
☐ 707 Wilshire Boulevard, Suite 4950, Los Angeles, CA 90017 +1 213 943 6300 +1 213 943 6301
☐ 2111 East Highland Avenue, Suite 402, Phoenix, AZ 85016 +1 602 734 7700 +1 602 734-7701
☐ 501 West Broadway, Suite 800, San Diego, CA 92101 +1 619 400 4934

ALS Environmental
Sample Acceptance Check Form

Client: Ramboll Environ US Corporation Work order: P1703866

Project: SMMUSD-Malibu, CA / 04-33980Z

Sample(s) received on: 8/9/17 Date opened: 8/9/17 by: KATE.KANEKO

Note: This form is used for all samples received by ALS. The use of this form for custody seals is strictly meant to indicate presence/absence and not as an indication of compliance or nonconformity. Thermal preservation and pH will only be evaluated either at the request of the client and/or as required by the method/SOP.

		Yes	No	N/A
1	Were **sample containers** properly marked with client sample ID?	☒	☐	☐
2	Did **sample containers** arrive in good condition?	☒	☐	☐
3	Were **chain-of-custody** papers used and filled out?	☒	☐	☐
4	Did **sample container labels** and/or tags agree with custody papers?	☒	☐	☐
5	Was **sample volume** received adequate for analysis?	☒	☐	☐
6	Are samples within specified holding times?	☒	☐	☐
7	Was proper **temperature** (thermal preservation) of cooler at receipt adhered to?	☒	☐	☐
	Wet Ice			
8	Were **custody seals** on outside of cooler/Box/Container?	☐	☒	☐
	Location of seal(s)? _____ Sealing Lid?	☐	☐	☒
	Were signature and date included?	☐	☐	☒
	Were seals intact?	☐	☐	☒
9	Do containers have appropriate **preservation**, according to method/SOP or Client specified information?	☐	☐	☒
	Is there a client indication that the submitted samples are **pH** preserved?	☐	☐	☒
	Were **VOA vials** checked for presence/absence of air bubbles?	☐	☐	☒
	Does the client/method/SOP require that the analyst check the sample pH and if necessary alter it?	☐	☐	☒
10	**Tubes:** Are the tubes capped and intact?	☒	☐	☐
11	**Badges:** Are the badges properly capped and intact?	☐	☐	☒
	Are dual bed badges separated and individually capped and intact?	☐	☐	☒

Lab Sample ID	Container Description	Required pH *	Received pH	Adjusted pH	VOA Headspace (Presence/Absence)	Receipt / Preservation Comments
P1703866-001.01	PUF (Low Vol)					
P1703866-002.01	PUF (Low Vol)					
P1703866-003.01	PUF (Low Vol)					
P1703866-004.01	PUF (Low Vol)					
P1703866-005.01	PUF (Low Vol)					
P1703866-006.01	PUF (Low Vol)					
P1703866-007.01	PUF (Low Vol)					
P1703866-008.01	PUF (Low Vol)					
P1703866-009.01	PUF (Low Vol)					
P1703866-010.01	PUF (Low Vol)					
P1703866-011.01	PUF (Low Vol)					
P1703866-012.01	PUF (Low Vol)					
P1703866-013.01	PUF (Low Vol)					

Explain any discrepancies: (include lab sample ID numbers):

RSK - MEEPP, HCL (pH<2); RSK - CO2, (pH 5-8); Sulfur (pH>4)

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **Ramboll Environ US Corporation**
Client Sample ID: **080717-JCES-BA-RTL-A1**
Client Project ID: **SMMUSD-Malibu, CA / 04-33980Z**

ALS Project ID: P1703866
ALS Sample ID: P1703866-001

Test Code: EPA TO-10A
Instrument ID: HP6890/GC6/ECD/ECD
Analyst: Zheng Wang/Evelyn Alvarez
Sampling Media: PUF (Low Volume) Cartridge
Test Notes:

Date Collected: 8/8/17
Date Received: 8/9/17
Date Extracted: 8/10/17
Date Analyzed: 8/14/17
Volume Sampled: 7.275 m³
Final Extract Volume: 10 ml

Dilution Factor: 1.00

CAS #	Compound	Result ng/Cartridge	MRL ng/Cartridge	Result µg/m³	MRL µg/m³	Data Qualifier
12674-11-2	Aroclor 1016	ND	500	ND	0.069	
11104-28-2	Aroclor 1221	ND	500	ND	0.069	
11141-16-5	Aroclor 1232	ND	500	ND	0.069	
53469-21-9	Aroclor 1242	ND	500	ND	0.069	
12672-29-6	Aroclor 1248	ND	500	ND	0.069	
11097-69-1	Aroclor 1254	ND	500	ND	0.069	
11096-82-5	Aroclor 1260	ND	500	ND	0.069	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **Ramboll Environ US Corporation**
Client Sample ID: **080717-JCES-AOD**
Client Project ID: **SMMUSD-Malibu, CA / 04-33980Z**

ALS Project ID: P1703866
ALS Sample ID: P1703866-002

Test Code: EPA TO-10A
Instrument ID: HP6890/GC6/ECD/ECD
Analyst: Zheng Wang/Evelyn Alvarez
Sampling Media: PUF (Low Volume) Cartridge
Test Notes:

Date Collected: 8/8/17
Date Received: 8/9/17
Date Extracted: 8/10/17
Date Analyzed: 8/14/17
Volume Sampled: 7.150 m³
Final Extract Volume: 10 ml

Dilution Factor: 1.00

CAS #	Compound	Result ng/Cartridge	MRL ng/Cartridge	Result µg/m³	MRL µg/m³	Data Qualifier
12674-11-2	Aroclor 1016	ND	500	ND	0.070	
11104-28-2	Aroclor 1221	ND	500	ND	0.070	
11141-16-5	Aroclor 1232	ND	500	ND	0.070	
53469-21-9	Aroclor 1242	ND	500	ND	0.070	
12672-29-6	Aroclor 1248	ND	500	ND	0.070	
11097-69-1	Aroclor 1254	ND	500	ND	0.070	
11096-82-5	Aroclor 1260	ND	500	ND	0.070	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **Ramboll Environ US Corporation**
Client Sample ID: **080717-JCES-BB-R5-A1**
Client Project ID: **SMMUSD-Malibu, CA / 04-33980Z**

ALS Project ID: P1703866
ALS Sample ID: P1703866-003

Test Code: EPA TO-10A
Instrument ID: HP6890/GC6/ECD/ECD
Analyst: Zheng Wang/Evelyn Alvarez
Sampling Media: PUF (Low Volume) Cartridge
Test Notes:

Date Collected: 8/8/17
Date Received: 8/9/17
Date Extracted: 8/10/17
Date Analyzed: 8/14/17
Volume Sampled: 7.4 m³
Final Extract Volume: 10 ml

Dilution Factor: 1.00

CAS #	Compound	**Result ng/Cartridge**	MRL ng/Cartridge	**Result µg/m³**	MRL µg/m³	Data Qualifier
12674-11-2	Aroclor 1016	ND	500	ND	0.068	
11104-28-2	Aroclor 1221	ND	500	ND	0.068	
11141-16-5	Aroclor 1232	ND	500	ND	0.068	
53469-21-9	Aroclor 1242	ND	500	ND	0.068	
12672-29-6	Aroclor 1248	ND	500	ND	0.068	
11097-69-1	Aroclor 1254	ND	500	ND	0.068	
11096-82-5	Aroclor 1260	ND	500	ND	0.068	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **Ramboll Environ US Corporation**
Client Sample ID: **080717-JCES-BC-R11-A1**
Client Project ID: **SMMUSD-Malibu, CA / 04-33980Z**

ALS Project ID: P1703866
ALS Sample ID: P1703866-004

Test Code: EPA TO-10A
Instrument ID: HP6890/GC6/ECD/ECD
Analyst: Zheng Wang/Evelyn Alvarez
Sampling Media: PUF (Low Volume) Cartridge
Test Notes:

Date Collected: 8/8/17
Date Received: 8/9/17
Date Extracted: 8/10/17
Date Analyzed: 8/14/17
Volume Sampled: 7.4 m^3
Final Extract Volume: 10 ml

Dilution Factor: 1.00

CAS #	Compound	**Result ng/Cartridge**	MRL ng/Cartridge	**Result µg/m³**	MRL µg/m³	Data Qualifier
12674-11-2	Aroclor 1016	ND	500	ND	0.068	
11104-28-2	Aroclor 1221	ND	500	ND	0.068	
11141-16-5	Aroclor 1232	ND	500	ND	0.068	
53469-21-9	Aroclor 1242	ND	500	ND	0.068	
12672-29-6	Aroclor 1248	ND	500	ND	0.068	
11097-69-1	Aroclor 1254	ND	500	ND	0.068	
11096-82-5	Aroclor 1260	ND	500	ND	0.068	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **Ramboll Environ US Corporation**
Client Sample ID: **080717-JCES-BD-R14-A1**
Client Project ID: **SMMUSD-Malibu, CA / 04-33980Z**

ALS Project ID: P1703866
ALS Sample ID: P1703866-005

Test Code: EPA TO-10A
Instrument ID: HP6890/GC6/ECD/ECD
Analyst: Zheng Wang/Evelyn Alvarez
Sampling Media: PUF (Low Volume) Cartridge
Test Notes:

Date Collected: 8/8/17
Date Received: 8/9/17
Date Extracted: 8/10/17
Date Analyzed: 8/14/17
Volume Sampled: 7.4 m³
Final Extract Volume: 10 ml

Dilution Factor: 1.00

CAS #	Compound	Result ng/Cartridge	MRL ng/Cartridge	Result µg/m³	MRL µg/m³	Data Qualifier
12674-11-2	Aroclor 1016	ND	500	ND	0.067	
11104-28-2	Aroclor 1221	ND	500	ND	0.067	
11141-16-5	Aroclor 1232	ND	500	ND	0.067	
53469-21-9	Aroclor 1242	ND	500	ND	0.067	
12672-29-6	Aroclor 1248	ND	500	ND	0.067	
11097-69-1	Aroclor 1254	ND	500	ND	0.067	
11096-82-5	Aroclor 1260	ND	500	ND	0.067	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **Ramboll Environ US Corporation**
Client Sample ID: **080717-JCES-BD-R14-A2**
Client Project ID: **SMMUSD-Malibu, CA / 04-33980Z**

ALS Project ID: P1703866
ALS Sample ID: P1703866-006

Test Code: EPA TO-10A
Instrument ID: HP6890/GC6/ECD/ECD
Analyst: Zheng Wang/Evelyn Alvarez
Sampling Media: PUF (Low Volume) Cartridge
Test Notes:

Date Collected: 8/8/17
Date Received: 8/9/17
Date Extracted: 8/10/17
Date Analyzed: 8/14/17
Volume Sampled: 7.2 m³
Final Extract Volume: 10 ml

Dilution Factor: 1.00

CAS #	Compound	Result ng/Cartridge	MRL ng/Cartridge	Result µg/m³	MRL µg/m³	Data Qualifier
12674-11-2	Aroclor 1016	ND	500	ND	0.070	
11104-28-2	Aroclor 1221	ND	500	ND	0.070	
11141-16-5	Aroclor 1232	ND	500	ND	0.070	
53469-21-9	Aroclor 1242	ND	500	ND	0.070	
12672-29-6	Aroclor 1248	ND	500	ND	0.070	
11097-69-1	Aroclor 1254	ND	500	ND	0.070	
11096-82-5	Aroclor 1260	ND	500	ND	0.070	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **Ramboll Environ US Corporation**
Client Sample ID: **080717-JCES-AFB**
Client Project ID: **SMMUSD-Malibu, CA / 04-33980Z**

ALS Project ID: P1703866
ALS Sample ID: P1703866-007

Test Code: EPA TO-10A
Instrument ID: HP6890/GC6/ECD/ECD
Analyst: Zheng Wang/Evelyn Alvarez
Sampling Media: PUF (Low Volume) Cartridge
Test Notes:

Date Collected: 8/7/17
Date Received: 8/9/17
Date Extracted: 8/10/17
Date Analyzed: 8/14/17
Volume Sampled: NA m³
Final Extract Volume: 10 ml

Dilution Factor: 1.00

CAS #	Compound	Result ng/Cartridge	MRL ng/Cartridge	Result µg/m³	MRL µg/m³	Data Qualifier
12674-11-2	Aroclor 1016	ND	500	NA	NA	
11104-28-2	Aroclor 1221	ND	500	NA	NA	
11141-16-5	Aroclor 1232	ND	500	NA	NA	
53469-21-9	Aroclor 1242	ND	500	NA	NA	
12672-29-6	Aroclor 1248	ND	500	NA	NA	
11097-69-1	Aroclor 1254	ND	500	NA	NA	
11096-82-5	Aroclor 1260	ND	500	NA	NA	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **Ramboll Environ US Corporation**
Client Sample ID: **080817-MHS-BH-R605A-A1**
Client Project ID: **SMMUSD-Malibu, CA / 04-33980Z**

ALS Project ID: P1703866
ALS Sample ID: P1703866-008

Test Code: EPA TO-10A
Instrument ID: HP6890/GC6/ECD/ECD
Analyst: Zheng Wang/Evelyn Alvarez
Sampling Media: PUF (Low Volume) Cartridge
Test Notes:

Date Collected: 8/9/17
Date Received: 8/9/17
Date Extracted: 8/10/17
Date Analyzed: 8/14/17
Volume Sampled: 7.180 m³
Final Extract Volume: 10 ml

Dilution Factor: 1.00

CAS #	Compound	Result ng/Cartridge	MRL ng/Cartridge	Result µg/m³	MRL µg/m³	Data Qualifier
12674-11-2	Aroclor 1016	ND	500	ND	0.070	
11104-28-2	Aroclor 1221	ND	500	ND	0.070	
11141-16-5	Aroclor 1232	ND	500	ND	0.070	
53469-21-9	Aroclor 1242	ND	500	ND	0.070	
12672-29-6	Aroclor 1248	ND	500	ND	0.070	
11097-69-1	Aroclor 1254	ND	500	ND	0.070	
11096-82-5	Aroclor 1260	ND	500	ND	0.070	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **Ramboll Environ US Corporation**
Client Sample ID: **080817-MHS-B200-R212-A1**
Client Project ID: **SMMUSD-Malibu, CA / 04-33980Z**

ALS Project ID: P1703866
ALS Sample ID: P1703866-009

Test Code: EPA TO-10A
Instrument ID: HP6890/GC6/ECD/ECD
Analyst: Zheng Wang/Evelyn Alvarez
Sampling Media: PUF (Low Volume) Cartridge
Test Notes:

Date Collected: 8/9/17
Date Received: 8/9/17
Date Extracted: 8/10/17
Date Analyzed: 8/14/17
Volume Sampled: 7.2 m^3
Final Extract Volume: 10 ml

Dilution Factor: 1.00

CAS #	Compound	Result ng/Cartridge	MRL ng/Cartridge	Result µg/m^3	MRL µg/m^3	Data Qualifier
12674-11-2	Aroclor 1016	ND	500	ND	0.069	
11104-28-2	Aroclor 1221	ND	500	ND	0.069	
11141-16-5	Aroclor 1232	ND	500	ND	0.069	
53469-21-9	Aroclor 1242	ND	500	ND	0.069	
12672-29-6	Aroclor 1248	ND	500	ND	0.069	
11097-69-1	Aroclor 1254	ND	500	ND	0.069	
11096-82-5	Aroclor 1260	ND	500	ND	0.069	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **Ramboll Environ US Corporation**
Client Sample ID: **080817-MHS-AOD**
Client Project ID: **SMMUSD-Malibu, CA / 04-33980Z**

ALS Project ID: P1703866
ALS Sample ID: P1703866-010

Test Code: EPA TO-10A
Instrument ID: HP6890/GC6/ECD/ECD
Analyst: Zheng Wang/Evelyn Alvarez
Sampling Media: PUF (Low Volume) Cartridge
Test Notes:

Date Collected: 8/9/17
Date Received: 8/9/17
Date Extracted: 8/10/17
Date Analyzed: 8/14/17
Volume Sampled: 7.1 m³
Final Extract Volume: 10 ml

Dilution Factor: 1.00

CAS #	Compound	**Result ng/Cartridge**	MRL ng/Cartridge	**Result µg/m³**	MRL µg/m³	Data Qualifier
12674-11-2	Aroclor 1016	ND	500	ND	0.070	
11104-28-2	Aroclor 1221	ND	500	ND	0.070	
11141-16-5	Aroclor 1232	ND	500	ND	0.070	
53469-21-9	Aroclor 1242	ND	500	ND	0.070	
12672-29-6	Aroclor 1248	ND	500	ND	0.070	
11097-69-1	Aroclor 1254	ND	500	ND	0.070	
11096-82-5	Aroclor 1260	ND	500	ND	0.070	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **Ramboll Environ US Corporation**
Client Sample ID: **080817-MHS-B700-R705-A1**
Client Project ID: **SMMUSD-Malibu, CA / 04-33980Z**

ALS Project ID: P1703866
ALS Sample ID: P1703866-011

Test Code: EPA TO-10A
Instrument ID: HP6890/GC6/ECD/ECD
Analyst: Zheng Wang/Evelyn Alvarez
Sampling Media: PUF (Low Volume) Cartridge
Test Notes:

Date Collected: 8/9/17
Date Received: 8/9/17
Date Extracted: 8/10/17
Date Analyzed: 8/14/17
Volume Sampled: 7.3 m³
Final Extract Volume: 10 ml

Dilution Factor: 1.00

CAS #	Compound	Result ng/Cartridge	MRL ng/Cartridge	Result µg/m³	MRL µg/m³	Data Qualifier
12674-11-2	Aroclor 1016	ND	500	ND	0.068	
11104-28-2	Aroclor 1221	ND	500	ND	0.068	
11141-16-5	Aroclor 1232	ND	500	ND	0.068	
53469-21-9	Aroclor 1242	ND	500	ND	0.068	
12672-29-6	Aroclor 1248	ND	500	ND	0.068	
11097-69-1	Aroclor 1254	ND	500	ND	0.068	
11096-82-5	Aroclor 1260	ND	500	ND	0.068	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **Ramboll Environ US Corporation**
Client Sample ID: **080817-MHS-B700-R704-A1**
Client Project ID: **SMMUSD-Malibu, CA / 04-33980Z**

ALS Project ID: P1703866
ALS Sample ID: P1703866-012

Test Code: EPA TO-10A
Instrument ID: HP6890/GC6/ECD/ECD
Analyst: Zheng Wang/Evelyn Alvarez
Sampling Media: PUF (Low Volume) Cartridge
Test Notes:

Date Collected: 8/9/17
Date Received: 8/9/17
Date Extracted: 8/10/17
Date Analyzed: 8/16/17
Volume Sampled: 7.3 m³
Final Extract Volume: 10 ml

Dilution Factor: 1.00

CAS #	Compound	Result ng/Cartridge	MRL ng/Cartridge	Result µg/m³	MRL µg/m³	Data Qualifier
12674-11-2	Aroclor 1016	ND	500	ND	0.068	
11104-28-2	Aroclor 1221	ND	500	ND	0.068	
11141-16-5	Aroclor 1232	ND	500	ND	0.068	
53469-21-9	Aroclor 1242	ND	500	ND	0.068	
12672-29-6	Aroclor 1248	ND	500	ND	0.068	
11097-69-1	Aroclor 1254	**770**	500	**0.10**	0.068	
11096-82-5	Aroclor 1260	ND	500	ND	0.068	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **Ramboll Environ US Corporation**
Client Sample ID: **080817-MHS-AFB** ALS Project ID: P1703866
Client Project ID: **SMMUSD-Malibu, CA / 04-33980Z** ALS Sample ID: P1703866-013

Test Code: EPA TO-10A
Instrument ID: HP6890/GC6/ECD/ECD
Analyst: Zheng Wang/Evelyn Alvarez
Sampling Media: PUF (Low Volume) Cartridge
Test Notes:

Date Collected: 8/8/17
Date Received: 8/9/17
Date Extracted: 8/10/17
Date Analyzed: 8/14/17
Volume Sampled: NA m^3
Final Extract Volume: 10 ml

Dilution Factor: 1.00

CAS #	Compound	Result ng/Cartridge	MRL ng/Cartridge	Result µg/m^3	MRL µg/m^3	Data Qualifier
12674-11-2	Aroclor 1016	ND	500	NA	NA	
11104-28-2	Aroclor 1221	ND	500	NA	NA	
11141-16-5	Aroclor 1232	ND	500	NA	NA	
53469-21-9	Aroclor 1242	ND	500	NA	NA	
12672-29-6	Aroclor 1248	ND	500	NA	NA	
11097-69-1	Aroclor 1254	ND	500	NA	NA	
11096-82-5	Aroclor 1260	ND	500	NA	NA	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **Ramboll Environ US Corporation**
Client Sample ID: **Method Blank** ALS Project ID: P1703866
Client Project ID: **SMMUSD-Malibu, CA / 04-33980Z** ALS Sample ID: P170810-MB

Test Code: EPA TO-10A
Instrument ID: HP6890/GC6/ECD/ECD
Analyst: Zheng Wang/Evelyn Alvarez
Sampling Media: PUF (Low Volume) Cartridge
Test Notes:

Date Collected: NA
Date Received: NA
Date Extracted: 8/10/17
Date Analyzed: 8/14/17
Volume Sampled: NA m^3
Final Extract Volume: 10 ml

Dilution Factor: 1.00

CAS #	Compound	Result ng/Cartridge	MRL ng/Cartridge	Result µg/m^3	MRL µg/m^3	Data Qualifier
12674-11-2	Aroclor 1016	ND	500	NA	NA	
11104-28-2	Aroclor 1221	ND	500	NA	NA	
11141-16-5	Aroclor 1232	ND	500	NA	NA	
53469-21-9	Aroclor 1242	ND	500	NA	NA	
12672-29-6	Aroclor 1248	ND	500	NA	NA	
11097-69-1	Aroclor 1254	ND	500	NA	NA	
11096-82-5	Aroclor 1260	ND	500	NA	NA	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
NA = Not applicable.

ALS ENVIRONMENTAL

LABORATORY CONTROL SAMPLE / DUPLICATE LABORATORY CONTROL SAMPLE SUMMARY

Client: **Ramboll Environ US Corporation**
Client Sample ID: **Duplicate Lab Control Sample** ALS Project ID: P1703866
Client Project ID: **SMMUSD-Malibu, CA / 04-33980Z** ALS Sample ID: P170810-DLCS

Test Code: EPA TO-10A Date Collected: NA
Instrument ID: HP6890/GC6/ECD/ECD Date Received: NA
Analyst: Zheng Wang/Evelyn Alvarez Date Extracted: 8/10/17
Sampling Media: PUF (Low Volume) Cartridge Date Analyzed: 8/14/17
Test Notes: Volume(s) Analyzed: NA m^3

CAS #	Compound	Spike Amount LCS / DLCS ng/ml	Result LCS ng/ml	Result DLCS ng/ml	% Recovery LCS	% Recovery DLCS	Project Acceptance Limits	RPD	RPD Limit	Data Qualifier
12674-11-2	Aroclor 1016	500	461	428	**92**	**86**	70-130	7	15	
11096-82-5	Aroclor 1260	500	516	488	**103**	**98**	70-130	5	15	

ALS ENVIRONMENTAL

SURROGATE SPIKE RECOVERY RESULTS

Client: **Ramboll Environ US Corporation**
Client Project ID: **SMMUSD-Malibu, CA / 04-33980Z** ALS Project ID: P1703866

Test Code: EPA TO-10A
Instrument ID: HP6890/GC6/ECD/ECD
Analyst: Zheng Wang/Evelyn Alvarez
Sampling Media: PUF (Low Volume) Cartridge(s)
Test Notes:

Date(s) Collected: 8/7 - 8/9/17
Date(s) Received: 8/9/17
Date(s) Extracted: 8/10/17
Date(s) Analyzed: 8/14 - 8/16/17

Client Sample ID	ALS Sample ID	2,4,5,6-Tetrachloro-m-Xylene % Recovered	Acceptance Limits	Decachlorobiphenyl % Recovered	Acceptance Limits	Data Qualifier
Method Blank	P170810-MB	**76**	60-120	**89**	60-120	
Lab Control Sample	P170810-LCS	**85**	60-120	**99**	60-120	
Duplicate Lab Control Sample	P170810-DLCS	**79**	60-120	**93**	60-120	
080717-JCES-BA-RTL-A1	P1703866-001	**74**	60-120	**89**	60-120	
080717-JCES-AOD	P1703866-002	**76**	60-120	**89**	60-120	
080717-JCES-BB-R5-A1	P1703866-003	**73**	60-120	**88**	60-120	
080717-JCES-BC-R11-A1	P1703866-004	**72**	60-120	**90**	60-120	
080717-JCES-BD-R14-A1	P1703866-005	**75**	60-120	**90**	60-120	
080717-JCES-BD-R14-A2	P1703866-006	**75**	60-120	**88**	60-120	
080717-JCES-AFB	P1703866-007	**76**	60-120	**90**	60-120	
080817-MHS-BH-R605A-A1	P1703866-008	**71**	60-120	**87**	60-120	
080817-MHS-B200-R212-A1	P1703866-009	**76**	60-120	**84**	60-120	
080817-MHS-AOD	P1703866-010	**77**	60-120	**87**	60-120	
080817-MHS-B700-R705-A1	P1703866-011	**74**	60-120	**84**	60-120	
080817-MHS-B700-R704-A1	P1703866-012	**84**	60-120	**96**	60-120	
080817-MHS-AFB	P1703866-013	**79**	60-120	**86**	60-120	

Client: **Ramboll Environ US Corporation** ALS Project ID: P1703866
Client Project ID: **SMMUSD-Malibu, CA / 04-33980Z**

Method Blank Summary

Test Code: EPA TO-10A
Instrument ID: HP6890/GC6/ECD/ECD Lab File ID: 08141721.D
Analyst: Zheng Wang/Evelyn Alvarez Date Analyzed: 8/14/17
Sample Type: PUF (Low Volume) Cartridge(s) Time Analyzed: 13:50
Test Notes:

Client Sample ID	ALS Sample ID	Lab File ID	Time Analyzed
Lab Control Sample	P170810-LCS	08141719.D	13:35
Duplicate Lab Control Sample	P170810-DLCS	08141720.D	13:42
080717-JCES-BA-RTL-A1	P1703866-001	08141724.D	14:13
080717-JCES-AOD	P1703866-002	08141725.D	14:21
080717-JCES-BB-R5-A1	P1703866-003	08141726.D	14:28
080717-JCES-BC-R11-A1	P1703866-004	08141727.D	14:36
080717-JCES-BD-R14-A1	P1703866-005	08141728.D	14:44
080717-JCES-BD-R14-A2	P1703866-006	08141730.D	14:59
080717-JCES-AFB	P1703866-007	08141731.D	15:07
080817-MHS-BH-R605A-A1	P1703866-008	08141732.D	15:14
080817-MHS-B200-R212-A1	P1703866-009	08141733.D	15:22

Response Factor Report HP G1530A

Method Path : J:\GC06\METHODS\
Method File : AA081417.M
Title : AROCLOR 1016---1260
Last Update : Mon Aug 14 13:06:34 2017
Response Via : Initial Calibration

Calibration Files
50 =08141704.D 100 =08141705.D 250 =08141706.D
500 =08141707.D 750 =08141708.D 1000 =08141709.D

