RAMBOLL ENVIRON

MEMO

Date March 7, 2016
To Sandra Lyon, SMMUSD Superintendent
From Ramboll Environ US Corporation

Re: Notification on Encapsulation Repairs at Malibu High School and Juan Cabrillo Elementary School

Dear Ms. Lyon:

Ramboll Environ US Corporation (Ramboll Environ) is providing the Santa Monica-Malibu Unified School District (SMMUSD or District) this notification that damaged encapsulation at Malibu High School (MHS) and Juan Cabrillo Elementary School (JCES) was addressed in accordance with the United States Environmental Protection Agency's (USEPA's) Toxic Substances Control Act (TSCA) polychlorinated biphenyls (PCBs) Clean-up and Disposal Approval under 40 CFR 761.61(c) dated October 31, 2014[1] (October 2014 Approval), USEPA's November 2, 2015 approval letter (November 2015 Approval)[2], and the future assessment plan proposed in Ramboll Environ's *Conclusion of PCB Sampling Pilot Study and 2015 PCB Removal Activities Report for Malibu High School and Juan Cabrillo Elementary School* (Summer 2015 Report).[3] As described in the Summer 2015 Report,"If the integrity of the encapsulant is compromised, the District will conduct repairs to re-encapsulate the area, conduct [Best Management Practices] cleaning, and confirm successful repairs with surface wipe sampling." As of February 19, 2016, all observed areas with damaged encapsulation have been repaired by SMMUSD and verified through subsequent surface wipe sampling conducted by Ramboll Environ to have PCB concentrations below USEPA's benchmark for schools of 1 microgram per 100 square centimeters (1 µg/100 cm^2).

The remainder of this letter summarizes what is known about the damage to encapsulated areas, SMMUSD's repair activities, and Ramboll Environ's inspection findings and sampling results.

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USA

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

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

[3] Ramboll Environ, 2015. Conclusion of PCB Sampling Pilot Study and 2015 PCB Removal Activities Report for Malibu High School and Juan Cabrillo Elementary School. Available online: http://www.smmusd.org/publicnotices/PCBreports.html.

Observed Potentially Removed Building Materials

On October 29, 2015, Public Employees for Environmental Responsibility (PEER) and America Unites for Kids (AU) issued a letter to SMMUSD reporting that they had collected bulk samples of building materials at MHS. Some of the reported sample locations included rooms that were previously addressed through caulk removal and subsequent encapsulation by the District during Summer 2015 (see Summer 2015 Report for additional details).

On October 30 and 31, 2015, Ramboll Environ conducted a visual inspection of the encapsulated areas in locations where AU/PEER conducted unauthorized building materials sampling/testing. The integrity of encapsulated areas was determined to be compromised in MHS Buildings A (800, Great White Shark), G (500, Angel Shark), I (400, Leopard Shark), and J (700, Old Gymnasium), and JCES Building F. A photolog of rooms where damage to encapsulation areas was observed by Ramboll Environ is presented as Attachment A.

Repair of Damaged Encapsulated Areas

Repair activities were conducted by SMMUSD. The areas where Ramboll Environ observed damaged encapsulation were addressed using the methods described in the October 2014 Approval and the November 2015 Approval.

Sampling of Repaired Rooms

On January 8, 2016 and February 19, 2016, Ramboll Environ conducted surface wipe sampling of the areas that had been repaired and re-encapsulated by SMMUSD. The sampling was conducted to verify the effectiveness of encapsulant repairs. The PCB concentrations of the surface wipe samples are reported in Table 1. As shown in Table 1, total PCBs were not detected in any of the surface wipes at a detection limit of 0.1 µg/m^3; well below USEPA's school benchmark of 1 µg/100 cm^2. The rooms and locations identified in Table 1 and depicted in Figures 1 through 7 constitute the areas covered by this notification.

Ramboll Environ's photolog of surface wipe sampling locations is provided as Attachment B. Laboratory reports and third party validation of these laboratory reports are included as Attachment C.

Attachments:

Table

Figures

A: Photolog – Locations to Repair – Damaged Encapsulation Areas

B: Photolog – Encapsulation Repair Surface Wipe Sampling – Winter 2015/2016

C: Laboratory Analytical Reports and Data Validation for Ramboll Environ's Surface Wipe Sampling of MHS and JCES

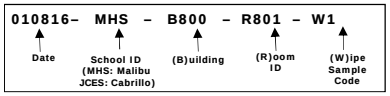
TABLE

Table 1. Summary of Surface Wipe Sampling Results for Winter Encapsulant