<20%

		Compound	50	100	250	500	750	1000	Avg		%RSD
1)	S	TCmX (SS1)	1.093	1.056	1.043	0.925	0.894	0.874	0.981	E5	9.59
2)	L1	Aroclor-1016{1}	2.389	2.037	1.925	1.664	1.567	1.634	1.869	E3	16.76
3)	L1	Aroclor-1016{2}	4.292	3.956	3.792	3.328	3.166	3.073	3.601	E3	13.51
4)	L1	Aroclor-1016{3}	2.974	2.825	2.691	2.352	2.233	2.150	2.538	E3	13.36
5)	L1	Aroclor-1016{4}	3.104	3.043	2.886	2.542	2.402	2.319	2.716	E3	12.46
6)	L1	Aroclor-1016{5}	3.373	3.161	3.065	2.674	2.535	2.444	2.875	E3	13.09
7)	L7	Aroclor-1260{1}	6.781	6.303	6.046	5.315	5.067	4.870	5.730	E3	13.25
8)	L7	Aroclor-1260{2}	8.894	8.394	7.961	7.004	6.733	6.497	7.580	E3	12.86
9)	L7	Aroclor-1260{3}	6.936	6.533	6.364	4.856	4.780	4.454	5.654	E3	18.98
10)	L7	Aroclor-1260{4}	7.130	6.968	6.625	5.825	5.609	5.403	6.260	E3	11.82
11)	L7	Aroclor-1260{5}	1.488	1.484	1.387	1.229	1.183	1.134	1.318	E4	11.80
12)	S	DCBP (SS2)	1.551	1.476	1.381	1.205	1.181	1.117	1.318	E5	13.34

Signal #2 Calibration Files
50 =08141704.D 100 =08141705.D 250 =08141706.D
500 =08141707.D 750 =08141708.D 1000 =08141709.D

<25%

		Compound	50	100	250	500	750	1000	Avg		%RSD
1)	S	TCmX (SS1)	1.607	1.561	1.560	1.400	1.356	1.306	1.465	E5	8.61
2)	L1	Aroclor-1016{1}	3.237	3.211	3.149	2.850	2.786	2.696	2.988	E3	7.96
3)	L1	Aroclor-1016{2}	3.999	3.951	3.970	3.637	3.535	3.452	3.757	E3	6.50
4)	L1	Aroclor-1016{3}	3.717	3.578	3.523	3.165	3.053	2.952	3.331	E3	9.45
5)	L1	Aroclor-1016{4}	3.792	3.722	3.669	3.303	3.207	3.101	3.466	E3	8.56
6)	L1	Aroclor-1016{5}	4.900	4.548	4.591	4.036	3.928	3.805	4.301	E3	10.18
7)	L7	Aroclor-1260{1}	9.861	9.467	9.353	8.346	8.058	7.781	8.811	E3	9.72
8)	L7	Aroclor-1260{2}	1.804	1.716	1.678	1.505	1.446	1.391	1.590	E4	10.42
9)	L7	Aroclor-1260{3}	9.905	9.543	9.323	8.415	8.143	7.771	8.850	E3	9.68
10)	L7	Aroclor-1260{4}	1.063	1.023	0.984	0.885	0.797	0.815	0.928	E4	12.03
11)	L7	Aroclor-1260{5}	3.248	2.576	2.466	2.219	2.215	2.062	2.464	E4	17.33
12)	S	DCBP (SS2)	2.154	2.072	2.035	1.797	1.757	1.689	1.917	E5	10.05

(#) = Out of Range

Method : Modified TO-10A
Client: Ramboll Environ US Corporation
Job #: P1703866
Analyst : EA/ZW

Printed : 8/16/2017
Instrument : GC#6, ECD#6, #7
Date Acquired : 8/14/2017
Matrix: Low Vol PUF
Date Extracted: 8/10/2017

ZW
8/16/17

SAMPLE RESULT SUMMARIES

Compounds	MDL	Opening CCV	%Diff.	Opening CCV	%Diff.	Mid CCV	%Diff.	Mid CCV	%Diff.	Closing CCV	%Diff.	Closing CCV	%Diff.	ng/mL		ng/mL			ng/mL
Sample Information	ng/sample													LCS	% Rec	LCSdup	% Rec	% RPD	MB
MRL																			50
Dilution Factor	1													1		1			1
Final Extract Vol. (ml)	1													10		10			10
Aroclor 1016		460.7	7.87%			452.1	9.58%			473.1	5.39%			460.9	92.2%	427.8	85.6%	7.5%	ND
Aroclor 1221																			ND
Aroclor 1232																			ND
Aroclor 1242																			ND
Aroclor 1248																			ND
Aroclor 1254				481.7	3.67%			466.5	6.70%			472.1	5.59%						ND
Aroclor 1260		457.4	8.53%			447.4	10.52%			458.4	8.32%			515.9	103.2%	488.2	97.6%	5.5%	ND
TCmX (SS1)		94.3		99.5		94.5		95.2		98.4		100.8		85.066		78.648			76.077
% Recoverage		94.3%		99.5%		94.5%		95.2%		98.4%		100.8%		85.1%		78.6%			76.1%
Decachlorobiphenyl (SS2)		91.4		95.2		89.7		93.5		91.4		93.6		98.81		93.424			89.286
% Recoverage		91.4%		95.2%		89.7%		93.5%		91.4%		93.6%		98.8%		93.4%			89.3%

Compounds																			ng/sample
Sample Information	ng/sample																		MB
MRL																			500
Aroclor 1016																			ND
Aroclor 1221																			ND
Aroclor 1232																			ND
Aroclor 1242																			ND
Aroclor 1248																			ND
Aroclor 1254																			ND
Aroclor 1260																			ND

DATA VALIDATION REPORT #39422A (Air)
SAMPLE DATE: AUGUST 7-9, 2017

MHS Building D (100/200, Mako Shark)
MHS Building H (Cafeteria/Auditorium)
MHS Building J (700, Old Gymnasium)
JCES Building A
JCES Building B
JCES Building C
JCES Building D

LABORATORY DATA CONSULTANTS, INC.
2701 Loker Ave. West, Suite 220, Carlsbad, CA 92010 Bus: 760-827-1100 Fax: 760-827-1099

Ramboll Environ
18100 Von Karman Avenue Ste. 600
Irvine, CA 92612
Attn: Ms. Yi Tian

September 25, 2017

SUBJECT: SMMUSD, 04-33980Z, Data Validation

Dear Ms. Tian

Enclosed is the final validation report for the fraction listed below. This SDG was received on September 11, 2017. Attachment 1 is a summary of the samples that were reviewed for analysis.

LDC Project #39422:

SDG #	Fraction
P1703866	Polychlorinated Biphenyls

The data validation was performed under Level III guidelines. The analyses were validated using the following documents, as applicable to each method:

- USEPA, Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review, June 2008

Please feel free to contact us if you have any questions.

Sincerely,

Pei Geng
Project Manager/Senior Chemist

462 pages-DL

Attachment 1

Level III

LDC #39422 (Ramboll Environ-Irvine / SMMUSD, 04-33980Z)

LDC	SDG#	DATE REC'D	(2) DATE DUE	PCBs (8082)		PCBs (TO-10A)																															
Matrix:	Wipe/Air			W	S	A	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S
A	P1703866	09/11/17	09/25/17	-	-	13	0																														
B	1708436	09/11/17	09/25/17	16	0	-	-																														
C	1708532	09/11/17	09/25/17	16	0	-	-																														
D	1708535	09/11/17	09/25/17	4	0	-	-																														
Total	J/PG			36	0	13	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	49

Shaded cells indicate Level IV validation (all other cells are Level III validation). These sample counts do not include MS/MSD, and DUPs

V:\LOGIN\Environ (Ramboll Environ)\SMMUSD\39422ST.wpd

LDC Report# 39422A3b

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name: SMMUSD

LDC Report Date: September 20, 2017

Parameters: Polychlorinated Biphenyls

Validation Level: Level III

Laboratory: ALS Environmental

Sample Delivery Group (SDG): P1703866

Sample Identification	Laboratory Sample Identification	Matrix	Collection Date
080717-JCES-BA-RTL-A1	P1703866-001	Air	08/08/17
080717-JCES-AOD	P1703866-002	Air	08/08/17
080717-JCES-BB-R5-A1	P1703866-003	Air	08/08/17
080717-JCES-BC-R11-A1	P1703866-004	Air	08/08/17
080717-JCES-BD-R14-A1	P1703866-005	Air	08/08/17
080717-JCES-BD-R14-A2	P1703866-006	Air	08/08/17
080717-JCES-AFB	P1703866-007	Air	08/07/17
080717-MHS-BH-R605A-A1	P1703866-008	Air	08/09/17
080717-MHS-B200-R212-A1	P1703866-009	Air	08/09/17
080717-MHS-AOD	P1703866-010	Air	08/09/17
080717-MHS-B700-R705-A1	P1703866-011	Air	08/09/17
080717-MHS-B700-R704-A1	P1703866-012	Air	08/09/17
080717-MHS-AFB	P1703866-013	Air	08/08/17

Introduction

This Data Validation Report (DVR) presents data validation findings and results for the associated samples listed on the cover page. Data validation was performed in accordance with a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines (CLPNFG) for Superfund Organic Methods Data Review (June 2008). Where specific guidance was not available, the data has been evaluated in a conservative manner consistent with industry standards using professional experience.

The analyses were performed by the following method:

Polychlorinated Biphenyls (PCBs) by Environmental Protection Agency (EPA) TO-10A

All sample results were subjected to Level III data validation, which comprises an evaluation of quality control (QC) summary results.

The following are definitions of the data qualifiers utilized during data validation:

J (Estimated): The compound or analyte was analyzed for and positively identified by the laboratory; however the reported concentration is estimated due to non-conformances discovered during data validation.

U (Non-detected): The compound or analyte was analyzed for and positively identified by the laboratory; however the analyte should be considered non-detected at the reported concentration due to the presence of contaminants detected in the associated blank(s).

UJ (Non-detected estimated): The compound or analyte was reported as not detected by the laboratory; however the reported quantitation/detection limit is estimated due to non-conformances discovered during data validation.

R (Rejected): The sample results were rejected due to gross non-conformances discovered during data validation. Data qualified as rejected is not usable.

NA (Not Applicable): The non-conformance discovered during data validation demonstrates a high bias, while the affected compound or analyte in the associated sample(s) was reported as not detected by the laboratory and did not warrant the qualification of the data.

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

I. Sample Receipt and Technical Holding Times

All samples were received in good condition and cooler temperatures upon receipt met validation criteria.

All technical holding time requirements were met.

II. Initial Calibration and Initial Calibration Verification

An initial calibration was performed as required by the method.

The percent relative standard deviations (%RSD) were less than or equal to 20.0% for all compounds.

The percent differences (%D) of the initial calibration verification (ICV) standard were less than or equal to 15.0% for all compounds.

III. Continuing Calibration

Continuing calibration was performed at required frequencies.

The percent differences (%D) were less than or equal to 15.0% for all compounds.

IV. Laboratory Blanks

Laboratory blanks were analyzed as required by the method. No contaminants were found in the laboratory blanks.

V. Field Blanks

No field blanks were identified in this SDG.

VI. Surrogates

Surrogates were added to all samples as required by the method. All surrogate recoveries (%R) were within QC limits.

VII. Matrix Spike/Matrix Spike Duplicates

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

VIII. Laboratory Control Samples

Laboratory control samples (LCS) and laboratory control samples duplicates (LCSD) were analyzed as required by the method. Percent recoveries (%R) were within QC limits. Relative percent differences (RPD) were within QC limits.

IX. Field Duplicates

Samples 080717-JCES-BD-R14-A1 and 080717-JCES-BD-R14-A2 were identified as field duplicates. No results were detected in any of the samples.

X. Compound Quantitation

Raw data were not reviewed for Level III validation.

XI. Target Compound Identification

Raw data were not reviewed for Level III validation.

XII. Overall Assessment of Data

The analysis was conducted within all specifications of the method. No results were rejected in this SDG.

The quality control criteria reviewed were met and are considered acceptable. Based upon the data validation all results are considered valid and usable for all purposes.

SMMUSD
Polychlorinated Biphenyls - Data Qualification Summary - SDG P1703866

No Sample Data Qualified in this SDG

SMMUSD
Polychlorinated Biphenyls - Laboratory Blank Data Qualification Summary - SDG P1703866

No Sample Data Qualified in this SDG

SMMUSD
Polychlorinated Biphenyls - Field Blank Data Qualification Summary - SDG P1703866

No Sample Data Qualified in this SDG

LDC #: 39422A3b
SDG #: P1703866
Laboratory: ALS Environmental

VALIDATION COMPLETENESS WORKSHEET
Level III

Date: 09/16/17
Page: 1 of 1
Reviewer: JRC
2nd Reviewer: AC

METHOD: GC Polychlorinated Biphenyls (EPA Method TO-10A)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Sample receipt/Technical holding times	A / A	
II.	GC Instrument Performance Check	N	
III.	Initial calibration/ICV	A / A	ICAL ≤ 20% ICV ≤ 15%
IV.	Continuing calibration	A	CCV ≤ 15%
V.	Laboratory Blanks	A	
VI.	Field blanks	N	
VII.	Surrogate spikes	A	
VIII.	Matrix spike/Matrix spike duplicates	N	CS
IX.	Laboratory control samples	A	LCSD
X.	Field duplicates	ND	D = 5/6
XI.	Compound quantitation/RL/LOQ/LODs	N	
XII.	Target compound identification	N	
XIII.	Overall assessment of data	A	

Note: A = Acceptable; N = Not provided/applicable; SW = See worksheet; ND = No compounds detected; R = Rinsate; FB = Field blank; D = Duplicate; TB = Trip blank; EB = Equipment blank; OTHER:

	Client ID		Lab ID	Matrix	Date
1	080717-JCES-BA-RTL-A1		P1703866-001	Air	08/08/17
2	080717-JCES-AOD		P1703866-002	Air	08/08/17
3	080717-JCES-BB-R5-A1		P1703866-003	Air	08/08/17
4	080717-JCES-BC-R11-A1		P1703866-004	Air	08/08/17
5	080717-JCES-BD-R14-A1	D	P1703866-005	Air	08/08/17
6	080717-JCES-BD-R14-A2	D	P1703866-006	Air	08/08/17
7	080717-JCES-AFB		P1703866-007	Air	08/07/17
8	080717-MHS-BH-R605A-A1		P1703866-008	Air	08/09/17
9	080717-MHS-B200-R212-A1		P1703866-009	Air	08/09/17
10	080717-MHS-AOD		P1703866-010	Air	08/09/17
11	080717-MHS-B700-R705-A1		P1703866-011	Air	08/09/17
12	080717-MHS-B700-R704-A1		P1703866-012	Air	08/09/17
13	080717-MHS-AFB		P1703866-013	Air	08/08/17
14					
15					
16	P170810-MB				

LABORATORY REPORT #1708436 (SURFACE WIPE)
SAMPLE DATE: AUGUST 7, 2017

JCES Building A
JCES Building B
JCES Building C
JCES Building D

16-Aug-2017

Yi Tian
Ramboll Environ US Corporation
18100 VonKarman Ave.
Suite 600
Irvine, CA 92612

Re: **SMMUSD (0433980Z)** Work Order: **1708436**

Dear Yi,

ALS Environmental received 16 samples on 08-Aug-2017 09:45 AM for the analyses presented in the following report.

The analytical data provided relates directly to the samples received by ALS Environmental and for only the analyses requested.

Sample results are compliant with industry accepted practices and Quality Control results achieved laboratory specifications. Any exceptions are noted in the Case Narrative, or noted with qualifiers in the report or QC batch information. Should this laboratory report need to be reproduced, it should be reproduced in full unless written approval has been obtained from ALS Environmental. Samples will be disposed in 30 days unless storage arrangements are made.

The total number of pages in this report is 23.

If you have any questions regarding this report, please feel free to contact me.

Sincerely,

Electronically approved by: Chad Whelton

Chad Whelton
Project Manager

Certificate No: MN 998501

ADDRESS 3352 128th Ave Holland, Michigan 49424 | PHONE (616) 399-6070 | FAX (616) 399-6185
ALS GROUP USA, CORP Part of the ALS Laboratory Group A Campbell Brothers Limited Company

Environmental www.alsglobal.com
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ALS Group, USA

Date: 16-Aug-17

Client: Ramboll Environ US Corporation
Project: SMMUSD (0433980Z)
Work Order: **1708436**

Work Order Sample Summary

Lab Samp ID	Client Sample ID	Matrix	Tag Number	Collection Date	Date Received	Hold
1708436-01	080717-JCES-BA-RTL-W1	Wipe		8/7/2017 13:05	8/8/2017 09:45	☐
1708436-02	080717-JCES-BA-RTL-W2	Wipe		8/7/2017 13:07	8/8/2017 09:45	☐
1708436-03	080717-JCES-BA-RTL-W3	Wipe		8/7/2017 13:08	8/8/2017 09:45	☐
1708436-04	080717-JCES-BA-RTL-W4	Wipe		8/7/2017 13:10	8/8/2017 09:45	☐
1708436-05	080717-JCES-BB-R5-W1	Wipe		8/7/2017 13:20	8/8/2017 09:45	☐
1708436-06	080717-JCES-BB-R5-W2	Wipe		8/7/2017 13:22	8/8/2017 09:45	☐
1708436-07	080717-JCES-BB-R5-W3	Wipe		8/7/2017 13:24	8/8/2017 09:45	☐
1708436-08	080717-JCES-BC-R11-W1	Wipe		8/7/2017 13:32	8/8/2017 09:45	☐
1708436-09	080717-JCES-BC-R11-W2	Wipe		8/7/2017 13:34	8/8/2017 09:45	☐
1708436-10	080717-JCES-BC-R11-W3	Wipe		8/7/2017 13:36	8/8/2017 09:45	☐
1708436-11	080717-JCES-BC-R11-W4	Wipe		8/7/2017 13:37	8/8/2017 09:45	☐
1708436-12	080717-JCES-BD-R14-W1	Wipe		8/7/2017 13:44	8/8/2017 09:45	☐
1708436-13	080717-JCES-BD-R14-W2	Wipe		8/7/2017 13:46	8/8/2017 09:45	☐
1708436-14	080717-JCES-BD-R14-W3	Wipe		8/7/2017 13:47	8/8/2017 09:45	☐
1708436-15	080717-JCES-BD-R14-W4	Wipe		8/7/2017 13:49	8/8/2017 09:45	☐
1708436-16	080717-WFB-HEX	Wipe		8/7/2017 13:55	8/8/2017 09:45	☐

ALS Group, USA

Date: 16-Aug-17

Client: Ramboll Environ US Corporation
Project: SMMUSD (0433980Z)
WorkOrder: **1708436**

QUALIFIERS, ACRONYMS, UNITS

Qualifier	Description
*	Value exceeds Regulatory Limit
**	Estimated Value
a	Analyte is non-accredited
B	Analyte detected in the associated Method Blank above the Reporting Limit
E	Value above quantitation range
H	Analyzed outside of Holding Time
J	Analyte is present at an estimated concentration between the MDL and Report Limit
ND	Not Detected at the Reporting Limit
O	Sample amount is > 4 times amount spiked
P	Dual Column results percent difference > 40%
R	RPD above laboratory control limit
S	Spike Recovery outside laboratory control limits
U	Analyzed but not detected above the MDL
X	Analyte was detected in the Method Blank between the MDL and Reporting Limit, sample results may exhibit background or reagent contamination at the observed level.

Acronym	Description
DUP	Method Duplicate
LCS	Laboratory Control Sample
LCSD	Laboratory Control Sample Duplicate
LOD	Limit of Detection (see MDL)
LOQ	Limit of Quantitation (see PQL)
MBLK	Method Blank
MDL	Method Detection Limit
MS	Matrix Spike
MSD	Matrix Spike Duplicate
PQL	Practical Quantitation Limit
RPD	Relative Percent Difference
TDL	Target Detection Limit
TNTC	Too Numerous To Count
A	APHA Standard Methods
D	ASTM
E	EPA
SW	SW-846 Update III

Units Reported	Description
µg/wipe	Micrograms per Wipe

ALS Group, USA

Date: *16-Aug-17*

Client: Ramboll Environ US Corporation
Project: SMMUSD (0433980Z)
Work Order: 1708436
Sample ID: 080717-JCES-BA-RTL-W1
Lab ID: 1708436-01
Collection Date: 8/7/2017 01:05 PM
Matrix: WIPE

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
PCBS			**SW8082**	Prep: EPA/600/R-07 8/14/17 16:54		Analyst: **EB**
Aroclor 1016	ND		0.10	µg/wipe	1	8/14/2017 06:47 PM
Aroclor 1221	ND		0.10	µg/wipe	1	8/14/2017 06:47 PM
Aroclor 1232	ND		0.10	µg/wipe	1	8/14/2017 06:47 PM
Aroclor 1242	ND		0.10	µg/wipe	1	8/14/2017 06:47 PM
Aroclor 1248	ND		0.10	µg/wipe	1	8/14/2017 06:47 PM
Aroclor 1254	ND		0.10	µg/wipe	1	8/14/2017 06:47 PM
Aroclor 1260	ND		0.10	µg/wipe	1	8/14/2017 06:47 PM
Aroclor 1262	ND		0.10	µg/wipe	1	8/14/2017 06:47 PM
Aroclor 1268	ND		0.10	µg/wipe	1	8/14/2017 06:47 PM
PCBs, Total	ND		0.10	µg/wipe	1	8/14/2017 06:47 PM
Surr: Decachlorobiphenyl	*115*		*40-140*	*%REC*	1	8/14/2017 06:47 PM
Surr: Tetrachloro-m-xylene	*95.5*		*40-140*	*%REC*	1	8/14/2017 06:47 PM

Note: See Qualifiers page for a list of qualifiers and their definitions.

Client: Ramboll Environ US Corporation
Project: SMMUSD (0433980Z) **Work Order:** 1708436
Sample ID: 080717-JCES-BA-RTL-W2 **Lab ID:** 1708436-02
Collection Date: 8/7/2017 01:07 PM **Matrix:** WIPE

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
PCBS			**SW8082**	Prep: EPA/600/R-07 8/14/17 16:54	Analyst: **EB**	
Aroclor 1016	ND		0.10	µg/wipe	1	8/14/2017 07:01 PM
Aroclor 1221	ND		0.10	µg/wipe	1	8/14/2017 07:01 PM
Aroclor 1232	ND		0.10	µg/wipe	1	8/14/2017 07:01 PM
Aroclor 1242	ND		0.10	µg/wipe	1	8/14/2017 07:01 PM
Aroclor 1248	ND		0.10	µg/wipe	1	8/14/2017 07:01 PM
Aroclor 1254	ND		0.10	µg/wipe	1	8/14/2017 07:01 PM
Aroclor 1260	ND		0.10	µg/wipe	1	8/14/2017 07:01 PM
Aroclor 1262	ND		0.10	µg/wipe	1	8/14/2017 07:01 PM
Aroclor 1268	ND		0.10	µg/wipe	1	8/14/2017 07:01 PM
PCBs, Total	ND		0.10	µg/wipe	1	8/14/2017 07:01 PM
Surr: Decachlorobiphenyl	*109*		*40-140*	*%REC*	1	8/14/2017 07:01 PM
Surr: Tetrachloro-m-xylene	*89.8*		*40-140*	*%REC*	1	8/14/2017 07:01 PM

Note: See Qualifiers page for a list of qualifiers and their definitions.

Client: Ramboll Environ US Corporation
Project: SMMUSD (0433980Z) **Work Order:** 1708436
Sample ID: 080717-JCES-BA-RTL-W3 **Lab ID:** 1708436-03
Collection Date: 8/7/2017 01:08 PM **Matrix:** WIPE

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
PCBS			**SW8082**	Prep: EPA/600/R-07 8/14/17 16:54	Analyst: **EB**	
Aroclor 1016	ND		0.10	µg/wipe	1	8/14/2017 07:15 PM
Aroclor 1221	ND		0.10	µg/wipe	1	8/14/2017 07:15 PM
Aroclor 1232	ND		0.10	µg/wipe	1	8/14/2017 07:15 PM
Aroclor 1242	ND		0.10	µg/wipe	1	8/14/2017 07:15 PM
Aroclor 1248	ND		0.10	µg/wipe	1	8/14/2017 07:15 PM
Aroclor 1254	ND		0.10	µg/wipe	1	8/14/2017 07:15 PM
Aroclor 1260	ND		0.10	µg/wipe	1	8/14/2017 07:15 PM
Aroclor 1262	ND		0.10	µg/wipe	1	8/14/2017 07:15 PM
Aroclor 1268	ND		0.10	µg/wipe	1	8/14/2017 07:15 PM
PCBs, Total	ND		0.10	µg/wipe	1	8/14/2017 07:15 PM
Surr: Decachlorobiphenyl	*112*		*40-140*	*%REC*	1	8/14/2017 07:15 PM
Surr: Tetrachloro-m-xylene	*92.5*		*40-140*	*%REC*	1	8/14/2017 07:15 PM

Note: See Qualifiers page for a list of qualifiers and their definitions.

Client: Ramboll Environ US Corporation
Project: SMMUSD (0433980Z) **Work Order:** 1708436
Sample ID: 080717-JCES-BA-RTL-W4 **Lab ID:** 1708436-04
Collection Date: 8/7/2017 01:10 PM **Matrix:** WIPE

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
PCBS			**SW8082**	Prep: EPA/600/R-07 8/14/17 16:54		Analyst: **EB**
Aroclor 1016	ND		0.10	µg/wipe	1	8/14/2017 07:30 PM
Aroclor 1221	ND		0.10	µg/wipe	1	8/14/2017 07:30 PM
Aroclor 1232	ND		0.10	µg/wipe	1	8/14/2017 07:30 PM
Aroclor 1242	ND		0.10	µg/wipe	1	8/14/2017 07:30 PM
Aroclor 1248	ND		0.10	µg/wipe	1	8/14/2017 07:30 PM
Aroclor 1254	ND		0.10	µg/wipe	1	8/14/2017 07:30 PM
Aroclor 1260	ND		0.10	µg/wipe	1	8/14/2017 07:30 PM
Aroclor 1262	ND		0.10	µg/wipe	1	8/14/2017 07:30 PM
Aroclor 1268	ND		0.10	µg/wipe	1	8/14/2017 07:30 PM
PCBs, Total	ND		0.10	µg/wipe	1	8/14/2017 07:30 PM
Surr: Decachlorobiphenyl	*108*		*40-140*	*%REC*	1	8/14/2017 07:30 PM
Surr: Tetrachloro-m-xylene	*92.6*		*40-140*	*%REC*	1	8/14/2017 07:30 PM

Note: See Qualifiers page for a list of qualifiers and their definitions.

Client: Ramboll Environ US Corporation
Project: SMMUSD (0433980Z) **Work Order:** 1708436
Sample ID: 080717-JCES-BB-R5-W1 **Lab ID:** 1708436-05
Collection Date: 8/7/2017 01:20 PM **Matrix:** WIPE

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
PCBS			**SW8082**	Prep: EPA/600/R-07 8/14/17 16:54	Analyst: **EB**	
Aroclor 1016	ND		0.10	µg/wipe	1	8/14/2017 07:44 PM
Aroclor 1221	ND		0.10	µg/wipe	1	8/14/2017 07:44 PM
Aroclor 1232	ND		0.10	µg/wipe	1	8/14/2017 07:44 PM
Aroclor 1242	ND		0.10	µg/wipe	1	8/14/2017 07:44 PM
Aroclor 1248	ND		0.10	µg/wipe	1	8/14/2017 07:44 PM
Aroclor 1254	ND		0.10	µg/wipe	1	8/14/2017 07:44 PM
Aroclor 1260	ND		0.10	µg/wipe	1	8/14/2017 07:44 PM
Aroclor 1262	ND		0.10	µg/wipe	1	8/14/2017 07:44 PM
Aroclor 1268	ND		0.10	µg/wipe	1	8/14/2017 07:44 PM
PCBs, Total	ND		0.10	µg/wipe	1	8/14/2017 07:44 PM
Surr: Decachlorobiphenyl	*106*		*40-140*	*%REC*	1	8/14/2017 07:44 PM
Surr: Tetrachloro-m-xylene	*96.9*		*40-140*	*%REC*	1	8/14/2017 07:44 PM

Note: See Qualifiers page for a list of qualifiers and their definitions.

Client: Ramboll Environ US Corporation
Project: SMMUSD (0433980Z) **Work Order:** 1708436
Sample ID: 080717-JCES-BB-R5-W2 **Lab ID:** 1708436-06
Collection Date: 8/7/2017 01:22 PM **Matrix:** WIPE

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
PCBS			**SW8082**	Prep: EPA/600/R-07 8/14/17 16:54		Analyst: **EB**
Aroclor 1016	ND		0.10	µg/wipe	1	8/14/2017 07:58 PM
Aroclor 1221	ND		0.10	µg/wipe	1	8/14/2017 07:58 PM
Aroclor 1232	ND		0.10	µg/wipe	1	8/14/2017 07:58 PM
Aroclor 1242	ND		0.10	µg/wipe	1	8/14/2017 07:58 PM
Aroclor 1248	ND		0.10	µg/wipe	1	8/14/2017 07:58 PM
Aroclor 1254	ND		0.10	µg/wipe	1	8/14/2017 07:58 PM
Aroclor 1260	ND		0.10	µg/wipe	1	8/14/2017 07:58 PM
Aroclor 1262	ND		0.10	µg/wipe	1	8/14/2017 07:58 PM
Aroclor 1268	ND		0.10	µg/wipe	1	8/14/2017 07:58 PM
PCBs, Total	ND		0.10	µg/wipe	1	8/14/2017 07:58 PM
Surr: Decachlorobiphenyl	*116*		*40-140*	*%REC*	1	8/14/2017 07:58 PM
Surr: Tetrachloro-m-xylene	*94.4*		*40-140*	*%REC*	1	8/14/2017 07:58 PM

Note: See Qualifiers page for a list of qualifiers and their definitions.

Client: Ramboll Environ US Corporation
Project: SMMUSD (0433980Z) **Work Order:** 1708436
Sample ID: 080717-JCES-BB-R5-W3 **Lab ID:** 1708436-07
Collection Date: 8/7/2017 01:24 PM **Matrix:** WIPE

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
PCBS			**SW8082**	Prep: EPA/600/R-07 8/14/17 16:54		Analyst: **EB**
Aroclor 1016	ND		0.10	µg/wipe	1	8/14/2017 08:12 PM
Aroclor 1221	ND		0.10	µg/wipe	1	8/14/2017 08:12 PM
Aroclor 1232	ND		0.10	µg/wipe	1	8/14/2017 08:12 PM
Aroclor 1242	ND		0.10	µg/wipe	1	8/14/2017 08:12 PM
Aroclor 1248	ND		0.10	µg/wipe	1	8/14/2017 08:12 PM
Aroclor 1254	ND		0.10	µg/wipe	1	8/14/2017 08:12 PM
Aroclor 1260	ND		0.10	µg/wipe	1	8/14/2017 08:12 PM
Aroclor 1262	ND		0.10	µg/wipe	1	8/14/2017 08:12 PM
Aroclor 1268	ND		0.10	µg/wipe	1	8/14/2017 08:12 PM
PCBs, Total	ND		0.10	µg/wipe	1	8/14/2017 08:12 PM
Surr: Decachlorobiphenyl	*110*		*40-140*	*%REC*	1	8/14/2017 08:12 PM
Surr: Tetrachloro-m-xylene	*90.0*		*40-140*	*%REC*	1	8/14/2017 08:12 PM

Note: See Qualifiers page for a list of qualifiers and their definitions.

Client: Ramboll Environ US Corporation
Project: SMMUSD (0433980Z) **Work Order:** 1708436
Sample ID: 080717-JCES-BC-R11-W1 **Lab ID:** 1708436-08
Collection Date: 8/7/2017 01:32 PM **Matrix:** WIPE

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
PCBS			**SW8082**	Prep: EPA/600/R-07 8/14/17 16:54		Analyst: **EB**
Aroclor 1016	ND		0.10	µg/wipe	1	8/14/2017 08:55 PM
Aroclor 1221	ND		0.10	µg/wipe	1	8/14/2017 08:55 PM
Aroclor 1232	ND		0.10	µg/wipe	1	8/14/2017 08:55 PM
Aroclor 1242	ND		0.10	µg/wipe	1	8/14/2017 08:55 PM
Aroclor 1248	ND		0.10	µg/wipe	1	8/14/2017 08:55 PM
Aroclor 1254	ND		0.10	µg/wipe	1	8/14/2017 08:55 PM
Aroclor 1260	ND		0.10	µg/wipe	1	8/14/2017 08:55 PM
Aroclor 1262	ND		0.10	µg/wipe	1	8/14/2017 08:55 PM
Aroclor 1268	ND		0.10	µg/wipe	1	8/14/2017 08:55 PM
PCBs, Total	ND		0.10	µg/wipe	1	8/14/2017 08:55 PM
Surr: Decachlorobiphenyl	*105*		*40-140*	*%REC*	1	8/14/2017 08:55 PM
Surr: Tetrachloro-m-xylene	*91.4*		*40-140*	*%REC*	1	8/14/2017 08:55 PM

Note: See Qualifiers page for a list of qualifiers and their definitions.

Client: Ramboll Environ US Corporation
Project: SMMUSD (0433980Z) **Work Order:** 1708436
Sample ID: 080717-JCES-BC-R11-W2 **Lab ID:** 1708436-09
Collection Date: 8/7/2017 01:34 PM **Matrix:** WIPE

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
PCBS			**SW8082**	Prep: EPA/600/R-07 8/14/17 16:54		Analyst: **EB**
Aroclor 1016	ND		0.10	µg/wipe	1	8/14/2017 09:10 PM
Aroclor 1221	ND		0.10	µg/wipe	1	8/14/2017 09:10 PM
Aroclor 1232	ND		0.10	µg/wipe	1	8/14/2017 09:10 PM
Aroclor 1242	ND		0.10	µg/wipe	1	8/14/2017 09:10 PM
Aroclor 1248	ND		0.10	µg/wipe	1	8/14/2017 09:10 PM
Aroclor 1254	ND		0.10	µg/wipe	1	8/14/2017 09:10 PM
Aroclor 1260	ND		0.10	µg/wipe	1	8/14/2017 09:10 PM
Aroclor 1262	ND		0.10	µg/wipe	1	8/14/2017 09:10 PM
Aroclor 1268	ND		0.10	µg/wipe	1	8/14/2017 09:10 PM
PCBs, Total	ND		0.10	µg/wipe	1	8/14/2017 09:10 PM
Surr: Decachlorobiphenyl	*110*		*40-140*	*%REC*	1	8/14/2017 09:10 PM
Surr: Tetrachloro-m-xylene	*90.1*		*40-140*	*%REC*	1	8/14/2017 09:10 PM

Note: See Qualifiers page for a list of qualifiers and their definitions.

Client: Ramboll Environ US Corporation
Project: SMMUSD (0433980Z) **Work Order:** 1708436
Sample ID: 080717-JCES-BC-R11-W3 **Lab ID:** 1708436-10
Collection Date: 8/7/2017 01:36 PM **Matrix:** WIPE

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
PCBS			**SW8082**	Prep: EPA/600/R-07 8/14/17 16:54	Analyst: **EB**	
Aroclor 1016	ND		0.10	µg/wipe	1	8/14/2017 09:24 PM
Aroclor 1221	ND		0.10	µg/wipe	1	8/14/2017 09:24 PM
Aroclor 1232	ND		0.10	µg/wipe	1	8/14/2017 09:24 PM
Aroclor 1242	ND		0.10	µg/wipe	1	8/14/2017 09:24 PM
Aroclor 1248	ND		0.10	µg/wipe	1	8/14/2017 09:24 PM
Aroclor 1254	ND		0.10	µg/wipe	1	8/14/2017 09:24 PM
Aroclor 1260	ND		0.10	µg/wipe	1	8/14/2017 09:24 PM
Aroclor 1262	ND		0.10	µg/wipe	1	8/14/2017 09:24 PM
Aroclor 1268	ND		0.10	µg/wipe	1	8/14/2017 09:24 PM
PCBs, Total	ND		0.10	µg/wipe	1	8/14/2017 09:24 PM
Surr: Decachlorobiphenyl	*104*		*40-140*	*%REC*	1	8/14/2017 09:24 PM
Surr: Tetrachloro-m-xylene	*85.6*		*40-140*	*%REC*	1	8/14/2017 09:24 PM

Note: See Qualifiers page for a list of qualifiers and their definitions.

Client: Ramboll Environ US Corporation
Project: SMMUSD (0433980Z) **Work Order:** 1708436
Sample ID: 080717-JCES-BC-R11-W4 **Lab ID:** 1708436-11
Collection Date: 8/7/2017 01:37 PM **Matrix:** WIPE

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
PCBS			**SW8082**	Prep: EPA/600/R-07 8/14/17 16:54		Analyst: **EB**
Aroclor 1016	ND		0.10	µg/wipe	1	8/14/2017 09:38 PM
Aroclor 1221	ND		0.10	µg/wipe	1	8/14/2017 09:38 PM
Aroclor 1232	ND		0.10	µg/wipe	1	8/14/2017 09:38 PM
Aroclor 1242	ND		0.10	µg/wipe	1	8/14/2017 09:38 PM
Aroclor 1248	ND		0.10	µg/wipe	1	8/14/2017 09:38 PM
Aroclor 1254	ND		0.10	µg/wipe	1	8/14/2017 09:38 PM
Aroclor 1260	ND		0.10	µg/wipe	1	8/14/2017 09:38 PM
Aroclor 1262	ND		0.10	µg/wipe	1	8/14/2017 09:38 PM
Aroclor 1268	ND		0.10	µg/wipe	1	8/14/2017 09:38 PM
PCBs, Total	ND		0.10	µg/wipe	1	8/14/2017 09:38 PM
Surr: Decachlorobiphenyl	*102*		*40-140*	*%REC*	1	8/14/2017 09:38 PM
Surr: Tetrachloro-m-xylene	*85.5*		*40-140*	*%REC*	1	8/14/2017 09:38 PM

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group, USA

Date: *16-Aug-17*

Client: Ramboll Environ US Corporation
Project: SMMUSD (0433980Z) **Work Order:** 1708436
Sample ID: 080717-JCES-BD-R14-W1 **Lab ID:** 1708436-12
Collection Date: 8/7/2017 01:44 PM **Matrix:** WIPE

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
PCBS			**SW8082**	Prep: EPA/600/R-07 8/14/17 16:54		Analyst: **EB**
Aroclor 1016	ND		0.10	µg/wipe	1	8/14/2017 09:53 PM
Aroclor 1221	ND		0.10	µg/wipe	1	8/14/2017 09:53 PM
Aroclor 1232	ND		0.10	µg/wipe	1	8/14/2017 09:53 PM
Aroclor 1242	ND		0.10	µg/wipe	1	8/14/2017 09:53 PM
Aroclor 1248	ND		0.10	µg/wipe	1	8/14/2017 09:53 PM
Aroclor 1254	ND		0.10	µg/wipe	1	8/14/2017 09:53 PM
Aroclor 1260	ND		0.10	µg/wipe	1	8/14/2017 09:53 PM
Aroclor 1262	ND		0.10	µg/wipe	1	8/14/2017 09:53 PM
Aroclor 1268	ND		0.10	µg/wipe	1	8/14/2017 09:53 PM
PCBs, Total	ND		0.10	µg/wipe	1	8/14/2017 09:53 PM
Surr: Decachlorobiphenyl	*105*		*40-140*	*%REC*	1	8/14/2017 09:53 PM
Surr: Tetrachloro-m-xylene	*89.3*		*40-140*	*%REC*	1	8/14/2017 09:53 PM

Note: See Qualifiers page for a list of qualifiers and their definitions.

Client: Ramboll Environ US Corporation
Project: SMMUSD (0433980Z) **Work Order:** 1708436
Sample ID: 080717-JCES-BD-R14-W2 **Lab ID:** 1708436-13
Collection Date: 8/7/2017 01:46 PM **Matrix:** WIPE

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
PCBS			**SW8082**	Prep: EPA/600/R-07 8/14/17 16:54	Analyst: **EB**	
Aroclor 1016	ND		0.10	µg/wipe	1	8/14/2017 10:07 PM
Aroclor 1221	ND		0.10	µg/wipe	1	8/14/2017 10:07 PM
Aroclor 1232	ND		0.10	µg/wipe	1	8/14/2017 10:07 PM
Aroclor 1242	ND		0.10	µg/wipe	1	8/14/2017 10:07 PM
Aroclor 1248	ND		0.10	µg/wipe	1	8/14/2017 10:07 PM
Aroclor 1254	ND		0.10	µg/wipe	1	8/14/2017 10:07 PM
Aroclor 1260	ND		0.10	µg/wipe	1	8/14/2017 10:07 PM
Aroclor 1262	ND		0.10	µg/wipe	1	8/14/2017 10:07 PM
Aroclor 1268	ND		0.10	µg/wipe	1	8/14/2017 10:07 PM
PCBs, Total	ND		0.10	µg/wipe	1	8/14/2017 10:07 PM
Surr: Decachlorobiphenyl	*112*		*40-140*	*%REC*	1	8/14/2017 10:07 PM
Surr: Tetrachloro-m-xylene	*96.7*		*40-140*	*%REC*	1	8/14/2017 10:07 PM

Note: See Qualifiers page for a list of qualifiers and their definitions.

Client: Ramboll Environ US Corporation
Project: SMMUSD (0433980Z) **Work Order:** 1708436
Sample ID: 080717-JCES-BD-R14-W3 **Lab ID:** 1708436-14
Collection Date: 8/7/2017 01:47 PM **Matrix:** WIPE

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
PCBS			**SW8082**	Prep: EPA/600/R-07 8/14/17 16:54	Analyst: **EB**	
Aroclor 1016	ND		0.10	µg/wipe	1	8/14/2017 10:21 PM
Aroclor 1221	ND		0.10	µg/wipe	1	8/14/2017 10:21 PM
Aroclor 1232	ND		0.10	µg/wipe	1	8/14/2017 10:21 PM
Aroclor 1242	ND		0.10	µg/wipe	1	8/14/2017 10:21 PM
Aroclor 1248	ND		0.10	µg/wipe	1	8/14/2017 10:21 PM
Aroclor 1254	ND		0.10	µg/wipe	1	8/14/2017 10:21 PM
Aroclor 1260	ND		0.10	µg/wipe	1	8/14/2017 10:21 PM
Aroclor 1262	ND		0.10	µg/wipe	1	8/14/2017 10:21 PM
Aroclor 1268	ND		0.10	µg/wipe	1	8/14/2017 10:21 PM
PCBs, Total	ND		0.10	µg/wipe	1	8/14/2017 10:21 PM
Surr: Decachlorobiphenyl	*112*		*40-140*	*%REC*	1	8/14/2017 10:21 PM
Surr: Tetrachloro-m-xylene	*93.9*		*40-140*	*%REC*	1	8/14/2017 10:21 PM

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group, USA

Date: *16-Aug-17*

Client: Ramboll Environ US Corporation
Project: SMMUSD (0433980Z) **Work Order:** 1708436
Sample ID: 080717-JCES-BD-R14-W4 **Lab ID:** 1708436-15
Collection Date: 8/7/2017 01:49 PM **Matrix:** WIPE

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
PCBS			**SW8082**	Prep: EPA/600/R-07 8/14/17 16:54		Analyst: **EB**
Aroclor 1016	ND		0.10	µg/wipe	1	8/14/2017 10:35 PM
Aroclor 1221	ND		0.10	µg/wipe	1	8/14/2017 10:35 PM
Aroclor 1232	ND		0.10	µg/wipe	1	8/14/2017 10:35 PM
Aroclor 1242	ND		0.10	µg/wipe	1	8/14/2017 10:35 PM
Aroclor 1248	ND		0.10	µg/wipe	1	8/14/2017 10:35 PM
Aroclor 1254	ND		0.10	µg/wipe	1	8/14/2017 10:35 PM
Aroclor 1260	ND		0.10	µg/wipe	1	8/14/2017 10:35 PM
Aroclor 1262	ND		0.10	µg/wipe	1	8/14/2017 10:35 PM
Aroclor 1268	ND		0.10	µg/wipe	1	8/14/2017 10:35 PM
PCBs, Total	ND		0.10	µg/wipe	1	8/14/2017 10:35 PM
Surr: Decachlorobiphenyl	*104*		*40-140*	*%REC*	1	8/14/2017 10:35 PM
Surr: Tetrachloro-m-xylene	*89.6*		*40-140*	*%REC*	1	8/14/2017 10:35 PM

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group, USA

Date: *16-Aug-17*

Client: Ramboll Environ US Corporation
Project: SMMUSD (0433980Z) **Work Order:** 1708436
Sample ID: 080717-WFB-HEX **Lab ID:** 1708436-16
Collection Date: 8/7/2017 01:55 PM **Matrix:** WIPE

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
PCBS			**SW8082**	Prep: EPA/600/R-07 8/14/17 16:54		Analyst: **EB**
Aroclor 1016	ND		0.10	µg/wipe	1	8/14/2017 10:50 PM
Aroclor 1221	ND		0.10	µg/wipe	1	8/14/2017 10:50 PM
Aroclor 1232	ND		0.10	µg/wipe	1	8/14/2017 10:50 PM
Aroclor 1242	ND		0.10	µg/wipe	1	8/14/2017 10:50 PM
Aroclor 1248	ND		0.10	µg/wipe	1	8/14/2017 10:50 PM
Aroclor 1254	ND		0.10	µg/wipe	1	8/14/2017 10:50 PM
Aroclor 1260	ND		0.10	µg/wipe	1	8/14/2017 10:50 PM
Aroclor 1262	ND		0.10	µg/wipe	1	8/14/2017 10:50 PM
Aroclor 1268	ND		0.10	µg/wipe	1	8/14/2017 10:50 PM
PCBs, Total	ND		0.10	µg/wipe	1	8/14/2017 10:50 PM
Surr: Decachlorobiphenyl	*102*		*40-140*	*%REC*	1	8/14/2017 10:50 PM
Surr: Tetrachloro-m-xylene	*87.9*		*40-140*	*%REC*	1	8/14/2017 10:50 PM

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group, USA

Date: 16-Aug-17

Client: Ramboll Environ US Corporation

Work Order: 1708436

Project: SMMUSD (0433980Z)

QC BATCH REPORT

Batch ID: **105835** Instrument ID **GC14** Method: **SW8082**

MBLK Sample ID: **MBLK-105835-105835** Units: **µg/wipe** Analysis Date: **8/14/2017 06:04 PM**

Client ID: Run ID: **GC14_170814A** SeqNo: **4582551** Prep Date: **8/14/2017** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Aroclor 1016	ND	0.10								
Aroclor 1221	ND	0.10								
Aroclor 1232	ND	0.10								
Aroclor 1242	ND	0.10								
Aroclor 1248	ND	0.10								
Aroclor 1254	ND	0.10								
Aroclor 1260	ND	0.10								
Aroclor 1262	ND	0.10								
Aroclor 1268	ND	0.10								
PCBs, Total	ND	0.10								
Surr: Decachlorobiphenyl	*0.1262*	0	*0.1*	0	*126*	*50-130*	0			
Surr: Tetrachloro-m-xylene	*0.0995*	0	*0.1*	0	*99.5*	*50-130*	0			

LCS Sample ID: **LCS-105835-105835** Units: **µg/wipe** Analysis Date: **8/14/2017 06:18 PM**

Client ID: Run ID: **GC14_170814A** SeqNo: **4582553** Prep Date: **8/14/2017** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Aroclor 1016	1.074	0.10	1	0	107	50-130	0			
Aroclor 1260	1.133	0.10	1	0	113	50-130	0			
Surr: Decachlorobiphenyl	*0.1455*	0	*0.12*	0	*121*	*50-130*	0			
Surr: Tetrachloro-m-xylene	*0.1172*	0	*0.12*	0	*97.6*	*50-130*	0			

LCSD Sample ID: **LCSD-105835-105835** Units: **µg/wipe** Analysis Date: **8/14/2017 06:32 PM**

Client ID: Run ID: **GC14_170814A** SeqNo: **4582554** Prep Date: **8/14/2017** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Aroclor 1016	1.044	0.10	1	0	104	50-130	1.074	2.77	35	
Aroclor 1260	1.078	0.10	1	0	108	50-130	1.133	4.93	35	
Surr: Decachlorobiphenyl	*0.1374*	0	*0.12*	0	*114*	*50-130*	0.1455	*5.76*	*35*	
Surr: Tetrachloro-m-xylene	*0.1131*	0	*0.12*	0	*94.2*	*50-130*	0.1172	*3.54*	*35*	

The following samples were analyzed in this batch:

1708436-01A	1708436-02A	1708436-03A
1708436-04A	1708436-05A	1708436-06A
1708436-07A	1708436-08A	1708436-09A
1708436-10A	1708436-11A	1708436-12A
1708436-13A	1708436-14A	1708436-15A
1708436-16A		

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Chain of Custody Form

☐ ALS Environmental
10450 Stancliff Rd. #210
Houston, Texas 77099
(Tel) 281.530.5656
(Fax) 281.530.5887

☑ ALS Environmental
3352 128th Avenue
Holland, Michigan 49424
(Tel) 616.399.6070
(Fax) 616.399.6185

ALS Project Manager: | ALS Work Order #: 1708436

Customer Information		Project Information		Parameter/Method Request for Analysis	
Purchase Order		Project Name	SMMUSD	A	EPA 8082 for Aroclors
Work Order		Project Number	0433980Z	B	N/A
Company Name	Ramboll ENVIRON	Bill To Company	Ramboll ENVIRON	C	N/A
Send Report To	Yi Tian	Invoice Attn.	Yi Tian	D	N/A
Address	18100 Von Karman Ave. Suite 600	Address	18100 Von Karman Ave. Suite 600	E	N/A
				F	N/A
City/State/Zip	Irvine, CA 92612	City/State/Zip	Irvine, CA 92612	G	N/A
Phone	949.798.3624	Phone	949.798.3624	H	N/A
Fax	949.261.6202	Fax	949.261.6202	I	N/A
e-Mail Address	ytian@ramboll.com			J	N/A

No.	Sample Description	Date	Time	Matrix	Pres. Key Numbers	# Bottles	A	B	C	D	E	F	G	H	I	J	Hold
1	080717-JCES-BA-RTL-W1	8/7/17	1305	Wipe	8	1	PCBs										
2	080717-JCES-BA-RTL-W2	↓	1307	Wipe	8	1	PCBs										
3	080717-JCES-BA-RTL-W3		1308	Wipe	8	1	PCBs										
4	080717-JCES-BA-RTL-W4		1310	Wipe	8	1	PCBs										
5	080717-JCES-BB-R5-W1		1320	Wipe	8	1	PCBs										
6	080717-JCES-BB-R5-W2		1322	Wipe	8	1	PCBs										
7	080717-JCES-BB-R5-W3		1324	Wipe	8	1	PCBs										
8	080717-JCES-BC-R11-W1		1332	Wipe	8	1	PCBs										
9	080717-JCES-BC-R11-W2		1334	Wipe	8	1	PCBs										
10	080717-JCES-BC-R11-W3	↓	1336	Wipe	8	1	PCBs										

Sampler(s): Please Print & Sign	Shipment Method:	Turnaround Time in Business Days (BD):	Results Due Date:
J Dishon [signature]	Fed Ex	☒ 10 BD ☑ ~~5 BD~~ ☐ 3 BD ☐ 2 BD ☐ 1 BD ☐ Other ____	

Relinquished by:	Date:	Time:	Received by:	Date:	Time:	Notes:
[signature]	8/7/17	1545	FedEx			
FED EX	8/8/17	0945	Received by (Laboratory): [signature]			

Logged by (Laboratory):	Date:	Time:	Checked by (Laboratory):	ALS Cooler ID	Cooler Temp	QC Package: (Check Box Below)
DFS	8/8/17	1245	[signature]	SP2	3.8°C	☐ Level II: Standard QC ☐ Level III: Raw Data ☐ TRRP LRC ☐ TRRP Level IV ☑ Level IV: SW846 Methods/CLP like ☐ Other:

Preservative Key: 1-HCl 2-HNO_3 3-H_2SO_4 4-NaOH 5-$Na_2S_2O_3$ 6-$NaHSO_4$ 7-Other 8-None/4°C

Note: Any changes must be made in writing once samples and COC Form have been submitted to ALS.

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☐ ALS Environmental
10450 Stancliff Rd. #210
Houston, Texas 77099
(Tel) 281.530.5656
(Fax) 281.530.5887

Chain of Custody Form

Page 2 of 2

☑ ALS Environmental
3352 128th Avenue
Holland, Michigan 49424
(Tel) 616.399.6070
(Fax) 616.399.6185

ALS Project Manager: | ALS Work Order #: 1208436

Customer Information		Project Information		Parameter/Method Request for Analysis	
Purchase Order		Project Name	SMMUSD	A	EPA 8082 for Aroclors
Work Order		Project Number	0433980Z	B	N/A
Company Name	Ramboll ENVIRON	Bill To Company	Ramboll ENVIRON	C	N/A
Send Report To	YI Tian	Invoice Attn.	YI Tian	D	N/A
Address	18100 Von Karman Ave. Suite 600	Address	18100 Von Karman Ave. Suite 600	E	N/A
				F	N/A
City/State/Zip	Irvine, CA 92612	City/State/Zip	Irvine, CA 92612	G	N/A
Phone	949.798.3824	Phone	949.798.3824	H	N/A
Fax	949.261.6202	Fax	949.261.6202	I	N/A
e-Mail Address	ytian@ramboll.com			J	N/A

No.	Sample Description	Date	Time	Matrix	Pres. Key Numbers	# Bottles	A	B	C	D	E	F	G	H	I	J	Hold
1	080717-JCES-BC-R11-W4	8/7/17	1337	Wipe	8	1	PCBs										
2	080717-JCES-BD-R14-W1		1344	Wipe	8	1	PCBs										
3	080717-JCES-BD-R14-W2		1346	Wipe	8	1	PCBs										
4	080717-JCES-BD-R14-W3		1347	Wipe	8	1	PCBs										
5	080717-JCES-BD-R14-W4		1349	Wipe	8	1	PCBs										
6	080717-WFB-HEX		1355	Wipe	8	1	PCBs										
7				Wipe	8	1	PCBs										
8				Wipe	8	1	PCBs										
9				Wipe	8	1	PCBs										
10				Wipe	8	1	PCBs										

Sampler(s): Please Print & Sign: S. Dishon

Shipment Method: Fed Ex

Turnaround Time in Business Days (BD): ☒ 10 BD ☐ 5 BD ☐ 3 BD ☐ 2 BD ☐ 1 BD ☐ Other

Results Due Date:

Relinquished by:	Date:	Time:	Received by:	Date:	Time:	Notes:
	8/7/17	1545	Fed Ex			
Relinquished by: FED EX	Date: 8/8/17	Time: 0945	Received by (Laboratory):	Date:	Time:	
Logged by (Laboratory): DFS	Date: 8/8/17	Time: 1245	Checked by (Laboratory):			

ALS Cooler ID	Cooler Temp	QC Package: (Check Box Below)	
		☐ Level II: Standard QC	☐ Level III: Raw Data
SR2	3.8c	☐ TRRP LRC	☐ TRRP Level IV
		☑ Level IV: SW846 Methods/CLP like	
		☐ Other:	

Preservative Key: 1-HCl 2-HNO_3 3-H_2SO_4 4-NaOH 5-$Na_2S_2O_3$ 6-$NaHSO_4$ 7-Other 8-None/4°C

Note: Any changes must be made in writing once samples and COC Form have been submitted to ALS.

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ALS Group, USA

Sample Receipt Checklist

Client Name: **ENVIRONINT - CA** Date/Time Received: **08-Aug-17 09:45**

Work Order: **1708436** Received by: **DS**

Checklist completed by Diane Shaw (eSignature) 08-Aug-17 (Date) Reviewed by: Chad Whelton (eSignature) 09-Aug-17 (Date)

Matrices: Wipe
Carrier name: FedEx

Shipping container/cooler in good condition?	Yes ☑	No ☐	Not Present ☐
Custody seals intact on shipping container/cooler?	Yes ☑	No ☐	Not Present ☐
Custody seals intact on sample bottles?	Yes ☐	No ☐	Not Present ☑
Chain of custody present?	Yes ☑	No ☐	
Chain of custody signed when relinquished and received?	Yes ☑	No ☐	
Chain of custody agrees with sample labels?	Yes ☑	No ☐	
Samples in proper container/bottle?	Yes ☑	No ☐	
Sample containers intact?	Yes ☑	No ☐	
Sufficient sample volume for indicated test?	Yes ☑	No ☐	
All samples received within holding time?	Yes ☑	No ☐	
Container/Temp Blank temperature in compliance?	Yes ☑	No ☐	
Sample(s) received on ice?	Yes ☑	No ☐	
Temperature(s)/Thermometer(s):	3.8/3.8 c	SR2	
Cooler(s)/Kit(s):			
Date/Time sample(s) sent to storage:	8/8/2017 12:58:00 PM		
Water - VOA vials have zero headspace?	Yes ☐	No ☐	No VOA vials submitted ☑
Water - pH acceptable upon receipt?	Yes ☐	No ☐	N/A ☑
pH adjusted?	Yes ☐	No ☐	N/A ☑
pH adjusted by:	-		

Login Notes:

Client Contacted: Date Contacted: Person Contacted:

Contacted By: Regarding:

Comments:

CorrectiveAction:

DATA VALIDATION REPORT #39422B (SURFACE WIPE)
SAMPLE DATE: AUGUST 7, 2017

JCES Building A
JCES Building B
JCES Building C
JCES Building D

LABORATORY DATA CONSULTANTS, INC.
2701 Loker Ave. West, Suite 220, Carlsbad, CA 92010 Bus: 760-827-1100 Fax: 760-827-1099

Ramboll Environ
18100 Von Karman Avenue Ste. 600
Irvine, CA 92612
Attn: Ms. Yi Tian

September 25, 2017

SUBJECT: SMMUSD, 04-33980Z, Data Validation

Dear Ms. Tian

Enclosed is the final validation report for the fraction listed below. This SDG was received on September 11, 2017. Attachment 1 is a summary of the samples that were reviewed for analysis.

LDC Project #39422:

SDG #	Fraction
1708436	Polychlorinated Biphenyls

The data validation was performed under Level III guidelines. The analyses were validated using the following documents, as applicable to each method:

- USEPA, Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review, June 2008
- EPA SW 846, Third Edition, Test Methods for Evaluating Solid Waste, update 1, July 1992; update IIA, August 1993; update II, September 1994; update IIB, January 1995; update III, December 1996; update IIIA, April 1998; IIIB, November 2004; update IV, February 2007; update V, July 2014

Please feel free to contact us if you have any questions.

Sincerely,

Pei Geng
Project Manager/Senior Chemist

462 pages-DL

Attachment 1

Level III

LDC #39422 (Ramboll Environ-Irvine / SMMUSD, 04-33980Z)

LDC	SDG#	DATE REC'D	(2) DATE DUE	PCBs (8082)		PCBs (TO-10A)																															
Matrix:	Wipe/Air			W	S	A	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S
A	P1703866	09/11/17	09/25/17	-	-	13	0																														
B	1708436	09/11/17	09/25/17	16	0	-	-																														
C	1708532	09/11/17	09/25/17	16	0	-	-																														
D	1708535	09/11/17	09/25/17	4	0	-	-																														
Total	J/PG			36	0	13	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	49

Shaded cells indicate Level IV validation (all other cells are Level III validation). These sample counts do not include MS/MSD, and DUPs

V:\LOGIN\Environ (Ramboll Environ)\SMMUSD\39422ST.wpd

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name: SMMUSD

LDC Report Date: September 20, 2017

Parameters: Polychlorinated Biphenyls

Validation Level: Level III

Laboratory: ALS Environmental

Sample Delivery Group (SDG): 1708436

Sample Identification	Laboratory Sample Identification	Matrix	Collection Date
080717-JCES-BA-RTL-W1	1708436-01	Wipe	08/07/17
080717-JCES-BA-RTL-W2	1708436-02	Wipe	08/07/17
080717-JCES-BA-RTL-W3	1708436-03	Wipe	08/07/17
080717-JCES-BA-RTL-W4	1708436-04	Wipe	08/07/17
080717-JCES-BB-R5-W1	1708436-05	Wipe	08/07/17
080717-JCES-BB-R5-W2	1708436-06	Wipe	08/07/17
080717-JCES-BB-R5-W3	1708436-07	Wipe	08/07/17
080717-JCES-BC-R11-W1	1708436-08	Wipe	08/07/17
080717-JCES-BC-R11-W2	1708436-09	Wipe	08/07/17
080717-JCES-BC-R11-W3	1708436-10	Wipe	08/07/17
080717-JCES-BC-R11-W4	1708436-11	Wipe	08/07/17
080717-JCES-BD-R14-W1	1708436-12	Wipe	08/07/17
080717-JCES-BD-R14-W2	1708436-13	Wipe	08/07/17
080717-JCES-BD-R14-W3	1708436-14	Wipe	08/07/17
080717-JCES-BD-R14-W4	1708436-15	Wipe	08/07/17
080717-WFB-HEX	1708436-16	Wipe	08/07/17

Introduction

This Data Validation Report (DVR) presents data validation findings and results for the associated samples listed on the cover page. Data validation was performed in accordance with a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines (CLPNFG) for Superfund Organic Methods Data Review (June 2008). Where specific guidance was not available, the data has been evaluated in a conservative manner consistent with industry standards using professional experience.

The analyses were performed by the following method:

Polychlorinated Biphenyls (PCBs) by Environmental Protection Agency (EPA) SW 846 Method 8082

All sample results were subjected to Level III data validation, which comprises an evaluation of quality control (QC) summary results.

The following are definitions of the data qualifiers utilized during data validation:

J (Estimated): The compound or analyte was analyzed for and positively identified by the laboratory; however the reported concentration is estimated due to non-conformances discovered during data validation.

U (Non-detected): The compound or analyte was analyzed for and positively identified by the laboratory; however the analyte should be considered non-detected at the reported concentration due to the presence of contaminants detected in the associated blank(s).

UJ (Non-detected estimated): The compound or analyte was reported as not detected by the laboratory; however the reported quantitation/detection limit is estimated due to non-conformances discovered during data validation.

R (Rejected): The sample results were rejected due to gross non-conformances discovered during data validation. Data qualified as rejected is not usable.

NA (Not Applicable): The non-conformance discovered during data validation demonstrates a high bias, while the affected compound or analyte in the associated sample(s) was reported as not detected by the laboratory and did not warrant the qualification of the data.

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

I. Sample Receipt and Technical Holding Times

All samples were received in good condition and cooler temperatures upon receipt met validation criteria.

All technical holding time requirements were met.

II. Initial Calibration and Initial Calibration Verification

An initial calibration was performed as required by the method.

The percent relative standard deviations (%RSD) were less than or equal to 20.0% for all compounds.

The percent differences (%D) of the initial calibration verification (ICV) standard were less than or equal to 20.0% for all compounds.

III. Continuing Calibration

Continuing calibration was performed at required frequencies.

The percent differences (%D) were less than or equal to 20.0% for all compounds.

IV. Laboratory Blanks

Laboratory blanks were analyzed as required by the method. No contaminants were found in the laboratory blanks.

V. Field Blanks

Sample 080717-WFB-HEX was identified as a field blank. No contaminants were found.

VI. Surrogates

Surrogates were added to all samples as required by the method. All surrogate recoveries (%R) were within QC limits.

VII. Matrix Spike/Matrix Spike Duplicates

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

VIII. Laboratory Control Samples

Laboratory control samples (LCS) and laboratory control samples duplicates (LCSD) were analyzed as required by the method. Percent recoveries (%R) were within QC limits. Relative percent differences (RPD) were within QC limits.

IX. Field Duplicates

No field duplicates were identified in this SDG.

X. Compound Quantitation

Raw data were not reviewed for Level III validation.

XI. Target Compound Identification

Raw data were not reviewed for Level III validation.

XII. Overall Assessment of Data

The analysis was conducted within all specifications of the method. No results were rejected in this SDG.

The quality control criteria reviewed were met and are considered acceptable. Based upon the data validation all results are considered valid and usable for all purposes.

SMMUSD
Polychlorinated Biphenyls - Data Qualification Summary - SDG 1708436

No Sample Data Qualified in this SDG

SMMUSD
Polychlorinated Biphenyls - Laboratory Blank Data Qualification Summary - SDG 1708436

No Sample Data Qualified in this SDG

SMMUSD
Polychlorinated Biphenyls - Field Blank Data Qualification Summary - SDG 1708436

No Sample Data Qualified in this SDG

LDC #: 39422B3b
SDG #: 1708436
Laboratory: ALS Environmental

VALIDATION COMPLETENESS WORKSHEET
Level III

Date: 09/16/17
Page: 1 of 1
Reviewer: SW
2nd Reviewer: [illegible]

METHOD: GC Polychlorinated Biphenyls (EPA SW846 Method 8082)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Sample receipt/Technical holding times	A / A	
II.	GC Instrument Performance Check	N	
III.	Initial calibration/ICV	A / A	ICAL ≤ 20% ICV ≤ 20%
IV.	Continuing calibration	A	CCV ≤ 20%
V.	Laboratory Blanks	A	
VI.	Field blanks	ND	FB = 16
VII.	Surrogate spikes	A	
VIII.	Matrix spike/Matrix spike duplicates	N	CS
IX.	Laboratory control samples	A	LCS/D
X.	Field duplicates	N	
XI.	Compound quantitation/RL/LOQ/LODs	N	
XII.	Target compound identification	N	
XIII	Overall assessment of data	A	

Note: A = Acceptable
N = Not provided/applicable
SW = See worksheet
ND = No compounds detected
R = Rinsate
FB = Field blank
D = Duplicate
TB = Trip blank
EB = Equipment blank
OTHER:

	Client ID	Lab ID	Matrix	Date
1	080717-JCES-BA-RTL-W1	1708436-01	Wipe	08/07/17
2	080717-JCES-BA-RTL-W2	1708436-02	Wipe	08/07/17
3	080717-JCES-BA-RTL-W3	1708436-03	Wipe	08/07/17
4	080717-JCES-BA-RTL-W4	1708436-04	Wipe	08/07/17
5	080717-JCES-BB-R5-W1	1708436-05	Wipe	08/07/17
6	080717-JCES-BB-R5-W2	1708436-06	Wipe	08/07/17
7	080717-JCES-BB-R5-W3	1708436-07	Wipe	08/07/17
8	080717-JCES-BC-R11-W1	1708436-08	Wipe	08/07/17
9	080717-JCES-BC-R11-W2	1708436-09	Wipe	08/07/17
10	080717-JCES-BC-R11-W3	1708436-10	Wipe	08/07/17
11	080717-JCES-BC-R11-W4	1708436-11	Wipe	08/07/17
12	080717-JCES-BD-R14-W1	1708436-12	Wipe	08/07/17
13	080717-JCES-BD-R14-W2	1708436-13	Wipe	08/07/17
14	080717-JCES-BD-R14-W3	1708436-14	Wipe	08/07/17
15	080717-JCES-BD-R14-W4	1708436-15	Wipe	08/07/17
16	080717-WFB-HEX	1708436-16	Wipe	08/07/17

- MBlk- 105835

LABORATORY REPORT #1708532 (SURFACE WIPE)
SAMPLE DATE: AUGUST 8, 2017

MHS Building D (100/200, Mako Shark)
MHS Building H (Cafeteria/Auditorium)
MHS Building J (700, Old Gymnasium)

17-Aug-2017

Yi Tian
Ramboll Environ US Corporation
18100 VonKarman Ave.
Suite 600
Irvine, CA 92612

Re: **SMMUSD (0433980Z)** Work Order: **1708532**

Dear Yi,

ALS Environmental received 16 samples on 09-Aug-2017 09:30 AM for the analyses presented in the following report.

The analytical data provided relates directly to the samples received by ALS Environmental and for only the analyses requested.

Sample results are compliant with industry accepted practices and Quality Control results achieved laboratory specifications. Any exceptions are noted in the Case Narrative, or noted with qualifiers in the report or QC batch information. Should this laboratory report need to be reproduced, it should be reproduced in full unless written approval has been obtained from ALS Environmental. Samples will be disposed in 30 days unless storage arrangements are made.

The total number of pages in this report is 23.

If you have any questions regarding this report, please feel free to contact me.

Sincerely,

Electronically approved by: Chad Whelton

Chad Whelton
Project Manager

Certificate No: MN 998501

ADDRESS 3352 128th Ave Holland, Michigan 49424 | PHONE (616) 399-6070 | FAX (616) 399-6185
ALS GROUP USA, CORP Part of the ALS Laboratory Group A Campbell Brothers Limited Company

Environmental www.alsglobal.com
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ALS Group, USA

Date: 17-Aug-17

Client: Ramboll Environ US Corporation
Project: SMMUSD (0433980Z)
Work Order: **1708532**

Work Order Sample Summary

Lab Samp ID	Client Sample ID	Matrix	Tag Number	Collection Date	Date Received	Hold
1708532-01	080817-MHS-BH-R605A-W1	Wipe		8/8/2017 07:54	8/9/2017 09:30	☐
1708532-02	080817-MHS-BH-R605A-W2	Wipe		8/8/2017 07:56	8/9/2017 09:30	☐
1708532-03	080817-MHS-BH-R605A-W3	Wipe		8/8/2017 07:57	8/9/2017 09:30	☐
1708532-04	080817-MHS-BH-R605A-W4	Wipe		8/8/2017 07:59	8/9/2017 09:30	☐
1708532-05	080817-MHS-B200-R212-W1	Wipe		8/8/2017 08:15	8/9/2017 09:30	☐
1708532-06	080817-MHS-B200-R212-W2	Wipe		8/8/2017 08:16	8/9/2017 09:30	☐
1708532-07	080817-MHS-B200-R212-W3	Wipe		8/8/2017 08:18	8/9/2017 09:30	☐
1708532-08	080817-MHS-B200-R212-W4	Wipe		8/8/2017 08:20	8/9/2017 09:30	☐
1708532-09	080817-MHS-B700-R704-W1	Wipe		8/8/2017 11:00	8/9/2017 09:30	☐
1708532-10	080817-MHS-B700-R704-W2	Wipe		8/8/2017 11:02	8/9/2017 09:30	☐
1708532-11	080817-MHS-B700-R704-W3	Wipe		8/8/2017 11:04	8/9/2017 09:30	☐
1708532-12	080817-MHS-B700-R705-W1	Wipe		8/8/2017 11:10	8/9/2017 09:30	☐
1708532-13	080817-MHS-B700-R705-W2	Wipe		8/8/2017 11:12	8/9/2017 09:30	☐
1708532-14	080817-MHS-B700-R705-W3	Wipe		8/8/2017 11:13	8/9/2017 09:30	☐
1708532-15	080817-MHS-B700-R705-W4	Wipe		8/8/2017 11:15	8/9/2017 09:30	☐
1708532-16	080817-WFB-HEX	Wipe		8/8/2017 12:00	8/9/2017 09:30	☐

ALS Group, USA

Date: 17-Aug-17

Client: Ramboll Environ US Corporation
Project: SMMUSD (0433980Z)
WorkOrder: **1708532**

QUALIFIERS, ACRONYMS, UNITS

Qualifier	Description
*	Value exceeds Regulatory Limit
**	Estimated Value
a	Analyte is non-accredited
B	Analyte detected in the associated Method Blank above the Reporting Limit
E	Value above quantitation range
H	Analyzed outside of Holding Time
J	Analyte is present at an estimated concentration between the MDL and Report Limit
ND	Not Detected at the Reporting Limit
O	Sample amount is > 4 times amount spiked
P	Dual Column results percent difference > 40%
R	RPD above laboratory control limit
S	Spike Recovery outside laboratory control limits
U	Analyzed but not detected above the MDL
X	Analyte was detected in the Method Blank between the MDL and Reporting Limit, sample results may exhibit background or reagent contamination at the observed level.

Acronym	Description
DUP	Method Duplicate
LCS	Laboratory Control Sample
LCSD	Laboratory Control Sample Duplicate
LOD	Limit of Detection (see MDL)
LOQ	Limit of Quantitation (see PQL)
MBLK	Method Blank
MDL	Method Detection Limit
MS	Matrix Spike
MSD	Matrix Spike Duplicate
PQL	Practical Quantitation Limit
RPD	Relative Percent Difference
TDL	Target Detection Limit
TNTC	Too Numerous To Count
A	APHA Standard Methods
D	ASTM
E	EPA
SW	SW-846 Update III

Units Reported	Description
µg/wipe	Micrograms per Wipe

ALS Group, USA

Date: *17-Aug-17*

Client: Ramboll Environ US Corporation
Project: SMMUSD (0433980Z) **Work Order:** 1708532
Sample ID: 080817-MHS-BH-R605A-W1 **Lab ID:** 1708532-01
Collection Date: 8/8/2017 07:54 AM **Matrix:** WIPE

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
PCBS			**SW8082**	Prep: EPA/600/R-07 8/15/17 15:07	Analyst: **EB**	
Aroclor 1016	ND		0.10	µg/wipe	1	8/16/2017 06:10 PM
Aroclor 1221	ND		0.10	µg/wipe	1	8/16/2017 06:10 PM
Aroclor 1232	ND		0.10	µg/wipe	1	8/16/2017 06:10 PM
Aroclor 1242	ND		0.10	µg/wipe	1	8/16/2017 06:10 PM
Aroclor 1248	ND		0.10	µg/wipe	1	8/16/2017 06:10 PM
Aroclor 1254	ND		0.10	µg/wipe	1	8/16/2017 06:10 PM
Aroclor 1260	ND		0.10	µg/wipe	1	8/16/2017 06:10 PM
Aroclor 1262	ND		0.10	µg/wipe	1	8/16/2017 06:10 PM
Aroclor 1268	ND		0.10	µg/wipe	1	8/16/2017 06:10 PM
PCBs, Total	ND		0.10	µg/wipe	1	8/16/2017 06:10 PM
Surr: Decachlorobiphenyl	*92.2*		*40-140*	*%REC*	1	8/16/2017 06:10 PM
Surr: Tetrachloro-m-xylene	*81.6*		*40-140*	*%REC*	1	8/16/2017 06:10 PM

Note: See Qualifiers page for a list of qualifiers and their definitions.

Client: Ramboll Environ US Corporation
Project: SMMUSD (0433980Z) **Work Order:** 1708532
Sample ID: 080817-MHS-BH-R605A-W2 **Lab ID:** 1708532-02
Collection Date: 8/8/2017 07:56 AM **Matrix:** WIPE

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
PCBS			**SW8082**	Prep: EPA/600/R-07 8/15/17 15:07	Analyst: **EB**	
Aroclor 1016	ND		0.10	µg/wipe	1	8/16/2017 06:25 PM
Aroclor 1221	ND		0.10	µg/wipe	1	8/16/2017 06:25 PM
Aroclor 1232	ND		0.10	µg/wipe	1	8/16/2017 06:25 PM
Aroclor 1242	ND		0.10	µg/wipe	1	8/16/2017 06:25 PM
Aroclor 1248	ND		0.10	µg/wipe	1	8/16/2017 06:25 PM
Aroclor 1254	ND		0.10	µg/wipe	1	8/16/2017 06:25 PM
Aroclor 1260	ND		0.10	µg/wipe	1	8/16/2017 06:25 PM
Aroclor 1262	ND		0.10	µg/wipe	1	8/16/2017 06:25 PM
Aroclor 1268	ND		0.10	µg/wipe	1	8/16/2017 06:25 PM
PCBs, Total	ND		0.10	µg/wipe	1	8/16/2017 06:25 PM
Surr: Decachlorobiphenyl	*95.2*		*40-140*	*%REC*	1	8/16/2017 06:25 PM
Surr: Tetrachloro-m-xylene	*85.8*		*40-140*	*%REC*	1	8/16/2017 06:25 PM

Note: See Qualifiers page for a list of qualifiers and their definitions.

Client: Ramboll Environ US Corporation
Project: SMMUSD (0433980Z) **Work Order:** 1708532
Sample ID: 080817-MHS-BH-R605A-W3 **Lab ID:** 1708532-03
Collection Date: 8/8/2017 07:57 AM **Matrix:** WIPE

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
PCBS			**SW8082**	Prep: EPA/600/R-07 8/15/17 15:07	Analyst: **EB**	
Aroclor 1016	ND		0.10	µg/wipe	1	8/16/2017 06:39 PM
Aroclor 1221	ND		0.10	µg/wipe	1	8/16/2017 06:39 PM
Aroclor 1232	ND		0.10	µg/wipe	1	8/16/2017 06:39 PM
Aroclor 1242	ND		0.10	µg/wipe	1	8/16/2017 06:39 PM
Aroclor 1248	ND		0.10	µg/wipe	1	8/16/2017 06:39 PM
Aroclor 1254	ND		0.10	µg/wipe	1	8/16/2017 06:39 PM
Aroclor 1260	ND		0.10	µg/wipe	1	8/16/2017 06:39 PM
Aroclor 1262	ND		0.10	µg/wipe	1	8/16/2017 06:39 PM
Aroclor 1268	ND		0.10	µg/wipe	1	8/16/2017 06:39 PM
PCBs, Total	ND		0.10	µg/wipe	1	8/16/2017 06:39 PM
Surr: Decachlorobiphenyl	*97.6*		*40-140*	*%REC*	1	8/16/2017 06:39 PM
Surr: Tetrachloro-m-xylene	*88.9*		*40-140*	*%REC*	1	8/16/2017 06:39 PM

Note: See Qualifiers page for a list of qualifiers and their definitions.

Client: Ramboll Environ US Corporation
Project: SMMUSD (0433980Z) **Work Order:** 1708532
Sample ID: 080817-MHS-BH-R605A-W4 **Lab ID:** 1708532-04
Collection Date: 8/8/2017 07:59 AM **Matrix:** WIPE

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
PCBS			**SW8082**	Prep: EPA/600/R-07 8/15/17 15:07	Analyst: **EB**	
Aroclor 1016	ND		0.10	µg/wipe	1	8/16/2017 06:53 PM
Aroclor 1221	ND		0.10	µg/wipe	1	8/16/2017 06:53 PM
Aroclor 1232	ND		0.10	µg/wipe	1	8/16/2017 06:53 PM
Aroclor 1242	ND		0.10	µg/wipe	1	8/16/2017 06:53 PM
Aroclor 1248	ND		0.10	µg/wipe	1	8/16/2017 06:53 PM
Aroclor 1254	ND		0.10	µg/wipe	1	8/16/2017 06:53 PM
Aroclor 1260	ND		0.10	µg/wipe	1	8/16/2017 06:53 PM
Aroclor 1262	ND		0.10	µg/wipe	1	8/16/2017 06:53 PM
Aroclor 1268	ND		0.10	µg/wipe	1	8/16/2017 06:53 PM
PCBs, Total	ND		0.10	µg/wipe	1	8/16/2017 06:53 PM
Surr: Decachlorobiphenyl	*92.0*		*40-140*	*%REC*	1	8/16/2017 06:53 PM
Surr: Tetrachloro-m-xylene	*84.2*		*40-140*	*%REC*	1	8/16/2017 06:53 PM

Note: See Qualifiers page for a list of qualifiers and their definitions.

Client: Ramboll Environ US Corporation
Project: SMMUSD (0433980Z) **Work Order:** 1708532
Sample ID: 080817-MHS-B200-R212-W1 **Lab ID:** 1708532-05
Collection Date: 8/8/2017 08:15 AM **Matrix:** WIPE

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
PCBS			**SW8082**	Prep: EPA/600/R-07 8/15/17 15:07	Analyst: **EB**	
Aroclor 1016	ND		0.10	µg/wipe	1	8/16/2017 07:08 PM
Aroclor 1221	ND		0.10	µg/wipe	1	8/16/2017 07:08 PM
Aroclor 1232	ND		0.10	µg/wipe	1	8/16/2017 07:08 PM
Aroclor 1242	ND		0.10	µg/wipe	1	8/16/2017 07:08 PM
Aroclor 1248	ND		0.10	µg/wipe	1	8/16/2017 07:08 PM
Aroclor 1254	ND		0.10	µg/wipe	1	8/16/2017 07:08 PM
Aroclor 1260	ND		0.10	µg/wipe	1	8/16/2017 07:08 PM
Aroclor 1262	ND		0.10	µg/wipe	1	8/16/2017 07:08 PM
Aroclor 1268	ND		0.10	µg/wipe	1	8/16/2017 07:08 PM
PCBs, Total	ND		0.10	µg/wipe	1	8/16/2017 07:08 PM
Surr: Decachlorobiphenyl	*90.7*		*40-140*	*%REC*	1	8/16/2017 07:08 PM
Surr: Tetrachloro-m-xylene	*88.8*		*40-140*	*%REC*	1	8/16/2017 07:08 PM

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group, USA

Date: *17-Aug-17*

Client: Ramboll Environ US Corporation
Project: SMMUSD (0433980Z) **Work Order:** 1708532
Sample ID: 080817-MHS-B200-R212-W2 **Lab ID:** 1708532-06
Collection Date: 8/8/2017 08:16 AM **Matrix:** WIPE

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
PCBS			**SW8082**	Prep: EPA/600/R-07 8/15/17 15:07	Analyst: **EB**	
Aroclor 1016	ND		0.10	µg/wipe	1	8/16/2017 07:22 PM
Aroclor 1221	ND		0.10	µg/wipe	1	8/16/2017 07:22 PM
Aroclor 1232	ND		0.10	µg/wipe	1	8/16/2017 07:22 PM
Aroclor 1242	ND		0.10	µg/wipe	1	8/16/2017 07:22 PM
Aroclor 1248	ND		0.10	µg/wipe	1	8/16/2017 07:22 PM
Aroclor 1254	ND		0.10	µg/wipe	1	8/16/2017 07:22 PM
Aroclor 1260	ND		0.10	µg/wipe	1	8/16/2017 07:22 PM
Aroclor 1262	ND		0.10	µg/wipe	1	8/16/2017 07:22 PM
Aroclor 1268	ND		0.10	µg/wipe	1	8/16/2017 07:22 PM
PCBs, Total	ND		0.10	µg/wipe	1	8/16/2017 07:22 PM
Surr: Decachlorobiphenyl	*92.9*		*40-140*	*%REC*	1	8/16/2017 07:22 PM
Surr: Tetrachloro-m-xylene	*86.6*		*40-140*	*%REC*	1	8/16/2017 07:22 PM

Note: See Qualifiers page for a list of qualifiers and their definitions.

Client: Ramboll Environ US Corporation
Project: SMMUSD (0433980Z) **Work Order:** 1708532
Sample ID: 080817-MHS-B200-R212-W3 **Lab ID:** 1708532-07
Collection Date: 8/8/2017 08:18 AM **Matrix:** WIPE

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
PCBS			**SW8082**	Prep: EPA/600/R-07 8/15/17 15:07	Analyst: **EB**	
Aroclor 1016	ND		0.10	µg/wipe	1	8/16/2017 07:36 PM
Aroclor 1221	ND		0.10	µg/wipe	1	8/16/2017 07:36 PM
Aroclor 1232	ND		0.10	µg/wipe	1	8/16/2017 07:36 PM
Aroclor 1242	ND		0.10	µg/wipe	1	8/16/2017 07:36 PM
Aroclor 1248	ND		0.10	µg/wipe	1	8/16/2017 07:36 PM
Aroclor 1254	ND		0.10	µg/wipe	1	8/16/2017 07:36 PM
Aroclor 1260	ND		0.10	µg/wipe	1	8/16/2017 07:36 PM
Aroclor 1262	ND		0.10	µg/wipe	1	8/16/2017 07:36 PM
Aroclor 1268	ND		0.10	µg/wipe	1	8/16/2017 07:36 PM
PCBs, Total	ND		0.10	µg/wipe	1	8/16/2017 07:36 PM
Surr: Decachlorobiphenyl	*96.4*		*40-140*	*%REC*	1	8/16/2017 07:36 PM
Surr: Tetrachloro-m-xylene	*84.8*		*40-140*	*%REC*	1	8/16/2017 07:36 PM

Note: See Qualifiers page for a list of qualifiers and their definitions.

Client: Ramboll Environ US Corporation
Project: SMMUSD (0433980Z) **Work Order:** 1708532
Sample ID: 080817-MHS-B200-R212-W4 **Lab ID:** 1708532-08
Collection Date: 8/8/2017 08:20 AM **Matrix:** WIPE

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
PCBS			**SW8082**	Prep: EPA/600/R-07 8/15/17 15:07	Analyst: **EB**	
Aroclor 1016	ND		0.10	µg/wipe	1	8/16/2017 08:19 PM
Aroclor 1221	ND		0.10	µg/wipe	1	8/16/2017 08:19 PM
Aroclor 1232	ND		0.10	µg/wipe	1	8/16/2017 08:19 PM
Aroclor 1242	ND		0.10	µg/wipe	1	8/16/2017 08:19 PM
Aroclor 1248	ND		0.10	µg/wipe	1	8/16/2017 08:19 PM
Aroclor 1254	ND		0.10	µg/wipe	1	8/16/2017 08:19 PM
Aroclor 1260	ND		0.10	µg/wipe	1	8/16/2017 08:19 PM
Aroclor 1262	ND		0.10	µg/wipe	1	8/16/2017 08:19 PM
Aroclor 1268	ND		0.10	µg/wipe	1	8/16/2017 08:19 PM
PCBs, Total	ND		0.10	µg/wipe	1	8/16/2017 08:19 PM
Surr: Decachlorobiphenyl	*96.5*		*40-140*	*%REC*	1	8/16/2017 08:19 PM
Surr: Tetrachloro-m-xylene	*86.1*		*40-140*	*%REC*	1	8/16/2017 08:19 PM

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group, USA

Date: *17-Aug-17*

Client: Ramboll Environ US Corporation
Project: SMMUSD (0433980Z) **Work Order:** 1708532
Sample ID: 080817-MHS-B700-R704-W1 **Lab ID:** 1708532-09
Collection Date: 8/8/2017 11:00 AM **Matrix:** WIPE

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
PCBS			**SW8082**	Prep: EPA/600/R-07 8/15/17 15:07	Analyst: **EB**	
Aroclor 1016	ND		0.10	µg/wipe	1	8/16/2017 08:33 PM
Aroclor 1221	ND		0.10	µg/wipe	1	8/16/2017 08:33 PM
Aroclor 1232	ND		0.10	µg/wipe	1	8/16/2017 08:33 PM
Aroclor 1242	ND		0.10	µg/wipe	1	8/16/2017 08:33 PM
Aroclor 1248	ND		0.10	µg/wipe	1	8/16/2017 08:33 PM
Aroclor 1254	ND		0.10	µg/wipe	1	8/16/2017 08:33 PM
Aroclor 1260	ND		0.10	µg/wipe	1	8/16/2017 08:33 PM
Aroclor 1262	ND		0.10	µg/wipe	1	8/16/2017 08:33 PM
Aroclor 1268	ND		0.10	µg/wipe	1	8/16/2017 08:33 PM
PCBs, Total	ND		0.10	µg/wipe	1	8/16/2017 08:33 PM
Surr: Decachlorobiphenyl	*91.5*		*40-140*	*%REC*	1	8/16/2017 08:33 PM
Surr: Tetrachloro-m-xylene	*86.7*		*40-140*	*%REC*	1	8/16/2017 08:33 PM

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group, USA

Date: *17-Aug-17*

Client: Ramboll Environ US Corporation
Project: SMMUSD (0433980Z) **Work Order:** 1708532
Sample ID: 080817-MHS-B700-R704-W2 **Lab ID:** 1708532-10
Collection Date: 8/8/2017 11:02 AM **Matrix:** WIPE

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
PCBS			**SW8082**	Prep: EPA/600/R-07 8/15/17 15:07	Analyst: **EB**	
Aroclor 1016	ND		0.10	µg/wipe	1	8/16/2017 08:48 PM
Aroclor 1221	ND		0.10	µg/wipe	1	8/16/2017 08:48 PM
Aroclor 1232	ND		0.10	µg/wipe	1	8/16/2017 08:48 PM
Aroclor 1242	ND		0.10	µg/wipe	1	8/16/2017 08:48 PM
Aroclor 1248	ND		0.10	µg/wipe	1	8/16/2017 08:48 PM
Aroclor 1254	ND		0.10	µg/wipe	1	8/16/2017 08:48 PM
Aroclor 1260	ND		0.10	µg/wipe	1	8/16/2017 08:48 PM
Aroclor 1262	ND		0.10	µg/wipe	1	8/16/2017 08:48 PM
Aroclor 1268	ND		0.10	µg/wipe	1	8/16/2017 08:48 PM
PCBs, Total	ND		0.10	µg/wipe	1	8/16/2017 08:48 PM
Surr: Decachlorobiphenyl	*101*		*40-140*	*%REC*	1	8/16/2017 08:48 PM
Surr: Tetrachloro-m-xylene	*92.0*		*40-140*	*%REC*	1	8/16/2017 08:48 PM

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group, USA

Date: *17-Aug-17*

Client: Ramboll Environ US Corporation
Project: SMMUSD (0433980Z) **Work Order:** 1708532
Sample ID: 080817-MHS-B700-R704-W3 **Lab ID:** 1708532-11
Collection Date: 8/8/2017 11:04 AM **Matrix:** WIPE

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
PCBS			**SW8082**	Prep: EPA/600/R-07 8/15/17 15:07		Analyst: **EB**
Aroclor 1016	ND		0.10	µg/wipe	1	8/16/2017 09:03 PM
Aroclor 1221	ND		0.10	µg/wipe	1	8/16/2017 09:03 PM
Aroclor 1232	ND		0.10	µg/wipe	1	8/16/2017 09:03 PM
Aroclor 1242	ND		0.10	µg/wipe	1	8/16/2017 09:03 PM
Aroclor 1248	ND		0.10	µg/wipe	1	8/16/2017 09:03 PM
Aroclor 1254	ND		0.10	µg/wipe	1	8/16/2017 09:03 PM
Aroclor 1260	ND		0.10	µg/wipe	1	8/16/2017 09:03 PM
Aroclor 1262	ND		0.10	µg/wipe	1	8/16/2017 09:03 PM
Aroclor 1268	ND		0.10	µg/wipe	1	8/16/2017 09:03 PM
PCBs, Total	ND		0.10	µg/wipe	1	8/16/2017 09:03 PM
Surr: Decachlorobiphenyl	*99.1*		*40-140*	*%REC*	1	8/16/2017 09:03 PM
Surr: Tetrachloro-m-xylene	*85.4*		*40-140*	*%REC*	1	8/16/2017 09:03 PM

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group, USA

Date: *17-Aug-17*

Client: Ramboll Environ US Corporation
Project: SMMUSD (0433980Z) **Work Order:** 1708532
Sample ID: 080817-MHS-B700-R705-W1 **Lab ID:** 1708532-12
Collection Date: 8/8/2017 11:10 AM **Matrix:** WIPE

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
PCBS			**SW8082**	Prep: EPA/600/R-07 8/15/17 15:07		Analyst: **EB**
Aroclor 1016	ND		0.10	µg/wipe	1	8/16/2017 09:17 PM
Aroclor 1221	ND		0.10	µg/wipe	1	8/16/2017 09:17 PM
Aroclor 1232	ND		0.10	µg/wipe	1	8/16/2017 09:17 PM
Aroclor 1242	ND		0.10	µg/wipe	1	8/16/2017 09:17 PM
Aroclor 1248	ND		0.10	µg/wipe	1	8/16/2017 09:17 PM
Aroclor 1254	ND		0.10	µg/wipe	1	8/16/2017 09:17 PM
Aroclor 1260	ND		0.10	µg/wipe	1	8/16/2017 09:17 PM
Aroclor 1262	ND		0.10	µg/wipe	1	8/16/2017 09:17 PM
Aroclor 1268	ND		0.10	µg/wipe	1	8/16/2017 09:17 PM
PCBs, Total	ND		0.10	µg/wipe	1	8/16/2017 09:17 PM
Surr: Decachlorobiphenyl	*91.6*		*40-140*	*%REC*	1	8/16/2017 09:17 PM
Surr: Tetrachloro-m-xylene	*86.9*		*40-140*	*%REC*	1	8/16/2017 09:17 PM

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group, USA

Date: *17-Aug-17*

Client: Ramboll Environ US Corporation
Project: SMMUSD (0433980Z)
Work Order: 1708532
Sample ID: 080817-MHS-B700-R705-W2
Lab ID: 1708532-13
Collection Date: 8/8/2017 11:12 AM
Matrix: WIPE

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
PCBS			**SW8082**	Prep: EPA/600/R-07 8/15/17 15:07	Analyst: **EB**	
Aroclor 1016	ND		0.10	µg/wipe	1	8/16/2017 09:31 PM
Aroclor 1221	ND		0.10	µg/wipe	1	8/16/2017 09:31 PM
Aroclor 1232	ND		0.10	µg/wipe	1	8/16/2017 09:31 PM
Aroclor 1242	ND		0.10	µg/wipe	1	8/16/2017 09:31 PM
Aroclor 1248	ND		0.10	µg/wipe	1	8/16/2017 09:31 PM
Aroclor 1254	ND		0.10	µg/wipe	1	8/16/2017 09:31 PM
Aroclor 1260	ND		0.10	µg/wipe	1	8/16/2017 09:31 PM
Aroclor 1262	ND		0.10	µg/wipe	1	8/16/2017 09:31 PM
Aroclor 1268	ND		0.10	µg/wipe	1	8/16/2017 09:31 PM
PCBs, Total	ND		0.10	µg/wipe	1	8/16/2017 09:31 PM
Surr: Decachlorobiphenyl	*102*		*40-140*	*%REC*	1	8/16/2017 09:31 PM
Surr: Tetrachloro-m-xylene	*86.0*		*40-140*	*%REC*	1	8/16/2017 09:31 PM

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group, USA

Date: *17-Aug-17*

Client: Ramboll Environ US Corporation
Project: SMMUSD (0433980Z)
Work Order: 1708532
Sample ID: 080817-MHS-B700-R705-W3
Lab ID: 1708532-14
Collection Date: 8/8/2017 11:13 AM
Matrix: WIPE

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
PCBS			**SW8082**	Prep: EPA/600/R-07 8/15/17 15:07		Analyst: **EB**
Aroclor 1016	ND		0.10	µg/wipe	1	8/16/2017 09:45 PM
Aroclor 1221	ND		0.10	µg/wipe	1	8/16/2017 09:45 PM
Aroclor 1232	ND		0.10	µg/wipe	1	8/16/2017 09:45 PM
Aroclor 1242	ND		0.10	µg/wipe	1	8/16/2017 09:45 PM
Aroclor 1248	ND		0.10	µg/wipe	1	8/16/2017 09:45 PM
Aroclor 1254	ND		0.10	µg/wipe	1	8/16/2017 09:45 PM
Aroclor 1260	ND		0.10	µg/wipe	1	8/16/2017 09:45 PM
Aroclor 1262	ND		0.10	µg/wipe	1	8/16/2017 09:45 PM
Aroclor 1268	ND		0.10	µg/wipe	1	8/16/2017 09:45 PM
PCBs, Total	ND		0.10	µg/wipe	1	8/16/2017 09:45 PM
Surr: Decachlorobiphenyl	*102*		*40-140*	*%REC*	1	8/16/2017 09:45 PM
Surr: Tetrachloro-m-xylene	*85.3*		*40-140*	*%REC*	1	8/16/2017 09:45 PM

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group, USA

Date: *17-Aug-17*

Client: Ramboll Environ US Corporation
Project: SMMUSD (0433980Z)
Work Order: 1708532
Sample ID: 080817-MHS-B700-R705-W4
Lab ID: 1708532-15
Collection Date: 8/8/2017 11:15 AM
Matrix: WIPE

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
PCBS			**SW8082**	Prep: EPA/600/R-07 8/15/17 15:07	Analyst: **EB**	
Aroclor 1016	ND		0.10	µg/wipe	1	8/16/2017 10:00 PM
Aroclor 1221	ND		0.10	µg/wipe	1	8/16/2017 10:00 PM
Aroclor 1232	ND		0.10	µg/wipe	1	8/16/2017 10:00 PM
Aroclor 1242	ND		0.10	µg/wipe	1	8/16/2017 10:00 PM
Aroclor 1248	ND		0.10	µg/wipe	1	8/16/2017 10:00 PM
Aroclor 1254	ND		0.10	µg/wipe	1	8/16/2017 10:00 PM
Aroclor 1260	ND		0.10	µg/wipe	1	8/16/2017 10:00 PM
Aroclor 1262	ND		0.10	µg/wipe	1	8/16/2017 10:00 PM
Aroclor 1268	ND		0.10	µg/wipe	1	8/16/2017 10:00 PM
PCBs, Total	ND		0.10	µg/wipe	1	8/16/2017 10:00 PM
Surr: Decachlorobiphenyl	*94.7*		*40-140*	*%REC*	1	8/16/2017 10:00 PM
Surr: Tetrachloro-m-xylene	*89.6*		*40-140*	*%REC*	1	8/16/2017 10:00 PM

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group, USA

Date: *17-Aug-17*

Client: Ramboll Environ US Corporation
Project: SMMUSD (0433980Z) **Work Order:** 1708532
Sample ID: 080817-WFB-HEX **Lab ID:** 1708532-16
Collection Date: 8/8/2017 12:00 PM **Matrix:** WIPE

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
PCBS			**SW8082**	Prep: EPA/600/R-07 8/15/17 15:07		Analyst: **EB**
Aroclor 1016	ND		0.10	µg/wipe	1	8/16/2017 10:14 PM
Aroclor 1221	ND		0.10	µg/wipe	1	8/16/2017 10:14 PM
Aroclor 1232	ND		0.10	µg/wipe	1	8/16/2017 10:14 PM
Aroclor 1242	ND		0.10	µg/wipe	1	8/16/2017 10:14 PM
Aroclor 1248	ND		0.10	µg/wipe	1	8/16/2017 10:14 PM
Aroclor 1254	ND		0.10	µg/wipe	1	8/16/2017 10:14 PM
Aroclor 1260	ND		0.10	µg/wipe	1	8/16/2017 10:14 PM
Aroclor 1262	ND		0.10	µg/wipe	1	8/16/2017 10:14 PM
Aroclor 1268	ND		0.10	µg/wipe	1	8/16/2017 10:14 PM
PCBs, Total	ND		0.10	µg/wipe	1	8/16/2017 10:14 PM
Surr: Decachlorobiphenyl	*90.6*		*40-140*	*%REC*	1	8/16/2017 10:14 PM
Surr: Tetrachloro-m-xylene	*90.8*		*40-140*	*%REC*	1	8/16/2017 10:14 PM

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group, USA

Date: 17-Aug-17

Client: Ramboll Environ US Corporation

Work Order: 1708532

Project: SMMUSD (0433980Z)

QC BATCH REPORT

Batch ID: **105836** Instrument ID **GC14** Method: **SW8082**

MBLK Sample ID: **MBLK-105836-105836** Units: **µg/wipe** Analysis Date: **8/16/2017 05:27 PM**

Client ID: Run ID: **GC14_170816A** SeqNo: **4587766** Prep Date: **8/15/2017** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Aroclor 1016	ND	0.10								
Aroclor 1221	ND	0.10								
Aroclor 1232	ND	0.10								
Aroclor 1242	ND	0.10								
Aroclor 1248	ND	0.10								
Aroclor 1254	ND	0.10								
Aroclor 1260	ND	0.10								
Aroclor 1262	ND	0.10								
Aroclor 1268	ND	0.10								
PCBs, Total	ND	0.10								
Surr: Decachlorobiphenyl	*0.1052*	0	*0.1*	0	*105*	*50-130*	0			
Surr: Tetrachloro-m-xylene	*0.09263*	0	*0.1*	0	*92.6*	*50-130*	0			

LCS Sample ID: **LCS-105836-105836** Units: **µg/wipe** Analysis Date: **8/16/2017 05:42 PM**

Client ID: Run ID: **GC14_170816A** SeqNo: **4587767** Prep Date: **8/15/2017** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Aroclor 1016	0.9816	0.10	1	0	98.2	50-130	0			
Aroclor 1260	0.9661	0.10	1	0	96.6	50-130	0			
Surr: Decachlorobiphenyl	*0.1254*	0	*0.12*	0	*104*	*50-130*	0			
Surr: Tetrachloro-m-xylene	*0.1112*	0	*0.12*	0	*92.7*	*50-130*	0			

LCSD Sample ID: **LCSD-105836-105836** Units: **µg/wipe** Analysis Date: **8/16/2017 05:56 PM**

Client ID: Run ID: **GC14_170816A** SeqNo: **4587768** Prep Date: **8/15/2017** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Aroclor 1016	0.8888	0.10	1	0	88.9	50-130	0.9816	9.92	35	
Aroclor 1260	0.861	0.10	1	0	86.1	50-130	0.9661	11.5	35	
Surr: Decachlorobiphenyl	*0.1035*	0	*0.12*	0	*86.2*	*50-130*	0.1254	*19.1*	*35*	
Surr: Tetrachloro-m-xylene	*0.09555*	0	*0.12*	0	*79.6*	*50-130*	0.1112	*15.2*	*35*	

The following samples were analyzed in this batch:

1708532-01A	1708532-02A	1708532-03A
1708532-04A	1708532-05A	1708532-06A
1708532-07A	1708532-08A	1708532-09A
1708532-10A	1708532-11A	1708532-12A
1708532-13A	1708532-14A	1708532-15A
1708532-16A		

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

☐ ALS Environmental
10450 Stancliff Rd. #210
Houston, Texas 77099
(Tel) 281.530.5656
(Fax) 281.530.5887

Chain of Custody Form

Page 1 of 2

☑ ALS Environmental
3352 128th Avenue
Holland, Michigan 49424
(Tel) 616.399.6070
(Fax) 616.399.6185

ALS Project Manager: | ALS Work Order #: 1708532

Customer Information		Project Information		Parameter/Method Request for Analysis	
Purchase Order		Project Name	SMMUSD	A	EPA 8082 for Aroclors
Work Order		Project Number	0433980Z	B	N/A
Company Name	Ramboll ENVIRON	Bill To Company	Ramboll ENVIRON	C	N/A
Send Report To	Yi Tian	Invoice Attn.	Yi Tian	D	N/A
Address	18100 Von Karman Ave. Suite 600	Address	18100 Von Karman Ave. Suite 600	E	N/A
				F	N/A
City/State/Zip	Irvine, CA 92612	City/State/Zip	Irvine, CA 92612	G	N/A
Phone	949.798.3624	Phone	949.798.3624	H	N/A
Fax	949.261.6202	Fax	949.261.6202	I	N/A
e-Mail Address	ytian@ramboll.com			J	N/A

No.	Sample Description	Date	Time	Matrix	Pres. Key Numbers	# Bottles	A	B	C	D	E	F	G	H	I	J	Hold
1	080817-MHS-BH-R605A-W1	8/8/17	0754	Wipe	8	1	PCBs										
2	080817-MHS-BH-R605A-W2		0756	Wipe	8	1	PCBs										
3	080817-MHS-BH-R605A-W3		0757	Wipe	8	1	PCBs										
4	080817-MHS-BH-R605A-W4		0759	Wipe	8	1	PCBs										
5	080817-MHS-B200-R212-W1		0815	Wipe	8	1	PCBs										
6	080817-MHS-B200-R212-W2		0816	Wipe	8	1	PCBs										
7	080817-MHS-B200-R212-W3		0818	Wipe	8	1	PCBs										
8	080817-MHS-B200-R212-W4		0820	Wipe	8	1	PCBs										
9	080817-MHS-B700-R704-W1		1100	Wipe	8	1	PCBs										
10	080817-MHS-B700-R704-W2		1102	Wipe	8	1	PCBs										

Sampler(s): Please Print & Sign: DHO

Shipment Method: Fed Ex

Turnaround Time in Business Days (BD): ☒ 10 BD ☐ 5 BD ☐ 3 BD ☐ 2 BD ☐ 1 BD ☐ Other

Results Due Date:

Relinquished by:	Date:	Time:	Received by:	Date:	Time:	Notes:
	8/8/17	1515	Fed Ex			
Relinquished by:	Date:	Time:	Received by (Laboratory):	Date:	Time:	
Fed Ex	8/9/17	0930				
Logged by (Laboratory):	Date:	Time:	Checked by (Laboratory):			
DES	8/9/17	1330				

ALS Cooler ID	Cooler Temp
SR2	3.6°C

QC Package: (Check Box Below)
- ☐ Level II: Standard QC
- ☐ Level III: Raw Data
- ☐ TRRP LRC
- ☐ TRRP Level IV
- ☑ Level IV: SW846 Methods/CLP like
- ☐ Other:

Preservative Key: 1-HCl 2-HNO_3 3-H_2SO_4 4-NaOH 5-$Na_2S_2O_3$ 6-$NaHSO_4$ 7-Other 8-None/4°C

Note: Any changes must be made in writing once samples and COC Form have been submitted to ALS.

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☐ ALS Environmental
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Chain of Custody Form

Page 2 of 2

☑ ALS Environmental
3352 128th Avenue
Holland, Michigan 49424
(Tel) 616.399.6070
(Fax) 616.399.6185

ALS Project Manager:		ALS Work Order #:	1708532

Customer Information		Project Information		Parameter/Method Request for Analysis	
Purchase Order		Project Name	SMMUSD	A	EPA 8082 for Aroclors
Work Order		Project Number	0433980Z	B	N/A
Company Name	Ramboll ENVIRON	Bill To Company	Ramboll ENVIRON	C	N/A
Send Report To	Yi Tian	Invoice Attn.	Yi Tian	D	N/A
Address	18100 Von Karman Ave. Suite 600	Address	18100 Von Karman Ave. Suite 600	E	N/A
				F	N/A
City/State/Zip	Irvine, CA 92612	City/State/Zip	Irvine, CA 92612	G	N/A
Phone	949.798.3624	Phone	949.798.3624	H	N/A
Fax	949.261.6202	Fax	949.261.6202	I	N/A
e-Mail Address	ytian@ramboll.com			J	N/A

No.	Sample Description	Date	Time	Matrix	Pres. Key Numbers	# Bottles	A	B	C	D	E	F	G	H	I	J	Hold
1	080817-MHS-B700-R704-W3	8/8/17	1104	Wipe	8	1	PCBs										
2	080817-MHS-B700-R705-W1	"	1110	Wipe	8	1	PCBs										
3	080817-MHS-B700-R705-W2	"	1112	Wipe	8	1	PCBs										
4	080817-MHS-B700-R705-W3	"	1113	Wipe	8	1	PCBs										
5	080817-MHS-B700-R705-W4	"	1115	Wipe	8	1	PCBs										
6	~~080817-MHS~~ 080817-WFB-HEX	"	1200	Wipe	8	1	PCBs										
7				Wipe	8	1	PCBs										
8				Wipe	8	1	PCBs										
9				Wipe	8	1	PCBs										
10				Wipe	8	1	PCBs										

Sampler(s): Please Print & Sign: DSTOLL

Shipment Method: FedEx

Turnaround Time in Business Days (BD): ☒ 10 BD ☑ ~~5 BD~~ ☐ 3 BD ☐ 2 BD ☐ 1 BD ☐ Other

Results Due Date:

Relinquished by:	Date:	Time:	Received by:	Date:	Time:	Notes:
	8/8/17	1515	FedEx			
Relinquished by: FEDEX	Date: 8/9/17	Time: 0930	Received by (Laboratory):	Date:	Time:	
Logged by (Laboratory): DFS	Date: 8/9/17	Time: 1330	Checked by (Laboratory):			

ALS Cooler ID	Cooler Temp	QC Package: (Check Box Below)	
		☐ Level II: Standard QC	☐ Level III: Raw Data
SD2	3.6°C	☐ TRRP LRC	☐ TRRP Level IV
		☑ Level IV: SW846 Methods/CLP like	
		☐ Other:	

Preservative Key: 1-HCl 2-HNO_3 3-H_2SO_4 4-NaOH 5-$Na_2S_2O_3$ 6-$NaHSO_4$ 7-Other 8-None/4°C

Note: Any changes must be made in writing once samples and COC Form have been submitted to ALS.

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Sample Receipt Checklist

Client Name: **ENVIRONINT - CA** Date/Time Received: **09-Aug-17 09:30**

Work Order: **1708532** Received by: **DS**

Checklist completed by Diane Shaw (eSignature) 09-Aug-17 (Date) Reviewed by: Chad Whelton (eSignature) 10-Aug-17 (Date)

Matrices: Wipe
Carrier name: FedEx

Shipping container/cooler in good condition?	Yes ☑	No ☐	Not Present ☐
Custody seals intact on shipping container/cooler?	Yes ☑	No ☐	Not Present ☐
Custody seals intact on sample bottles?	Yes ☐	No ☐	Not Present ☑
Chain of custody present?	Yes ☑	No ☐	
Chain of custody signed when relinquished and received?	Yes ☑	No ☐	
Chain of custody agrees with sample labels?	Yes ☑	No ☐	
Samples in proper container/bottle?	Yes ☑	No ☐	
Sample containers intact?	Yes ☑	No ☐	
Sufficient sample volume for indicated test?	Yes ☑	No ☐	
All samples received within holding time?	Yes ☑	No ☐	
Container/Temp Blank temperature in compliance?	Yes ☑	No ☐	
Sample(s) received on ice?	Yes ☑	No ☐	
Temperature(s)/Thermometer(s):	3.6/3.6 c	SR2	
Cooler(s)/Kit(s):			
Date/Time sample(s) sent to storage:	8/9/2017 1:47:39 PM		
Water - VOA vials have zero headspace?	Yes ☐	No ☐	No VOA vials submitted ☑
Water - pH acceptable upon receipt?	Yes ☐	No ☐	N/A ☑
pH adjusted?	Yes ☐	No ☐	N/A ☑
pH adjusted by:	-		

Login Notes:

Client Contacted: Date Contacted: Person Contacted:

Contacted By: Regarding:

Comments:

CorrectiveAction:

DATA VALIDATION REPORT #39422C (SURFACE WIPE)
SAMPLE DATE: AUGUST 8, 2017

MHS Building D (100/200, Mako Shark)
MHS Building H (Cafeteria/Auditorium)
MHS Building J (700, Old Gymnasium)

LABORATORY DATA CONSULTANTS, INC.
2701 Loker Ave. West, Suite 220, Carlsbad, CA 92010 Bus: 760-827-1100 Fax: 760-827-1099

Ramboll Environ
18100 Von Karman Avenue Ste. 600
Irvine, CA 92612
Attn: Ms. Yi Tian

September 25, 2017

SUBJECT: SMMUSD, 04-33980Z, Data Validation

Dear Ms. Tian

Enclosed is the final validation report for the fraction listed below. This SDG was received on September 11, 2017. Attachment 1 is a summary of the samples that were reviewed for analysis.

LDC Project #39422:

SDG #	Fraction
1708532	Polychlorinated Biphenyls

The data validation was performed under Level III guidelines. The analyses were validated using the following documents, as applicable to each method:

- USEPA, Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review, June 2008
- EPA SW 846, Third Edition, Test Methods for Evaluating Solid Waste, update 1, July 1992; update IIA, August 1993; update II, September 1994; update IIB, January 1995; update III, December 1996; update IIIA, April 1998; IIIB, November 2004; update IV, February 2007; update V, July 2014

Please feel free to contact us if you have any questions.

Sincerely,

Pei Geng
Project Manager/Senior Chemist

462 pages-DL

Attachment 1

Level III

LDC #39422 (Ramboll Environ-Irvine / SMMUSD, 04-33980Z)

LDC	SDG#	DATE REC'D	(2) DATE DUE	PCBs (8082)		PCBs (TO-10A)																															
Matrix:	Wipe/Air			W	S	A	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S
A	P1703866	09/11/17	09/25/17	-	-	13	0																														
B	1708436	09/11/17	09/25/17	16	0	-	-																														
C	1708532	09/11/17	09/25/17	16	0	-	-																														
D	1708535	09/11/17	09/25/17	4	0	-	-																														
Total	J/PG			36	0	13	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	49

Shaded cells indicate Level IV validation (all other cells are Level III validation). These sample counts do not include MS/MSD, and DUPs

V:\LOGIN\Environ (Ramboll Environ)\SMMUSD\39422ST.wpd

LDC Report# 39422C3b

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name: SMMUSD

LDC Report Date: September 20, 2017

Parameters: Polychlorinated Biphenyls

Validation Level: Level III

Laboratory: ALS Environmental

Sample Delivery Group (SDG): 1708532

Sample Identification	Laboratory Sample Identification	Matrix	Collection Date
080817-MHS-BH-R605A-W1	1708532-01	Wipe	08/08/17
080817-MHS-BH-R605A-W2	1708532-02	Wipe	08/08/17
080817-MHS-BH-R605A-W3	1708532-03	Wipe	08/08/17
080817-MHS-BH-R605A-W4	1708532-04	Wipe	08/08/17
080817-MHS-B200-R212-W1	1708532-05	Wipe	08/08/17
080817-MHS-B200-R212-W2	1708532-06	Wipe	08/08/17
080817-MHS-B200-R212-W3	1708532-07	Wipe	08/08/17
080817-MHS-B200-R212-W4	1708532-08	Wipe	08/08/17
080817-MHS-B700-R704-W1	1708532-09	Wipe	08/08/17
080817-MHS-B700-R704-W2	1708532-10	Wipe	08/08/17
080817-MHS-B700-R704-W3	1708532-11	Wipe	08/08/17
080817-MHS-B700-R705-W1	1708532-12	Wipe	08/08/17
080817-MHS-B700-R705-W2	1708532-13	Wipe	08/08/17
080817-MHS-B700-R705-W3	1708532-14	Wipe	08/08/17
080817-MHS-B700-R705-W4	1708532-15	Wipe	08/08/17
080817-WFB-HEX	1708532-16	Wipe	08/08/17

Introduction

This Data Validation Report (DVR) presents data validation findings and results for the associated samples listed on the cover page. Data validation was performed in accordance with a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines (CLPNFG) for Superfund Organic Methods Data Review (June 2008). Where specific guidance was not available, the data has been evaluated in a conservative manner consistent with industry standards using professional experience.

The analyses were performed by the following method:

Polychlorinated Biphenyls (PCBs) by Environmental Protection Agency (EPA) SW 846 Method 8082

All sample results were subjected to Level III data validation, which comprises an evaluation of quality control (QC) summary results.

The following are definitions of the data qualifiers utilized during data validation:

J (Estimated): The compound or analyte was analyzed for and positively identified by the laboratory; however the reported concentration is estimated due to non-conformances discovered during data validation.

U (Non-detected): The compound or analyte was analyzed for and positively identified by the laboratory; however the analyte should be considered non-detected at the reported concentration due to the presence of contaminants detected in the associated blank(s).

UJ (Non-detected estimated): The compound or analyte was reported as not detected by the laboratory; however the reported quantitation/detection limit is estimated due to non-conformances discovered during data validation.

R (Rejected): The sample results were rejected due to gross non-conformances discovered during data validation. Data qualified as rejected is not usable.

NA (Not Applicable): The non-conformance discovered during data validation demonstrates a high bias, while the affected compound or analyte in the associated sample(s) was reported as not detected by the laboratory and did not warrant the qualification of the data.

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

I. Sample Receipt and Technical Holding Times

All samples were received in good condition and cooler temperatures upon receipt met validation criteria.

All technical holding time requirements were met.

II. Initial Calibration and Initial Calibration Verification

An initial calibration was performed as required by the method.

The percent relative standard deviations (%RSD) were less than or equal to 20.0% for all compounds.

The percent differences (%D) of the initial calibration verification (ICV) standard were less than or equal to 20.0% for all compounds.

III. Continuing Calibration

Continuing calibration was performed at required frequencies.

The percent differences (%D) were less than or equal to 20.0% for all compounds.

IV. Laboratory Blanks

Laboratory blanks were analyzed as required by the method. No contaminants were found in the laboratory blanks.

V. Field Blanks

Sample 080817-WFB-HEX was identified as a field blank. No contaminants were found.

VI. Surrogates

Surrogates were added to all samples as required by the method. All surrogate recoveries (%R) were within QC limits.

VII. Matrix Spike/Matrix Spike Duplicates

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

VIII. Laboratory Control Samples

Laboratory control samples (LCS) and laboratory control samples duplicates (LCSD) were analyzed as required by the method. Percent recoveries (%R) were within QC limits. Relative percent differences (RPD) were within QC limits.

IX. Field Duplicates

No field duplicates were identified in this SDG.

X. Compound Quantitation

Raw data were not reviewed for Level III validation.

XI. Target Compound Identification

Raw data were not reviewed for Level III validation.

XII. Overall Assessment of Data

The analysis was conducted within all specifications of the method. No results were rejected in this SDG.

The quality control criteria reviewed were met and are considered acceptable. Based upon the data validation all results are considered valid and usable for all purposes.

SMMUSD
Polychlorinated Biphenyls - Data Qualification Summary - SDG 1708532

No Sample Data Qualified in this SDG

SMMUSD
Polychlorinated Biphenyls - Laboratory Blank Data Qualification Summary - SDG 1708532

No Sample Data Qualified in this SDG

SMMUSD
Polychlorinated Biphenyls - Field Blank Data Qualification Summary - SDG 1708532

No Sample Data Qualified in this SDG

LDC #: 39422C3b
SDG #: 1708532
Laboratory: ALS Environmental

VALIDATION COMPLETENESS WORKSHEET
Level III

Date: 09/15/17
Page: 1 of 1
Reviewer: JYG
2nd Reviewer: AF

METHOD: GC Polychlorinated Biphenyls (EPA SW846 Method 8082)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Sample receipt/Technical holding times	A / A	
II.	GC Instrument Performance Check	N	
III.	Initial calibration/ICV	A/A	ICAL ≤ 20 % ICV ≤ 20 %
IV.	Continuing calibration	A	CCV ≤ 20 %
V.	Laboratory Blanks	A	
VI.	Field blanks	ND	FB = 16
VII.	Surrogate spikes	A	
VIII.	Matrix spike/Matrix spike duplicates	N	CS
IX.	Laboratory control samples	A	LCS / D
X.	Field duplicates	N	
XI.	Compound quantitation/RL/LOQ/LODs	N	
XII.	Target compound identification	N	
XIII	Overall assessment of data	A	

Note: A = Acceptable; N = Not provided/applicable; SW = See worksheet; ND = No compounds detected; R = Rinsate; FB = Field blank; D = Duplicate; TB = Trip blank; EB = Equipment blank; OTHER:

	Client ID	Lab ID	Matrix	Date
1	080817-MHS-BH-R605A-W1	1708532-01	Wipe	08/08/17
2	080817-MHS-BH-R605A-W2	1708532-02	Wipe	08/08/17
3	080817-MHS-BH-R605A-W3	1708532-03	Wipe	08/08/17
4	080817-MHS-BH-R605A-W4	1708532-04	Wipe	08/08/17
5	080817-MHS-B200-R212-W1	1708532-05	Wipe	08/08/17
6	080817-MHS-B200-R212-W2	1708532-06	Wipe	08/08/17
7	080817-MHS-B200-R212-W3	1708532-07	Wipe	08/08/17
8	080817-MHS-B200-R212-W4	1708532-08	Wipe	08/08/17
9	080817-MHS-B700-R704-W1	1708532-09	Wipe	08/08/17
10	080817-MHS-B700-R704-W2	1708532-10	Wipe	08/08/17
11	080817-MHS-B700-R704-W3	1708532-11	Wipe	08/08/17
12	080817-MHS-B700-R705-W1	1708532-12	Wipe	08/08/17
13	080817-MHS-B700-R705-W2	1708532-13	Wipe	08/08/17
14	080817-MHS-B700-R705-W3	1708532-14	Wipe	08/08/17
15	080817-MHS-B700-R705-W4	1708532-15	Wipe	08/08/17
16	080817-WFB-HEX	1708532-16	Wipe	08/08/17

(All ND) - MBLK-105836

LABORATORY REPORT #1708535 (SURFACE WIPE)
SAMPLE DATE: AUGUST 8, 2017

MHS Building J (700, Old Gymnasium)

17-Aug-2017

Yi Tian
Ramboll Environ US Corporation
18100 VonKarman Ave.
Suite 600
Irvine, CA 92612

Re: **SMMUSD (0433980Z)** Work Order: **1708535**

Dear Yi,

ALS Environmental received 4 samples on 09-Aug-2017 09:30 AM for the analyses presented in the following report.

The analytical data provided relates directly to the samples received by ALS Environmental and for only the analyses requested.

Sample results are compliant with industry accepted practices and Quality Control results achieved laboratory specifications. Any exceptions are noted in the Case Narrative, or noted with qualifiers in the report or QC batch information. Should this laboratory report need to be reproduced, it should be reproduced in full unless written approval has been obtained from ALS Environmental. Samples will be disposed in 30 days unless storage arrangements are made.

The total number of pages in this report is 10.

If you have any questions regarding this report, please feel free to contact me.

Sincerely,

Electronically approved by: Chad Whelton

Chad Whelton
Project Manager

Certificate No: MN 998501

ADDRESS 3352 128th Ave Holland, Michigan 49424 | PHONE (616) 399-6070 | FAX (616) 399-6185
ALS GROUP USA, CORP Part of the ALS Laboratory Group A Campbell Brothers Limited Company

Environmental www.alsglobal.com
RIGHT SOLUTIONS RIGHT PARTNER

ALS Group, USA

Date: 17-Aug-17

Client: Ramboll Environ US Corporation
Project: SMMUSD (0433980Z)
Work Order: **1708535**

Work Order Sample Summary

Lab Samp ID	Client Sample ID	Matrix	Tag Number	Collection Date	Date Received	Hold
1708535-01	080817-MHS-B700-R704-PEW1	Wipe		8/8/2017 11:20	8/9/2017 09:30	☐
1708535-02	080817-MHS-B700-R704-PEW2	Wipe		8/8/2017 11:22	8/9/2017 09:30	☐
1708535-03	080817-MHS-B700-R704-PEW3	Wipe		8/8/2017 11:24	8/9/2017 09:30	☐
1708535-04	080817-MHS-B700-R705-PEW1	Wipe		8/8/2017 11:27	8/9/2017 09:30	☐

ALS Group, USA

Date: 17-Aug-17

Client: Ramboll Environ US Corporation
Project: SMMUSD (0433980Z)
WorkOrder: **1708535**

QUALIFIERS, ACRONYMS, UNITS

Qualifier	Description
*	Value exceeds Regulatory Limit
**	Estimated Value
a	Analyte is non-accredited
B	Analyte detected in the associated Method Blank above the Reporting Limit
E	Value above quantitation range
H	Analyzed outside of Holding Time
J	Analyte is present at an estimated concentration between the MDL and Report Limit
ND	Not Detected at the Reporting Limit
O	Sample amount is > 4 times amount spiked
P	Dual Column results percent difference > 40%
R	RPD above laboratory control limit
S	Spike Recovery outside laboratory control limits
U	Analyzed but not detected above the MDL
X	Analyte was detected in the Method Blank between the MDL and Reporting Limit, sample results may exhibit background or reagent contamination at the observed level.

Acronym	Description
DUP	Method Duplicate
LCS	Laboratory Control Sample
LCSD	Laboratory Control Sample Duplicate
LOD	Limit of Detection (see MDL)
LOQ	Limit of Quantitation (see PQL)
MBLK	Method Blank
MDL	Method Detection Limit
MS	Matrix Spike
MSD	Matrix Spike Duplicate
PQL	Practical Quantitation Limit
RPD	Relative Percent Difference
TDL	Target Detection Limit
TNTC	Too Numerous To Count
A	APHA Standard Methods
D	ASTM
E	EPA
SW	SW-846 Update III

Units Reported	Description
µg/wipe	Micrograms per Wipe

ALS Group, USA

Date: *17-Aug-17*

Client: Ramboll Environ US Corporation
Project: SMMUSD (0433980Z) **Work Order:** 1708535
Sample ID: 080817-MHS-B700-R704-PEW1 **Lab ID:** 1708535-01
Collection Date: 8/8/2017 11:20 AM **Matrix:** WIPE

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
PCBS			**SW8082**	Prep: EPA/600/R-07 8/15/17 15:07		Analyst: **EB**
Aroclor 1016	ND		0.10	µg/wipe	1	8/16/2017 10:28 PM
Aroclor 1221	ND		0.10	µg/wipe	1	8/16/2017 10:28 PM
Aroclor 1232	ND		0.10	µg/wipe	1	8/16/2017 10:28 PM
Aroclor 1242	ND		0.10	µg/wipe	1	8/16/2017 10:28 PM
Aroclor 1248	ND		0.10	µg/wipe	1	8/16/2017 10:28 PM
Aroclor 1254	ND		0.10	µg/wipe	1	8/16/2017 10:28 PM
Aroclor 1260	ND		0.10	µg/wipe	1	8/16/2017 10:28 PM
Aroclor 1262	ND		0.10	µg/wipe	1	8/16/2017 10:28 PM
Aroclor 1268	ND		0.10	µg/wipe	1	8/16/2017 10:28 PM
PCBs, Total	ND		0.10	µg/wipe	1	8/16/2017 10:28 PM
Surr: Decachlorobiphenyl	*93.4*		*40-140*	*%REC*	1	8/16/2017 10:28 PM
Surr: Tetrachloro-m-xylene	*85.0*		*40-140*	*%REC*	1	8/16/2017 10:28 PM

Note: See Qualifiers page for a list of qualifiers and their definitions.

Client: Ramboll Environ US Corporation
Project: SMMUSD (0433980Z) **Work Order:** 1708535
Sample ID: 080817-MHS-B700-R704-PEW2 **Lab ID:** 1708535-02
Collection Date: 8/8/2017 11:22 AM **Matrix:** WIPE

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
PCBS			**SW8082**	Prep: EPA/600/R-07 8/15/17 15:07	Analyst: **EB**	
Aroclor 1016	ND		0.10	µg/wipe	1	8/16/2017 11:11 PM
Aroclor 1221	ND		0.10	µg/wipe	1	8/16/2017 11:11 PM
Aroclor 1232	ND		0.10	µg/wipe	1	8/16/2017 11:11 PM
Aroclor 1242	ND		0.10	µg/wipe	1	8/16/2017 11:11 PM
Aroclor 1248	ND		0.10	µg/wipe	1	8/16/2017 11:11 PM
Aroclor 1254	ND		0.10	µg/wipe	1	8/16/2017 11:11 PM
Aroclor 1260	ND		0.10	µg/wipe	1	8/16/2017 11:11 PM
Aroclor 1262	ND		0.10	µg/wipe	1	8/16/2017 11:11 PM
Aroclor 1268	ND		0.10	µg/wipe	1	8/16/2017 11:11 PM
PCBs, Total	ND		0.10	µg/wipe	1	8/16/2017 11:11 PM
Surr: Decachlorobiphenyl	*94.9*		*40-140*	*%REC*	1	8/16/2017 11:11 PM
Surr: Tetrachloro-m-xylene	*90.0*		*40-140*	*%REC*	1	8/16/2017 11:11 PM

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group, USA

Date: *17-Aug-17*

Client: Ramboll Environ US Corporation
Project: SMMUSD (0433980Z)
Work Order: 1708535
Sample ID: 080817-MHS-B700-R704-PEW3
Lab ID: 1708535-03
Collection Date: 8/8/2017 11:24 AM
Matrix: WIPE

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
PCBS			**SW8082**	Prep: EPA/600/R-07 8/15/17 15:07		Analyst: **EB**
Aroclor 1016	ND		0.10	µg/wipe	1	8/16/2017 11:26 PM
Aroclor 1221	ND		0.10	µg/wipe	1	8/16/2017 11:26 PM
Aroclor 1232	ND		0.10	µg/wipe	1	8/16/2017 11:26 PM
Aroclor 1242	ND		0.10	µg/wipe	1	8/16/2017 11:26 PM
Aroclor 1248	ND		0.10	µg/wipe	1	8/16/2017 11:26 PM
Aroclor 1254	ND		0.10	µg/wipe	1	8/16/2017 11:26 PM
Aroclor 1260	ND		0.10	µg/wipe	1	8/16/2017 11:26 PM
Aroclor 1262	ND		0.10	µg/wipe	1	8/16/2017 11:26 PM
Aroclor 1268	ND		0.10	µg/wipe	1	8/16/2017 11:26 PM
PCBs, Total	ND		0.10	µg/wipe	1	8/16/2017 11:26 PM
Surr: Decachlorobiphenyl	*93.1*		*40-140*	*%REC*	1	8/16/2017 11:26 PM
Surr: Tetrachloro-m-xylene	*87.2*		*40-140*	*%REC*	1	8/16/2017 11:26 PM

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group, USA

Date: *17-Aug-17*

Client: Ramboll Environ US Corporation
Project: SMMUSD (0433980Z) **Work Order:** 1708535
Sample ID: 080817-MHS-B700-R705-PEW1 **Lab ID:** 1708535-04
Collection Date: 8/8/2017 11:27 AM **Matrix:** WIPE

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
PCBS			**SW8082**	Prep: EPA/600/R-07 8/15/17 15:07		Analyst: **EB**
Aroclor 1016	ND		0.10	µg/wipe	1	8/16/2017 11:40 PM
Aroclor 1221	ND		0.10	µg/wipe	1	8/16/2017 11:40 PM
Aroclor 1232	ND		0.10	µg/wipe	1	8/16/2017 11:40 PM
Aroclor 1242	ND		0.10	µg/wipe	1	8/16/2017 11:40 PM
Aroclor 1248	ND		0.10	µg/wipe	1	8/16/2017 11:40 PM
Aroclor 1254	**0.11**		**0.10**	**µg/wipe**	1	8/16/2017 11:40 PM
Aroclor 1260	ND		0.10	µg/wipe	1	8/16/2017 11:40 PM
Aroclor 1262	ND		0.10	µg/wipe	1	8/16/2017 11:40 PM
Aroclor 1268	ND		0.10	µg/wipe	1	8/16/2017 11:40 PM
PCBs, Total	**0.11**		**0.10**	**µg/wipe**	1	8/16/2017 11:40 PM
Surr: Decachlorobiphenyl	*101*		*40-140*	*%REC*	1	8/16/2017 11:40 PM
Surr: Tetrachloro-m-xylene	*87.5*		*40-140*	*%REC*	1	8/16/2017 11:40 PM

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group, USA

Date: 17-Aug-17

Client: Ramboll Environ US Corporation

QC BATCH REPORT

Work Order: 1708535

Project: SMMUSD (0433980Z)

Batch ID: **105836** Instrument ID **GC14** Method: **SW8082**

MBLK Sample ID: **MBLK-105836-105836** Units: **µg/wipe** Analysis Date: **8/16/2017 05:27 PM**

Client ID: Run ID: **GC14_170816A** SeqNo: **4587766** Prep Date: **8/15/2017** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Aroclor 1016	ND	0.10								
Aroclor 1221	ND	0.10								
Aroclor 1232	ND	0.10								
Aroclor 1242	ND	0.10								
Aroclor 1248	ND	0.10								
Aroclor 1254	ND	0.10								
Aroclor 1260	ND	0.10								
Aroclor 1262	ND	0.10								
Aroclor 1268	ND	0.10								
PCBs, Total	ND	0.10								
Surr: Decachlorobiphenyl	*0.1052*	0	*0.1*	0	*105*	*50-130*	0			
Surr: Tetrachloro-m-xylene	*0.09263*	0	*0.1*	0	*92.6*	*50-130*	0			

LCS Sample ID: **LCS-105836-105836** Units: **µg/wipe** Analysis Date: **8/16/2017 05:42 PM**

Client ID: Run ID: **GC14_170816A** SeqNo: **4587767** Prep Date: **8/15/2017** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Aroclor 1016	0.9816	0.10	1	0	98.2	50-130	0			
Aroclor 1260	0.9661	0.10	1	0	96.6	50-130	0			
Surr: Decachlorobiphenyl	*0.1254*	0	*0.12*	0	*104*	*50-130*	0			
Surr: Tetrachloro-m-xylene	*0.1112*	0	*0.12*	0	*92.7*	*50-130*	0			

LCSD Sample ID: **LCSD-105836-105836** Units: **µg/wipe** Analysis Date: **8/16/2017 05:56 PM**

Client ID: Run ID: **GC14_170816A** SeqNo: **4587768** Prep Date: **8/15/2017** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Aroclor 1016	0.8888	0.10	1	0	88.9	50-130	0.9816	9.92	35	
Aroclor 1260	0.861	0.10	1	0	86.1	50-130	0.9661	11.5	35	
Surr: Decachlorobiphenyl	*0.1035*	0	*0.12*	0	*86.2*	*50-130*	0.1254	*19.1*	*35*	
Surr: Tetrachloro-m-xylene	*0.09555*	0	*0.12*	0	*79.6*	*50-130*	0.1112	*15.2*	*35*	

The following samples were analyzed in this batch: 1708535-01A 1708535-02A 1708535-03A 1708535-04A

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

☐ ALS Environmental
10450 Stancliff Rd. #210
Houston, Texas 77099
(Tel) 281.530.5656
(Fax) 281.530.5887

Chain of Custody Form

Page 1 of 1

☑ ALS Environmental
3352 128th Avenue
Holland, Michigan 49424
(Tel) 616.399.6070
(Fax) 616.399.6185

ALS Project Manager: | ALS Work Order #: 1708535

Customer Information		Project Information		Parameter/Method Request for Analysis	
Purchase Order		Project Name	SMMUSD	A	EPA 8082 for Aroclors
Work Order		Project Number	0433980Z	B	N/A
Company Name	Ramboll ENVIRON	Bill To Company	Ramboll ENVIRON	C	N/A
Send Report To	Yi Tian	Invoice Attn.	Yi Tian	D	N/A
Address	18100 Von Karman Ave. Suite 600	Address	18100 Von Karman Ave. Suite 600	E	N/A
				F	N/A
City/State/Zip	Irvine, CA 92612	City/State/Zip	Irvine, CA 92612	G	N/A
Phone	949.798.3624	Phone	949.798.3624	H	N/A
Fax	949.261.6202	Fax	949.261.6202	I	N/A
e-Mail Address	ytian@ramboll.com			J	N/A

No.	Sample Description	Date	Time	Matrix	Pres. Key Numbers	# Bottles	A	B	C	D	E	F	G	H	I	J	Hold
1	080817-MHS-B700-R704-PEW1	8/8/17	1120	Wipe	8	1	PCBs										
2	080817-MHS-B700-R704-PEW2		1122	Wipe	8	1	PCBs										
3	080817-MHS-B700-R704-PEW3		1124	Wipe	8	1	PCBs										
4	080817-MHS-B700-R705-PEW1	↓	1127	Wipe	8	1	PCBs										
5				Wipe	8	1	PCBs										
6				Wipe	8	1	PCBs										
7				Wipe	8	1	PCBs										
8				Wipe	8	1	PCBs										
9				Wipe	8	1	PCBs										
10				Wipe	8	1	PCBs										

Sampler(s): Please Print & Sign

Shipment Method: Fed Ex

Turnaround Time in Business Days (BD): ☒ 10 BD ☑ 5 BD ☐ 3 BD ☐ 2 BD ☐ 1 BD ☐ Other

Results Due Date:

Relinquished by:	Date:	Time:	Received by:	Date:	Time:	Notes:
	8/8/17	1515	Fed Ex			
Relinquished by: FED EX	Date: 8/9/17	Time: 0930	Received by (Laboratory):	Date:	Time:	
Logged by (Laboratory): DES	Date: 8/9/17	Time: 1400	Checked by (Laboratory):			

ALS Cooler ID	Cooler Temp	QC Package: (Check Box Below)	
SR2	3.6°C	☐ Level II: Standard QC	☐ Level III: Raw Data
		☐ TRRP LRC	☐ TRRP Level IV
		☑ Level IV: SW846 Methods/CLP like	
		☐ Other:	

Preservative Key: 1-HCl 2-HNO_3 3-H_2SO_4 4-NaOH 5-$Na_2S_2O_3$ 6-$NaHSO_4$ 7-Other 8-None/4°C

Note: Any changes must be made in writing once samples and COC Form have been submitted to ALS.

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ALS Group, USA

Sample Receipt Checklist

Client Name: **ENVIRONINT - CA** Date/Time Received: **09-Aug-17 09:30**

Work Order: **1708535** Received by: **DS**

Checklist completed by Diane Shaw (eSignature) 09-Aug-17 (Date) Reviewed by: Chad Whelan (eSignature) 10-Aug-17 (Date)

Matrices: Wipe
Carrier name: FedEx

Shipping container/cooler in good condition?	Yes ☑	No ☐	Not Present ☐
Custody seals intact on shipping container/cooler?	Yes ☑	No ☐	Not Present ☐
Custody seals intact on sample bottles?	Yes ☐	No ☐	Not Present ☑
Chain of custody present?	Yes ☑	No ☐	
Chain of custody signed when relinquished and received?	Yes ☑	No ☐	
Chain of custody agrees with sample labels?	Yes ☑	No ☐	
Samples in proper container/bottle?	Yes ☑	No ☐	
Sample containers intact?	Yes ☑	No ☐	
Sufficient sample volume for indicated test?	Yes ☑	No ☐	
All samples received within holding time?	Yes ☑	No ☐	
Container/Temp Blank temperature in compliance?	Yes ☑	No ☐	
Sample(s) received on ice?	Yes ☑	No ☐	
Temperature(s)/Thermometer(s):	3.6/3.6 c	SR2	
Cooler(s)/Kit(s):			
Date/Time sample(s) sent to storage:	8/9/2017 2:11:06 PM		
Water - VOA vials have zero headspace?	Yes ☐	No ☐	No VOA vials submitted ☑
Water - pH acceptable upon receipt?	Yes ☐	No ☐	N/A ☑
pH adjusted?	Yes ☐	No ☐	N/A ☑
pH adjusted by:	-		

Login Notes:

Client Contacted: Date Contacted: Person Contacted:

Contacted By: Regarding:

Comments:

CorrectiveAction:

DATA VALIDATION REPORT #39422D (SURFACE WIPE)
SAMPLE DATE: AUGUST 8, 2017

MHS Building J (700, Old Gymnasium)

LABORATORY DATA CONSULTANTS, INC.
2701 Loker Ave. West, Suite 220, Carlsbad, CA 92010 Bus: 760-827-1100 Fax: 760-827-1099

Ramboll Environ
18100 Von Karman Avenue Ste. 600
Irvine, CA 92612
Attn: Ms. Yi Tian

September 25, 2017

SUBJECT: SMMUSD, 04-33980Z, Data Validation

Dear Ms. Tian

Enclosed is the final validation report for the fraction listed below. This SDG was received on September 11, 2017. Attachment 1 is a summary of the samples that were reviewed for analysis.

LDC Project #39422:

SDG #	Fraction
1708535	Polychlorinated Biphenyls

The data validation was performed under Level III guidelines. The analyses were validated using the following documents, as applicable to each method:

- USEPA, Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review, June 2008
- EPA SW 846, Third Edition, Test Methods for Evaluating Solid Waste, update 1, July 1992; update IIA, August 1993; update II, September 1994; update IIB, January 1995; update III, December 1996; update IIIA, April 1998; IIIB, November 2004; update IV, February 2007; update V, July 2014

Please feel free to contact us if you have any questions.

Sincerely,

Pei Geng
Project Manager/Senior Chemist

462 pages-DL

Attachment 1

Level III

LDC #39422 (Ramboll Environ-Irvine / SMMUSD, 04-33980Z)

LDC	SDG#	DATE REC'D	(2) DATE DUE	PCBs (8082)		PCBs (TO-10A)																															
Matrix:	Wipe/Air			W	S	A	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S
A	P1703866	09/11/17	09/25/17	-	-	13	0																														
B	1708436	09/11/17	09/25/17	16	0	-	-																														
C	1708532	09/11/17	09/25/17	16	0	-	-																														
D	1708535	09/11/17	09/25/17	4	0	-	-																														
Total	J/PG			36	0	13	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	49

Shaded cells indicate Level IV validation (all other cells are Level III validation). These sample counts do not include MS/MSD, and DUPs

V:\LOGIN\Environ (Ramboll Environ)\SMMUSD\39422ST.wpd

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name: SMMUSD

LDC Report Date: September 21, 2017

Parameters: Polychlorinated Biphenyls

Validation Level: Level III

Laboratory: ALS Environmental

Sample Delivery Group (SDG): 1708535

Sample Identification	Laboratory Sample Identification	Matrix	Collection Date
080817-MHS-B700-R704-PEW1	1708535-01	Wipe	08/08/17
080817-MHS-B700-R704-PEW2	1708535-02	Wipe	08/08/17
080817-MHS-B700-R704-PEW3	1708535-03	Wipe	08/08/17
080817-MHS-B700-R705-PEW1	1708535-04	Wipe	08/08/17

Introduction

This Data Validation Report (DVR) presents data validation findings and results for the associated samples listed on the cover page. Data validation was performed in accordance with a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines (CLPNFG) for Superfund Organic Methods Data Review (June 2008). Where specific guidance was not available, the data has been evaluated in a conservative manner consistent with industry standards using professional experience.

The analyses were performed by the following method:

Polychlorinated Biphenyls (PCBs) by Environmental Protection Agency (EPA) SW 846 Method 8082

All sample results were subjected to Level III data validation, which comprises an evaluation of quality control (QC) summary results.

The following are definitions of the data qualifiers utilized during data validation:

J (Estimated): The compound or analyte was analyzed for and positively identified by the laboratory; however the reported concentration is estimated due to non-conformances discovered during data validation.

U (Non-detected): The compound or analyte was analyzed for and positively identified by the laboratory; however the analyte should be considered non-detected at the reported concentration due to the presence of contaminants detected in the associated blank(s).

UJ (Non-detected estimated): The compound or analyte was reported as not detected by the laboratory; however the reported quantitation/detection limit is estimated due to non-conformances discovered during data validation.

R (Rejected): The sample results were rejected due to gross non-conformances discovered during data validation. Data qualified as rejected is not usable.

NA (Not Applicable): The non-conformance discovered during data validation demonstrates a high bias, while the affected compound or analyte in the associated sample(s) was reported as not detected by the laboratory and did not warrant the qualification of the data.

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

I. Sample Receipt and Technical Holding Times

All samples were received in good condition and cooler temperatures upon receipt met validation criteria.

All technical holding time requirements were met.

II. Initial Calibration and Initial Calibration Verification

An initial calibration was performed as required by the method.

The percent relative standard deviations (%RSD) were less than or equal to 20.0% for all compounds.

The percent differences (%D) of the initial calibration verification (ICV) standard were less than or equal to 20.0% for all compounds.

III. Continuing Calibration

Continuing calibration was performed at required frequencies.

The percent differences (%D) were less than or equal to 20.0% for all compounds.

IV. Laboratory Blanks

Laboratory blanks were analyzed as required by the method. No contaminants were found in the laboratory blanks.

V. Field Blanks

No field blanks were identified in this SDG.

VI. Surrogates

Surrogates were added to all samples as required by the method. All surrogate recoveries (%R) were within QC limits.

VII. Matrix Spike/Matrix Spike Duplicates

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

VIII. Laboratory Control Samples

Laboratory control samples (LCS) and laboratory control samples duplicates (LCSD) were analyzed as required by the method. Percent recoveries (%R) were within QC limits. Relative percent differences (RPD) were within QC limits.

IX. Field Duplicates

No field duplicates were identified in this SDG.

X. Compound Quantitation

Raw data were not reviewed for Level III validation.

XI. Target Compound Identification

Raw data were not reviewed for Level III validation.

XII. Overall Assessment of Data

The analysis was conducted within all specifications of the method. No results were rejected in this SDG.

The quality control criteria reviewed were met and are considered acceptable. Based upon the data validation all results are considered valid and usable for all purposes.

SMMUSD
Polychlorinated Biphenyls - Data Qualification Summary - SDG 1708535

No Sample Data Qualified in this SDG

SMMUSD
Polychlorinated Biphenyls - Laboratory Blank Data Qualification Summary - SDG 1708535

No Sample Data Qualified in this SDG

SMMUSD
Polychlorinated Biphenyls - Field Blank Data Qualification Summary - SDG 1708535

No Sample Data Qualified in this SDG

LDC #: 39422D3b
SDG #: 1708535
Laboratory: ALS Environmental

VALIDATION COMPLETENESS WORKSHEET
Level III

Date: 09/16/17
Page: 1 of 1
Reviewer: SM
2nd Reviewer: A

METHOD: GC Polychlorinated Biphenyls (EPA SW846 Method 8082)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Sample receipt/Technical holding times	A / A	
II.	GC Instrument Performance Check	N	
III.	Initial calibration/ICV	A / A	ICAL ≤ 20% ICV ≤ 20%
IV.	Continuing calibration	A	CCV ≤ 20%
V.	Laboratory Blanks	A	
VI.	Field blanks	N	
VII.	Surrogate spikes	A	
VIII.	Matrix spike/Matrix spike duplicates	N	CG
IX.	Laboratory control samples	A	LCS/D
X.	Field duplicates	N	
XI.	Compound quantitation/RL/LOQ/LODs	N	
XII.	Target compound identification	N	
XIII.	Overall assessment of data	A	

Note: A = Acceptable
N = Not provided/applicable
SW = See worksheet
ND = No compounds detected
R = Rinsate
FB = Field blank
D = Duplicate
TB = Trip blank
EB = Equipment blank
OTHER:

	Client ID	Lab ID	Matrix	Date
1	080817-MHS-B700-R704-PEW1	1708535-01	Wipe	08/08/17
2	080817-MHS-B700-R704-PEW2	1708535-02	Wipe	08/08/17
3	080817-MHS-B700-R704-PEW3	1708535-03	Wipe	08/08/17
4	080817-MHS-B700-R705-PEW1	1708535-04	Wipe	08/08/17
5				
6				
7				
8				
9				
10				
11				

Notes:

F	MBLK-105836						

RAMBOLL ENVIRON

ATTACHMENT C
TABLES FOR SUMMER 2017
WASTE CHARACTERIZATION SAMPLING

Table C-1. Summary of PCBs and Total Metals in Dust Generated from BMP Cleaning (2014 to 2017)
Malibu High School
Malibu, California

		Waste Material Description	Sample ID	Sample Date	PCBs (mg/kg)	Metals (mg/kg)															
						Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium	Cobalt	Copper	Lead	Mercury	Molybdenum	Nickel	Selenium	Silver	Thallium	Vanadium	Zinc
BMP Dust	2014	BMP Dust - Building J (700, Old Gymnasium)	W-MH-0624-DU-02	6/24/2014	34.1	<9.9	<3.0	150	< 0.49	4.9	25	13	120	250	0.17	<2.0	91	< 3.0	3	< 9.9	17	2,000
		BMP Dust - Building J (700, Old Gymnasium)	BMP Dust-BJ-1-Comp	8/5/2014	2.5	<10	<3.0	350	< 0.5	3.8	53	6.4	110	73	0.22	<2.0	32	< 3.0	2.7	< 10	17	1,500
		BMP Dust - Building A (800, Great White Shark) & B/C (900, Whale Shark)	W-MH-0701-DU-02	7/1/2014	43	<50	<15	360	< 2.5	4.8	56	5.1	190	120	0.39	<9.9	100	< 15	<7.4	< 50	21	3,100
		BMP Dust - Building A (800, Great White Shark) & B/C (900, Whale Shark)	BMP Dust-BABC-1-Comp	8/5/2014	69	<9.9	4.4	250	< 0.49	25	72	9.9	160	110	0.31	4.2	91	< 3.0	2.5	< 9.9	29	2,600
		BMP Dust - Building A (800, Great White Shark) & B/C (900, Whale Shark)	BMP Dust-BABC-2-Comp	8/5/2014	80	280	33	130	< 5.0	25	26	19	12,000	2,300	15	320	180	< 30	<15	< 100	27	16,000
		BMP Dust - Building H (Cafeteria/Auditorium)	BMP Dust-BH-1-Comp	8/5/2014	2.4	< 20	< 5.9	400	< 0.99	130	32	9.3	140	86	0.31	< 4.0	48	< 5.9	< 3.0	< 20	22	3,900
	2015	BMP Dust (composite)	BMP-1-Composite	8/14/2015	0.27[a]	< 50	< 15	200	< 2.5	2.9	49	6.8	2,700	25	0.47	< 9.9	27	< 15	< 7.4	< 50	11	2,800
	2016	BMP Dust (composite)	BMP-Dust	10/7/2016	< 0.72[b]	12	5.4	99	< 0.49	2.1	66	2.4	170	19	0.077	< 2.0	24	< 3.0	< 1.5	< 9.9	14	580
	2017	**BMP Dust (composite)**	**BMP-DUST 1-4 (Composite)**	**8/8/2017**	**< 1.5[b]**	**12**	**< 3.0**	**210**	**< 0.50**	**3.8**	**54**	**3.2**	**290**	**26**	**0.036**	**2.3**	**20**	**<3.0**	**<1.5**	**< 9.9**	**12**	**890**
Total Threshold Limit Concentration (TTLC)					50	500	500	10,000	75	100	500/ 2,500[c]	8,000	2,500	1,000	20	3,500	2,000	100	500	700	2,400	5,000
20 x Toxicity Characteristic Leaching Procedure Threshold (TCLP)					NE	NE	100	2,000	NE	20	100	NE	NE	100	4	NE	NE	20	100	NE	NE	NE
10 x Soluble Threshold Limit Concentration (STLC)					5	150	50	1,000	7.5	10	50	800	250	50	2	3,500	200	10	50	70	240	2,500

Notes:
mg/kg = milligrams per kilogram
< = not detected above laboratory reporting limit
NE = not established
PCBs = polychlorinated biphenyls
BMP = Best Management Practice
RCRA = Resource Conservation and Recovery Act
Samples analyzed for PCBs by USEPA Method 8082
Samples analyzed for metals by USEPA Methods 6010B and 7471A
The concentrations of total PCBs were estimated using a conservative appoach by summing up the detected concentrations of all the Aroclors analyzed.
[a] Aroclor 1254 result; all other aroclors were below the laboratory reporting limit of 0.11 mg/kg.
[b] All aroclors (1016, 1221, 1232, 1242, 1248, 1254, and 1260) were below the respective laboratory reporting limit.
[c] The TTLC threshold for hexavalent chromium is 500 mg/kg; the TTLC threshold for total chromium is 2,500 mg/kg.
2017 sampling results are **bolded**.
Orange shading indicates the value exceeds the The Toxic Substances Control Act (TSCA) regulatory threshold of 50 mg/kg, and is therefore classified as a RCRA hazardous waste.
Yellow shading indicates the value exceeds the TTLC regulatory threshold, and is therefore classified as a non-RCRA hazardous waste.
Green shading indicates the total metals concentrations is at least 20 times greater than the TCLP or at least 10 times greater than the STLC and warrants TCLP and/or STLC testing, as applicable.

Table C-2. Summary of Leachable Metal Concentrations in Dust Generated from BMP Cleaning (2014 to 2017)
Malibu High School
Malibu, California

		Waste Material Description	Sample ID	Sample Date	Selected TCLP Metals (mg/L)		Detected STLC Metals (mg/L)												
					Chromium	Lead	Antimony	Arsenic	Barium	Cadmium	Chromium	Cobalt	Copper	Lead	Molybdenum	Nickel	Vanadium	Zinc	Mercury
BMP-Dust	2014	BMP Dust - Building J (700, Old Gymnasium)	W-MH-0624-DU-02	6/24/2014	NA	< 0.1	NA	NA	NA	NA	NA	NA	NA	4.6	NA	NA	NA	NA	NA
		BMP Dust - Building J (700, Old Gymnasium)	BMP Dust-BJ-1-Comp	8/5/2014	NA	NA	<0.40	<0.40	4.9	0.30	3.1	1.8	< 0.4	0.79	1.4	5.4	<0.40	45	0.0049
		BMP Dust - Building A (800, Great White Shark) & B/C (900, Whale Shark)	W-MH-0701-DU-02	7/1/2014	0.16	< 0.1	NA	NA	NA	NA	NA	NA	NA	14	NA	NA	NA	3,100	NA
		BMP Dust - Building A (800, Great White Shark) & B/C (900, Whale Shark)	BMP Dust-BABC-1-Comp	8/5/2014	NA	NA	0.37	0.28	2.6	0.94	1.2	0.9	1.8	0.90	<0.40	2.6	0.65	300	< 0.002
		BMP Dust - Building A (800, Great White Shark) & B/C (900, Whale Shark)	BMP Dust-BABC-2-Comp	8/5/2014	NA	NA	1.5	<1.0	2.7	1	1.9	<1.0	6.1	6.8	11	4.7	<1.0	1,300	0.0096
		BMP Dust - Building H (Cafeteria/Auditorium)	BMP Dust-BH-1-Comp	8/5/2014	NA	NA	<0.20	0.29	2.1	3	1.2	0.51	1.5	1.1	<0.40	3.6	0.52	320	< 0.002
	2015	BMP Dust (composite)	BMP-1-Composite	8/14/2015	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	2016	BMP Dust (composite)	BMP-Dust	10/7/2016	NA	NA	NA	NA	NA	NA	0.67	NA	NA	NA	NA	NA	NA	NA	NA
	2017	**BMP Dust (composite)**	**BMP-DUST 1-4 (Composite)**	**8/8/2017**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**0.92**	**NA**	**0.84**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**
				Regulatory Threshold	5	5	15	5	100	1	5	80	25	5	350	20	24	250	0.2

Notes:
mg/L = milligrams per liter
< = Less than the reporting limit
B = Compound was found in the blank with a concentration of 9.5 mg/kg.
NA = Not Analyzed
ND = Not detected
TCLP = Toxicity Characteristic Leaching Procedure Threshold
STLC = Soluble Threshold Limit Concentration
2017 sampling results are **bolded**.
Yellow shading indicates the value exceeds the STLC regulatory threshold, and is therefore classified as a non-RCRA hazardous waste.

Table C-3. Summary of PCBs and Total Metals in Wastewater Generated from BMP Cleaning (2014 to 2017)
Malibu High School
Malibu, California

Waste Material Description/Location		Sample ID	Sample Date	PCBs (mg/L)	Metals (mg/L)																	Aquatic Toxicity Screen
					Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium	Cobalt	Copper	Lead	Mercury	Molybdenum	Nickel	Selenium	Silver	Thallium	Vanadium	Zinc	
2014	BMP Water - Blg J (700, Old Gymnasium)	W-MH-0624-WA-03/04	6/24/2014	0.011	0.024	0.051	0.57	< 0.004	0.02	0.11	0.03	0.45	0.17	0.0012	< 0.040	1.7	< 0.020	0.035	< 0.020	1.1	25	Pass
	BMP Water - Building A (800, Great White Shark) & B/C (900, Whale Shark)	W-MH-0701-WA-03,04,05	7/1/2014	0.0011	0.016	0.016	0.23	< 0.0020	0.036	0.041	< 0.010	0.53	0.14	0.00087	0.024	0.21	< 0.010	< 0.010	< 0.010	1.4	4.7	Pass
	HVAC Water - Building E (000, Blue Shark)	HVAC-BLG.E-W-1	7/22/2014	< 0.00048[a]	< 0.010	< 0.010	0.056	< 0.0020	0.023	0.0056	< 0.010	0.13	0.014	0.00029	< 0.020	0.02	< 0.010	< 0.010	< 0.010	< 0.010	0.24	NA
	BMP Water - Building E (000, Blue Shark)	W-MH-0801-WA-BLG.E-W-1	8/1/2014	0.00162	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2015	BMP Water - Initial Sample	Baker 1	8/4/2015	0.0029	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	BMP Water - Final Sample	Baker 2	8/14/2015	0.00082	< 0.050	< 0.050	0.55	< 0.010	< 0.025	0.046	< 0.050	0.54	0.084	0.0019	< 0.10	0.59	< 0.050	< 0.050	< 0.050	1.2	67	NA
2016	BMP Wastewater	BMP-Water	8/12/2016	< 0.00053[a]	< 0.010	0.039	1.6	< 0.0020	0.016	0.099	< 0.010	0.58	0.14	0.00046	0.035	2.5	< 0.010	< 0.010	< 0.010	1.8	12	NA
2017	**BMP Wastewater**	**BMP-WATER**	**8/8/2017**	**< 0.00056[a]**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**
Toxicity Characteristic Leaching Procedure (TCLP) Threshold				NE	NE	5	100	NE	1	5	NE	NE	5	0.2	NE	NE	1	5	NE	NE	NE	Pass
Soluble Threshold Limit Concentration (STLC)				5	15	5	100	0.75	1	5	80	25	5	0.2	350	20	1	5	7	24	250	Pass

Notes
mg/L = milligrams per liter
< = not detected above laboratory reporting limit
NE = not established
NA = not analyzed
PCBs = Polychlorinated biphenyls
BMP = Best Management Practice
[a]All aroclors (1016, 1221, 1232, 1242, 1248, 1254, and 1260) were below the respective laboratory reporting limit.
The concentrations of total PCBs were estimated using a conservative appoach by summing up the detected concentrations of all the Aroclors analyzed.
Samples analyzed for PCBs by USEPA Method 8082
Samples analyzed for metals by USEPA Methods 6010B and 7470A
2017 sampling results are **bolded**.

ATTACHMENT D
LABORATORY ANALYTICAL REPORTS FOR WASTE CHARACTERIZATION

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

TestAmerica Laboratories, Inc.
TestAmerica Irvine
17461 Derian Ave
Suite 100
Irvine, CA 92614-5817
Tel: (949)261-1022

TestAmerica Job ID: 440-189811-1
Client Project/Site: SMMUSD - Summer 2017

For:
Ramboll Environ US Corporation
18100 Von Karman Avenue, Ste 600
Irvine, California 92612

Attn: Renee VanDeGriend

Authorized for release by:
8/18/2017 9:20:52 AM

Patty Mata, Senior Project Manager
(949)261-1022
patty.mata@testamericainc.com

LINKS

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Have a Question? Ask The Expert

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The test results in this report meet all 2003 NELAC and 2009 TNI requirements for accredited parameters, exceptions are noted in this report. This report may not be reproduced except in full, and with written approval from the laboratory. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

Table of Contents

Sample Summary

Client: Ramboll Environ US Corporation
Project/Site: SMMUSD - Summer 2017

TestAmerica Job ID: 440-189811-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
440-189811-1	BMP-WATER	Water	08/08/17 12:05	08/08/17 18:25
440-189811-6	BMP- DUST 1-4 (COMPOSITE)	Solid	08/08/17 12:20	08/08/17 18:25

Job ID: 440-189811-1

Laboratory: TestAmerica Irvine

Narrative

Job Narrative
440-189811-1

Comments
No additional comments.

Receipt
The samples were received on 8/8/2017 6:25 PM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 4.2º C.

GC Semi VOA
Method(s) 8082: Elevated reporting limits are provided for the following sample due to insufficient sample weight (less than 15 grams) provided for preparation: BMP- DUST 1-4 (COMPOSITE) (440-189811-6).

Method(s) 8082: Insufficient additional sample volume was available to perform a matrix spike/matrix spike duplicate (MS/MSD) associated with preparation batch 440-422111 and analytical batch 440-422136. The laboratory control sample (LCS) was performed in duplicate to provide precision data for this batch.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Metals
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Organic Prep
Method(s) 3546 / 8082: The following sample had smaller initial weight used due to the nature of the sample matrix: BMP- DUST 1-4 (COMPOSITE) (440-189811-6). Elevated reporting limits (RLs) are provided.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Client Sample ID: BMP-WATER

Lab Sample ID: 440-189811-1

Date Collected: 08/08/17 12:05

Matrix: Water

Date Received: 08/08/17 18:25

Method: 8082 - Polychlorinated Biphenyls (PCBs) (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Aroclor 1016	ND		0.56		ug/L		08/09/17 06:34	08/09/17 18:04	1
Aroclor 1221	ND		0.56		ug/L		08/09/17 06:34	08/09/17 18:04	1
Aroclor 1232	ND		0.56		ug/L		08/09/17 06:34	08/09/17 18:04	1
Aroclor 1242	ND		0.56		ug/L		08/09/17 06:34	08/09/17 18:04	1
Aroclor 1248	ND		0.56		ug/L		08/09/17 06:34	08/09/17 18:04	1
Aroclor 1254	ND		0.56		ug/L		08/09/17 06:34	08/09/17 18:04	1
Aroclor 1260	ND		0.56		ug/L		08/09/17 06:34	08/09/17 18:04	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
DCB Decachlorobiphenyl (Surr)	*56*		*29 - 115*	*08/09/17 06:34*	*08/09/17 18:04*	*1*

Client Sample ID: BMP- DUST 1-4 (COMPOSITE)

Lab Sample ID: 440-189811-6

Date Collected: 08/08/17 12:20

Matrix: Solid

Date Received: 08/08/17 18:25

Method: 8082 - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Aroclor 1016	ND		1500		ug/Kg		08/10/17 08:11	08/11/17 12:59	1
Aroclor 1221	ND		1500		ug/Kg		08/10/17 08:11	08/11/17 12:59	1
Aroclor 1232	ND		1500		ug/Kg		08/10/17 08:11	08/11/17 12:59	1
Aroclor 1242	ND		1500		ug/Kg		08/10/17 08:11	08/11/17 12:59	1
Aroclor 1248	ND		1500		ug/Kg		08/10/17 08:11	08/11/17 12:59	1
Aroclor 1254	ND		1500		ug/Kg		08/10/17 08:11	08/11/17 12:59	1
Aroclor 1260	ND		1500		ug/Kg		08/10/17 08:11	08/11/17 12:59	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
DCB Decachlorobiphenyl (Surr)	*73*		*45 - 120*	*08/10/17 08:11*	*08/11/17 12:59*	*1*

Method: 6010B - Metals (ICP)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Antimony	**12**		9.9		mg/Kg		08/12/17 07:55	08/12/17 16:38	5
Arsenic	ND		3.0		mg/Kg		08/12/17 07:55	08/12/17 16:38	5
Barium	**210**		1.5		mg/Kg		08/12/17 07:55	08/12/17 16:38	5
Beryllium	ND		0.50		mg/Kg		08/12/17 07:55	08/12/17 16:38	5
Cadmium	**3.8**		0.50		mg/Kg		08/12/17 07:55	08/12/17 16:38	5
Chromium	**54**		0.99		mg/Kg		08/12/17 07:55	08/12/17 16:38	5
Cobalt	**3.2**		0.99		mg/Kg		08/12/17 07:55	08/12/17 16:38	5
Copper	**290**		2.0		mg/Kg		08/12/17 07:55	08/12/17 16:38	5
Lead	**26**		2.0		mg/Kg		08/12/17 07:55	08/12/17 16:38	5
Molybdenum	**2.3**		2.0		mg/Kg		08/12/17 07:55	08/12/17 16:38	5
Nickel	**20**		2.0		mg/Kg		08/12/17 07:55	08/12/17 16:38	5
Selenium	ND		3.0		mg/Kg		08/12/17 07:55	08/12/17 16:38	5
Thallium	ND		9.9		mg/Kg		08/12/17 07:55	08/12/17 16:38	5
Vanadium	**12**		0.99		mg/Kg		08/12/17 07:55	08/12/17 16:38	5
Zinc	**890**		5.0		mg/Kg		08/12/17 07:55	08/12/17 16:38	5
Silver	ND		1.5		mg/Kg		08/12/17 07:55	08/12/17 16:38	5

Method: 7471A - Mercury (CVAA)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Mercury	**0.036**		0.020		mg/Kg		08/09/17 16:59	08/14/17 23:01	1

Method Summary

Client: Ramboll Environ US Corporation
Project/Site: SMMUSD - Summer 2017

TestAmerica Job ID: 440-189811-1

Method	Method Description	Protocol	Laboratory
8082	Polychlorinated Biphenyls (PCBs) by Gas Chromatography	SW846	TAL IRV
8082	Polychlorinated Biphenyls (PCBs) (GC)	SW846	TAL IRV
6010B	Metals (ICP)	SW846	TAL IRV
7471A	Mercury (CVAA)	SW846	TAL IRV

Protocol References:

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

TAL IRV = TestAmerica Irvine, 17461 Derian Ave, Suite 100, Irvine, CA 92614-5817, TEL (949)261-1022

Lab Chronicle

Client: Ramboll Environ US Corporation
Project/Site: SMMUSD - Summer 2017

TestAmerica Job ID: 440-189811-1

Client Sample ID: BMP-WATER

Lab Sample ID: 440-189811-1

Date Collected: 08/08/17 12:05

Matrix: Water

Date Received: 08/08/17 18:25

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3510C			900 mL	2 mL	422111	08/09/17 06:34	L2A	TAL IRV
Total/NA	Analysis	8082		1			422136	08/09/17 18:04	JM	TAL IRV

Client Sample ID: BMP- DUST 1-4 (COMPOSITE)

Lab Sample ID: 440-189811-6

Date Collected: 08/08/17 12:20

Matrix: Solid

Date Received: 08/08/17 18:25

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3546			0.51 g	2 mL	422402	08/10/17 08:11	VA	TAL IRV
Total/NA	Analysis	8082		1			422684	08/11/17 12:59	JM	TAL IRV
Total/NA	Prep	3050B			2.02 g	50 mL	422900	08/12/17 07:55	DT	TAL IRV
Total/NA	Analysis	6010B		5			422968	08/12/17 16:38	VS	TAL IRV
Total/NA	Prep	7471A			0.50 g	50 mL	422302	08/09/17 16:59	DB	TAL IRV
Total/NA	Analysis	7471A		1			423264	08/14/17 23:01	DB	TAL IRV

Laboratory References:

TAL IRV = TestAmerica Irvine, 17461 Derian Ave, Suite 100, Irvine, CA 92614-5817, TEL (949)261-1022

Method: 8082 - Polychlorinated Biphenyls (PCBs) (GC)

Lab Sample ID: MB 440-422111/1-A
Matrix: Water
Analysis Batch: 422136

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 422111

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Aroclor 1016	ND		0.50		ug/L		08/09/17 06:34	08/09/17 16:57	1
Aroclor 1221	ND		0.50		ug/L		08/09/17 06:34	08/09/17 16:57	1
Aroclor 1232	ND		0.50		ug/L		08/09/17 06:34	08/09/17 16:57	1
Aroclor 1242	ND		0.50		ug/L		08/09/17 06:34	08/09/17 16:57	1
Aroclor 1248	ND		0.50		ug/L		08/09/17 06:34	08/09/17 16:57	1
Aroclor 1254	ND		0.50		ug/L		08/09/17 06:34	08/09/17 16:57	1
Aroclor 1260	ND		0.50		ug/L		08/09/17 06:34	08/09/17 16:57	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
DCB Decachlorobiphenyl (Surr)	*69*		*29 - 115*	*08/09/17 06:34*	*08/09/17 16:57*	*1*

Lab Sample ID: LCS 440-422111/4-A
Matrix: Water
Analysis Batch: 422136

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 422111

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Aroclor 1016			4.00	3.47		ug/L		87	39 - 145		
Aroclor 1260			4.00	3.42		ug/L		85	37 - 137		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
DCB Decachlorobiphenyl (Surr)	*82*		*29 - 115*

Lab Sample ID: LCSD 440-422111/5-A
Matrix: Water
Analysis Batch: 422136

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 422111

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Aroclor 1016			4.00	3.57		ug/L		89	39 - 145	3	30
Aroclor 1260			4.00	3.58		ug/L		90	37 - 137	5	25

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
DCB Decachlorobiphenyl (Surr)	*86*		*29 - 115*

Method: 8082 - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Lab Sample ID: MB 440-422402/1-A
Matrix: Solid
Analysis Batch: 422684

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 422402

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Aroclor 1016	ND		50		ug/Kg		08/10/17 08:11	08/11/17 11:52	1
Aroclor 1221	ND		50		ug/Kg		08/10/17 08:11	08/11/17 11:52	1
Aroclor 1232	ND		50		ug/Kg		08/10/17 08:11	08/11/17 11:52	1
Aroclor 1242	ND		50		ug/Kg		08/10/17 08:11	08/11/17 11:52	1
Aroclor 1248	ND		50		ug/Kg		08/10/17 08:11	08/11/17 11:52	1
Aroclor 1254	ND		50		ug/Kg		08/10/17 08:11	08/11/17 11:52	1
Aroclor 1260	ND		50		ug/Kg		08/10/17 08:11	08/11/17 11:52	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
DCB Decachlorobiphenyl (Surr)	95		45 - 120	08/10/17 08:11	08/11/17 11:52	1

Lab Sample ID: LCS 440-422402/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 422684 — **Prep Batch: 422402**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Aroclor 1016	267	211		ug/Kg		79	65 - 115
Aroclor 1260	267	217		ug/Kg		81	65 - 115

Surrogate	LCS %Recovery	LCS Qualifier	Limits
DCB Decachlorobiphenyl (Surr)	81		45 - 120

Lab Sample ID: 440-189530-A-23-E MS — **Client Sample ID: Matrix Spike**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 422684 — **Prep Batch: 422402**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Aroclor 1016	ND		544	492		ug/Kg		90	50 - 120
Aroclor 1260	ND		544	428		ug/Kg		79	50 - 125

Surrogate	MS %Recovery	MS Qualifier	Limits
DCB Decachlorobiphenyl (Surr)	69		45 - 120

Lab Sample ID: 440-189530-A-23-F MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 422684 — **Prep Batch: 422402**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Aroclor 1016	ND		535	497		ug/Kg		93	50 - 120	1	30
Aroclor 1260	ND		535	414		ug/Kg		77	50 - 125	3	30

Surrogate	MSD %Recovery	MSD Qualifier	Limits
DCB Decachlorobiphenyl (Surr)	79		45 - 120

Method: 6010B - Metals (ICP)

Lab Sample ID: MB 440-422900/1-A ^5 — **Client Sample ID: Method Blank**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 422968 — **Prep Batch: 422900**

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		9.9	mg/Kg		08/12/17 07:55	08/12/17 16:13	5
Arsenic	ND		3.0	mg/Kg		08/12/17 07:55	08/12/17 16:13	5
Barium	ND		1.5	mg/Kg		08/12/17 07:55	08/12/17 16:13	5
Beryllium	ND		0.50	mg/Kg		08/12/17 07:55	08/12/17 16:13	5
Cadmium	ND		0.50	mg/Kg		08/12/17 07:55	08/12/17 16:13	5
Chromium	ND		0.99	mg/Kg		08/12/17 07:55	08/12/17 16:13	5
Cobalt	ND		0.99	mg/Kg		08/12/17 07:55	08/12/17 16:13	5
Copper	ND		2.0	mg/Kg		08/12/17 07:55	08/12/17 16:13	5
Lead	ND		2.0	mg/Kg		08/12/17 07:55	08/12/17 16:13	5
Molybdenum	ND		2.0	mg/Kg		08/12/17 07:55	08/12/17 16:13	5
Nickel	ND		2.0	mg/Kg		08/12/17 07:55	08/12/17 16:13	5

Method: 6010B - Metals (ICP) (Continued)

Lab Sample ID: MB 440-422900/1-A ^5
Matrix: Solid
Analysis Batch: 422968

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 422900

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Selenium	ND		3.0		mg/Kg		08/12/17 07:55	08/12/17 16:13	5
Thallium	ND		9.9		mg/Kg		08/12/17 07:55	08/12/17 16:13	5
Vanadium	ND		0.99		mg/Kg		08/12/17 07:55	08/12/17 16:13	5
Zinc	ND		5.0		mg/Kg		08/12/17 07:55	08/12/17 16:13	5
Silver	ND		1.5		mg/Kg		08/12/17 07:55	08/12/17 16:13	5

Lab Sample ID: LCS 440-422900/2-A ^5
Matrix: Solid
Analysis Batch: 422968

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 422900

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Antimony			50.0	49.7		mg/Kg		99	80 - 120		
Arsenic			50.0	47.9		mg/Kg		96	80 - 120		
Barium			50.0	48.3		mg/Kg		97	80 - 120		
Beryllium			50.0	45.9		mg/Kg		92	80 - 120		
Cadmium			50.0	48.3		mg/Kg		97	80 - 120		
Chromium			50.0	49.7		mg/Kg		99	80 - 120		
Cobalt			50.0	48.7		mg/Kg		97	80 - 120		
Copper			50.0	48.4		mg/Kg		97	80 - 120		
Lead			50.0	48.1		mg/Kg		96	80 - 120		
Molybdenum			50.0	49.7		mg/Kg		99	80 - 120		
Nickel			50.0	48.4		mg/Kg		97	80 - 120		
Selenium			50.0	44.5		mg/Kg		89	80 - 120		
Thallium			50.0	49.6		mg/Kg		99	80 - 120		
Vanadium			50.0	48.2		mg/Kg		96	80 - 120		
Zinc			50.0	48.1		mg/Kg		96	80 - 120		
Silver			25.0	23.4		mg/Kg		94	80 - 120		

Lab Sample ID: 440-190028-A-1-C MS ^5
Matrix: Solid
Analysis Batch: 422968

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 422900

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
Antimony	ND		49.5	41.6		mg/Kg		84	75 - 125		
Arsenic	ND		49.5	48.0		mg/Kg		97	75 - 125		
Barium	19		49.5	72.9		mg/Kg		109	75 - 125		
Beryllium	ND		49.5	45.7		mg/Kg		92	75 - 125		
Cadmium	ND		49.5	46.2		mg/Kg		93	75 - 125		
Chromium	5.8		49.5	57.3		mg/Kg		104	75 - 125		
Cobalt	1.4		49.5	49.7		mg/Kg		98	75 - 125		
Copper	2.5		49.5	50.8		mg/Kg		98	75 - 125		
Lead	ND		49.5	47.8		mg/Kg		97	75 - 125		
Molybdenum	ND		49.5	49.1		mg/Kg		99	75 - 125		
Nickel	3.2		49.5	51.6		mg/Kg		98	75 - 125		
Selenium	ND		49.5	43.0		mg/Kg		87	75 - 125		
Thallium	ND		49.5	47.2		mg/Kg		95	75 - 125		
Vanadium	9.7		49.5	68.0		mg/Kg		118	75 - 125		
Zinc	9.6		49.5	57.3		mg/Kg		97	75 - 125		
Silver	ND		24.8	22.8		mg/Kg		92	75 - 125		

Lab Sample ID: 440-190028-A-1-D MSD ^5
Matrix: Solid
Analysis Batch: 422968

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 422900

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Antimony	ND		49.3	41.1		mg/Kg		84	75 - 125	1	20
Arsenic	ND		49.3	46.6		mg/Kg		95	75 - 125	3	20
Barium	19		49.3	76.0		mg/Kg		116	75 - 125	4	20
Beryllium	ND		49.3	45.4		mg/Kg		92	75 - 125	1	20
Cadmium	ND		49.3	47.0		mg/Kg		95	75 - 125	2	20
Chromium	5.8		49.3	55.4		mg/Kg		101	75 - 125	3	20
Cobalt	1.4		49.3	50.2		mg/Kg		99	75 - 125	1	20
Copper	2.5		49.3	51.3		mg/Kg		99	75 - 125	1	20
Lead	ND		49.3	48.0		mg/Kg		97	75 - 125	0	20
Molybdenum	ND		49.3	48.4		mg/Kg		98	75 - 125	1	20
Nickel	3.2		49.3	51.4		mg/Kg		98	75 - 125	0	20
Selenium	ND		49.3	46.2		mg/Kg		94	75 - 125	7	20
Thallium	ND		49.3	48.2		mg/Kg		98	75 - 125	2	20
Vanadium	9.7		49.3	61.5		mg/Kg		105	75 - 125	10	20
Zinc	9.6		49.3	59.9		mg/Kg		102	75 - 125	4	20
Silver	ND		24.6	23.2		mg/Kg		94	75 - 125	2	20

Method: 7471A - Mercury (CVAA)

Lab Sample ID: MB 440-422302/1-A
Matrix: Solid
Analysis Batch: 423263

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 422302

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.020		mg/Kg		08/09/17 16:59	08/14/17 20:46	1

Lab Sample ID: LCS 440-422302/2-A
Matrix: Solid
Analysis Batch: 423263

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 422302

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Mercury			0.800	0.766		mg/Kg		96	80 - 120		

Lab Sample ID: 440-189680-A-33-B MS
Matrix: Solid
Analysis Batch: 423263

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 422302

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
Mercury	0.078		0.800	0.754		mg/Kg		84	70 - 130		

Lab Sample ID: 440-189680-A-33-C MSD
Matrix: Solid
Analysis Batch: 423263

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 422302

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Mercury	0.078		0.816	0.712		mg/Kg		78	70 - 130	6	20

GC Semi VOA

Prep Batch: 422111

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-189811-1	BMP-WATER	Total/NA	Water	3510C	
MB 440-422111/1-A	Method Blank	Total/NA	Water	3510C	
LCS 440-422111/4-A	Lab Control Sample	Total/NA	Water	3510C	
LCSD 440-422111/5-A	Lab Control Sample Dup	Total/NA	Water	3510C	

Analysis Batch: 422136

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-189811-1	BMP-WATER	Total/NA	Water	8082	422111
MB 440-422111/1-A	Method Blank	Total/NA	Water	8082	422111
LCS 440-422111/4-A	Lab Control Sample	Total/NA	Water	8082	422111
LCSD 440-422111/5-A	Lab Control Sample Dup	Total/NA	Water	8082	422111

Prep Batch: 422402

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-189811-6	BMP- DUST 1-4 (COMPOSITE)	Total/NA	Solid	3546	
MB 440-422402/1-A	Method Blank	Total/NA	Solid	3546	
LCS 440-422402/2-A	Lab Control Sample	Total/NA	Solid	3546	
440-189530-A-23-E MS	Matrix Spike	Total/NA	Solid	3546	
440-189530-A-23-F MSD	Matrix Spike Duplicate	Total/NA	Solid	3546	

Analysis Batch: 422684

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-189811-6	BMP- DUST 1-4 (COMPOSITE)	Total/NA	Solid	8082	422402
MB 440-422402/1-A	Method Blank	Total/NA	Solid	8082	422402
LCS 440-422402/2-A	Lab Control Sample	Total/NA	Solid	8082	422402
440-189530-A-23-E MS	Matrix Spike	Total/NA	Solid	8082	422402
440-189530-A-23-F MSD	Matrix Spike Duplicate	Total/NA	Solid	8082	422402

Metals

Prep Batch: 422302

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-189811-6	BMP- DUST 1-4 (COMPOSITE)	Total/NA	Solid	7471A	
MB 440-422302/1-A	Method Blank	Total/NA	Solid	7471A	
LCS 440-422302/2-A	Lab Control Sample	Total/NA	Solid	7471A	
440-189680-A-33-B MS	Matrix Spike	Total/NA	Solid	7471A	
440-189680-A-33-C MSD	Matrix Spike Duplicate	Total/NA	Solid	7471A	

Prep Batch: 422900

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-189811-6	BMP- DUST 1-4 (COMPOSITE)	Total/NA	Solid	3050B	
MB 440-422900/1-A ^5	Method Blank	Total/NA	Solid	3050B	
LCS 440-422900/2-A ^5	Lab Control Sample	Total/NA	Solid	3050B	
440-190028-A-1-C MS ^5	Matrix Spike	Total/NA	Solid	3050B	
440-190028-A-1-D MSD ^5	Matrix Spike Duplicate	Total/NA	Solid	3050B	

Analysis Batch: 422968

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-189811-6	BMP- DUST 1-4 (COMPOSITE)	Total/NA	Solid	6010B	422900
MB 440-422900/1-A ^5	Method Blank	Total/NA	Solid	6010B	422900

Metals (Continued)

Analysis Batch: 422968 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCS 440-422900/2-A ^5	Lab Control Sample	Total/NA	Solid	6010B	422900
440-190028-A-1-C MS ^5	Matrix Spike	Total/NA	Solid	6010B	422900
440-190028-A-1-D MSD ^5	Matrix Spike Duplicate	Total/NA	Solid	6010B	422900

Analysis Batch: 423263

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 440-422302/1-A	Method Blank	Total/NA	Solid	7471A	422302
LCS 440-422302/2-A	Lab Control Sample	Total/NA	Solid	7471A	422302
440-189680-A-33-B MS	Matrix Spike	Total/NA	Solid	7471A	422302
440-189680-A-33-C MSD	Matrix Spike Duplicate	Total/NA	Solid	7471A	422302

Analysis Batch: 423264

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-189811-6	BMP- DUST 1-4 (COMPOSITE)	Total/NA	Solid	7471A	422302

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

Accreditation/Certification Summary

Client: Ramboll Environ US Corporation
Project/Site: SMMUSD - Summer 2017

TestAmerica Job ID: 440-189811-1

Laboratory: TestAmerica Irvine

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	EPA Region	Identification Number	Expiration Date
Alaska	State Program	10	CA01531	06-30-18 *
Arizona	State Program	9	AZ0671	10-14-17
California	LA Cty Sanitation Districts	9	10256	06-30-18
California	State Program	9	CA ELAP 2706	06-30-18
Guam	State Program	9	Cert. No. 17-003R	01-23-18
Hawaii	State Program	9	N/A	01-29-18
Kansas	NELAP Secondary AB	7	E-10420	07-31-17 *
Nevada	State Program	9	CA015312018-1	07-31-18 *
New Mexico	State Program	6	N/A	01-29-18 *
Northern Mariana Islands	State Program	9	MP0002	01-29-17 *
Oregon	NELAP	10	4028	01-29-18
USDA	Federal		P330-15-00184	07-08-18
Washington	State Program	10	C900	09-03-17 *

* Accreditation/Certification renewal pending - accreditation/certification considered valid.

RAMBOLL ENVIRON

CHAIN-OF-CUSTODY FORM № 11567

UST PROJECT OR IS EDF REQUIRED? Y (N) IF YES, GLOBAL ID #: _____ MSA# _____ WO# _____

PROJECT NAME/FACILITY ID: SMMUSD - Summer 2017
PROJECT LOCATION: Malibu, CA
PROJECT NUMBER: 04-33980 Z
DATE: 8/8/17
FIELD PERSON: S. Dishon + M. Rapasso
PROJECT MANAGER: Y. Tian & Ted Bowie
LABORATORY: Test America

SAMPLER: Michael Rapasso
SIGNATURE: Michael Rapasso
YEAR: 2017

SAMPLE I.D. NUMBER	SAMPLE DATE	SAMPLE TIME	SAMPLE DEPTH (FT)	AIR SAMPLE VOLUME (L)	MATRIX (A) AIR (S) SOIL (G) GAS (W) WATER	NUMBER OF CONTAINERS	FILTERED/UNFILTERED (F/U)	PRESERVATION (SEE KEY)	ANALYSIS REQUIRED: PCBs (EPA 8082)	ANALYSIS REQUIRED: Title 22 Metals (6010B/7470A)	COMMENTS
BMP-WATER	8/8/17	1205	—	—	W	2	U	NO	X		* Lab Composite Sample
BMP-DUST	8/8/17	1220	—	—	S	4	U	NO	X	X	
TOTAL											

VG 8/8

8/8/17

440-189811 Chain of Custody

RELINQUISHED BY: Michael Rapasso	TIME/DATE: 1309 8/8/17	RECEIVED BY COMPANY: TA	TIME/DATE: 1309 8/8/17	TURNAROUND TIME (CIRCLE ONE)	SAME DAY, 24 HOURS, 48 HOURS, 72 HOURS, 5 DAYS, NORMAL
RELINQUISHED BY:	TIME/DATE: 1825 8/8/17	RECEIVED BY COMPANY:	TIME/DATE:		
RELINQUISHED BY:	TIME/DATE:	RECEIVED BY COMPANY: TA-I	TIME/DATE: 8/8/17 1825	SAMPLE INTEGRITY INTACT Y N TEMP 4.4/4.2 IR-X4	IF SEALED, SEAL INTEGRITY INTACT Y N

H = HCL; N = HNO3; S = H2SO; U = UNKNOWN; NO = NONE; O = OTHER; V = VARIOUS

WBU Office Locations:
- [X] 18100 Von Karman Avenue, Suite 600, Irvine, CA 92612 (949) 261-5151 | (949) 261-6202 Fax
- [ ] 707 Wilshire Boulevard, Suite 4950, Los Angeles, CA 90017 (213) 943-6300 | (213) 943-6301 Fax
- [ ] 2111 East Highland Avenue, Suite 402, Phoenix, AZ 85016 (602) 734-7700 | (602) 734-7701 Fax
- [ ] 501 West Broadway, Suite 800, San Diego, CA 92101 (619) 400-4934

Login Sample Receipt Checklist

Client: Ramboll Environ US Corporation

Job Number: 440-189811-1

Login Number: 189811

List Source: TestAmerica Irvine

List Number: 1

Creator: Soderblom, Tim

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	N/A	Not present
Sample custody seals, if present, are intact.	N/A	Not Present
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	False	Composite
Residual Chlorine Checked.	N/A	

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

TestAmerica Laboratories, Inc.
TestAmerica Irvine
17461 Derian Ave
Suite 100
Irvine, CA 92614-5817
Tel: (949)261-1022

TestAmerica Job ID: 440-189811-2
Client Project/Site: SMMUSD - Summer 2017

For:
Ramboll Environ US Corporation
18100 Von Karman Avenue, Ste 600
Irvine, California 92612

Attn: Renee VanDeGriend

Authorized for release by:
8/30/2017 10:17:13 AM

Patty Mata, Senior Project Manager
(949)261-1022
patty.mata@testamericainc.com

LINKS

Review your project results through TotalAccess

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Visit us at: www.testamericainc.com

The test results in this report meet all 2003 NELAC and 2009 TNI requirements for accredited parameters, exceptions are noted in this report. This report may not be reproduced except in full, and with written approval from the laboratory. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

Table of Contents

Sample Summary

Client: Ramboll Environ US Corporation
Project/Site: SMMUSD - Summer 2017

TestAmerica Job ID: 440-189811-2

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
440-189811-6	BMP- DUST 1-4 (COMPOSITE)	Solid	08/08/17 12:20	08/08/17 18:25

Job ID: 440-189811-2

Laboratory: TestAmerica Irvine

Narrative

Job Narrative
440-189811-2

Comments
Only the additional STLC test results for sample BMP- DUST 1-4 (COMPOSITE) (440-189811-6) that were requested on 8/22/17 are included in this report.

Receipt
The samples were received on 8/8/2017 6:25 PM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 4.2º C.

Metals
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Organic Prep
Method(s) CA WET Citrate: Insufficient sample was available to perform the leaching procedure with the required 50g for the following sample: BMP- DUST 1-4 (COMPOSITE) (440-189811-6). The volume of leaching fluid was adjusted proportionally to maintain a 10:1 ratio of leaching fluid to weight of sample. Reporting limits (RLs) are not affected.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Client: Ramboll Environ US Corporation
Project/Site: SMMUSD - Summer 2017

TestAmerica Job ID: 440-189811-2

Client Sample ID: BMP- DUST 1-4 (COMPOSITE) — **Lab Sample ID: 440-189811-6**

Date Collected: 08/08/17 12:20 — **Matrix: Solid**

Date Received: 08/08/17 18:25

Method: 6010B - Metals (ICP) - STLC Citrate

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chromium	0.92		0.10		mg/L			08/29/17 11:11	20
Copper	0.84		0.20		mg/L			08/29/17 11:11	20

Method Summary

Client: Ramboll Environ US Corporation
Project/Site: SMMUSD - Summer 2017

TestAmerica Job ID: 440-189811-2

Method	Method Description	Protocol	Laboratory
6010B	Metals (ICP)	SW846	TAL IRV

Protocol References:

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

TAL IRV = TestAmerica Irvine, 17461 Derian Ave, Suite 100, Irvine, CA 92614-5817, TEL (949)261-1022

Lab Chronicle

Client: Ramboll Environ US Corporation
Project/Site: SMMUSD - Summer 2017

TestAmerica Job ID: 440-189811-2

Client Sample ID: BMP- DUST 1-4 (COMPOSITE) **Lab Sample ID: 440-189811-6**

Date Collected: 08/08/17 12:20 **Matrix: Solid**

Date Received: 08/08/17 18:25

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
STLC Citrate	Leach	CA WET Citrate			20.07 g	200 mL	425752	08/26/17 12:51	CDH	TAL IRV
STLC Citrate	Analysis	6010B		20			426144	08/29/17 11:11	B1H	TAL IRV

Laboratory References:

TAL IRV = TestAmerica Irvine, 17461 Derian Ave, Suite 100, Irvine, CA 92614-5817, TEL (949)261-1022

Method: 6010B - Metals (ICP)

Lab Sample ID: MB 440-425752/1-A ^20
Matrix: Solid
Analysis Batch: 426144

Client Sample ID: Method Blank
Prep Type: STLC Citrate

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chromium	ND		0.10		mg/L			08/29/17 10:42	20
Copper	ND		0.20		mg/L			08/29/17 10:42	20

Lab Sample ID: LCS 440-425752/2-A ^20
Matrix: Solid
Analysis Batch: 426144

Client Sample ID: Lab Control Sample
Prep Type: STLC Citrate

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Chromium			20.0	20.1		mg/L		101	80 - 120		
Copper			20.0	20.9		mg/L		105	80 - 120		

Lab Sample ID: 440-190493-A-1-E MS ^20
Matrix: Solid
Analysis Batch: 426144

Client Sample ID: Matrix Spike
Prep Type: STLC Citrate

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
Chromium	ND		20.0	19.4		mg/L		97	75 - 125		
Copper	ND		20.0	20.1		mg/L		100	75 - 125		

Lab Sample ID: 440-190493-A-1-E MSD ^20
Matrix: Solid
Analysis Batch: 426144

Client Sample ID: Matrix Spike Duplicate
Prep Type: STLC Citrate

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chromium	ND		20.0	19.6		mg/L		98	75 - 125	1	20
Copper	ND		20.0	20.3		mg/L		101	75 - 125	1	20

QC Association Summary

Client: Ramboll Environ US Corporation
Project/Site: SMMUSD - Summer 2017

TestAmerica Job ID: 440-189811-2

Metals

Leach Batch: 425752

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-189811-6	BMP- DUST 1-4 (COMPOSITE)	STLC Citrate	Solid	CA WET Citrate	
MB 440-425752/1-A ^20	Method Blank	STLC Citrate	Solid	CA WET Citrate	
LCS 440-425752/2-A ^20	Lab Control Sample	STLC Citrate	Solid	CA WET Citrate	
440-190493-A-1-E MS ^20	Matrix Spike	STLC Citrate	Solid	CA WET Citrate	
440-190493-A-1-E MSD ^20	Matrix Spike Duplicate	STLC Citrate	Solid	CA WET Citrate	

Analysis Batch: 426144

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-189811-6	BMP- DUST 1-4 (COMPOSITE)	STLC Citrate	Solid	6010B	425752
MB 440-425752/1-A ^20	Method Blank	STLC Citrate	Solid	6010B	425752
LCS 440-425752/2-A ^20	Lab Control Sample	STLC Citrate	Solid	6010B	425752
440-190493-A-1-E MS ^20	Matrix Spike	STLC Citrate	Solid	6010B	425752
440-190493-A-1-E MSD ^20	Matrix Spike Duplicate	STLC Citrate	Solid	6010B	425752

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

Accreditation/Certification Summary

Client: Ramboll Environ US Corporation
Project/Site: SMMUSD - Summer 2017

TestAmerica Job ID: 440-189811-2

Laboratory: TestAmerica Irvine

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	EPA Region	Identification Number	Expiration Date
Alaska	State Program	10	CA01531	06-30-18 *
Arizona	State Program	9	AZ0671	10-14-17
California	LA Cty Sanitation Districts	9	10256	06-30-18
California	State Program	9	CA ELAP 2706	06-30-18
Guam	State Program	9	Cert. No. 17-003R	01-23-18
Hawaii	State Program	9	N/A	01-29-18
Kansas	NELAP Secondary AB	7	E-10420	07-31-17 *
Nevada	State Program	9	CA015312018-1	07-31-18 *
New Mexico	State Program	6	N/A	01-29-18 *
Northern Mariana Islands	State Program	9	MP0002	01-29-17 *
Oregon	NELAP	10	4028	01-29-18
USDA	Federal		P330-15-00184	07-08-18
Washington	State Program	10	C900	09-03-17 *

* Accreditation/Certification renewal pending - accreditation/certification considered valid.

Mata, Patty

From: Amy Manion <AManion@Ramboll.com>
Sent: Tuesday, August 22, 2017 11:15 AM
To: Mata, Patty
Subject: FW: TestAmerica report files from 440-189811-1 SMMUSD - Summer 2017
Attachments: J189811-1 UDS Level 2 Report Final Report.pdf

-External Email-

Patty,

Please run the WET STLC test for chromium and copper for the sample in the attached report, "BMP-DUST 1-4 (COMPOSITE)." Standard TAT is OK.

Thanks,

Amy Manion, PG
Managing Consultant

D (213) 943-6323
M (978) 697-8285
AManion@ramboll.com

Ramboll Environ
350 S. Grand Avenue
Suite 2800
Los Angeles, CA 90071
www.ramboll-environ.com

From: Ted Bowie
Sent: Friday, August 18, 2017 9:27 AM
To: Amy Manion <AManion@Ramboll.com>
Cc: Yi Tian <ytian@ramboll.com>; Rebecca Case <rebeccacase@ramboll.com>
Subject: FW: TestAmerica report files from 440-189811-1 SMMUSD - Summer 2017

Amy - FYI

Ted Bowie, MS, PE, CIH
Senior Managing Consultant
D +1 415.796.1936
tbowie@ramboll.com

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RAMBOLL ENVIRON

CHAIN-OF-CUSTODY FORM № 11567

UST PROJECT OR IS EDF REQUIRED? Y (N) IF YES, GLOBAL ID #: _____ MSA# _____ WO# _____

PROJECT NAME/FACILITY ID: SMMUSD - Summer 2017
PROJECT LOCATION: Malibu, CA
PROJECT NUMBER: 04-33980 Z
DATE: 8/8/17
FIELD PERSON: S. Dishon + M. Rapoza
PROJECT MANAGER: Y. Tian & Ted Bowie
LABORATORY: Test America

SAMPLER: Michael Rapoza
SIGNATURE: Michael Rapoza
YEAR: 2017

SAMPLE I.D. NUMBER	SAMPLE DATE	SAMPLE TIME	SAMPLE DEPTH (FT)	AIR SAMPLE VOLUME (L)	MATRIX (A) AIR (S) SOIL (G) GAS (W) WATER	NUMBER OF CONTAINERS	FILTERED/UNFILTERED (F/U)	PRESERVATION (SEE KEY)	ANALYSIS REQUIRED: PCBs (EPA 8082)	ANALYSIS REQUIRED: Title 22 Metals (6010B/7470A)	COMMENTS
BMP-WATER	8/8/17	1205	—	—	W	2	U	NO	X		* Lab Composite Sample
BMP-DUST	8/8/17	1220	—	—	S	4	U	NO	X	X	
TOTAL											

VG 8/9

8/8/17

440-189811 Chain of Custody

RELINQUISHED BY: Michael Rapoza	TIME/DATE: 1309 8/8/17	RECEIVED BY COMPANY: TA	TIME/DATE: 1309 8/8/17	TURNAROUND TIME (CIRCLE ONE)	SAME DAY, 24 HOURS, 48 HOURS, 72 HOURS, 5 DAYS, NORMAL
RELINQUISHED BY:	TIME/DATE: 1825 8/8/17	RECEIVED BY COMPANY:	TIME/DATE:		
RELINQUISHED BY:	TIME/DATE:	RECEIVED BY COMPANY: TA-I	TIME/DATE: 8/8/17 1827	SAMPLE INTEGRITY INTACT Y N TEMP 4.4/4.2 IR-X4	IF SEALED, SEAL INTEGRITY INTACT Y N

H = HCL; N = HNO3; S = H2SO; U = UNKNOWN; NO = NONE; O = OTHER; V = VARIOUS

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- [ ] 707 Wilshire Boulevard, Suite 4950, Los Angeles, CA 90017 (213) 943-6300 | (213) 943-6301 Fax
- [ ] 2111 East Highland Avenue, Suite 402, Phoenix, AZ 85016 (602) 734-7700 | (602) 734-7701 Fax
- [ ] 501 West Broadway, Suite 800, San Diego, CA 92101 (619) 400-4934

Login Sample Receipt Checklist

Client: Ramboll Environ US Corporation

Job Number: 440-189811-2

Login Number: 189811

List Source: TestAmerica Irvine

List Number: 1

Creator: Soderblom, Tim

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	N/A	Not present
Sample custody seals, if present, are intact.	N/A	Not Present
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	False	Composite
Residual Chlorine Checked.	N/A	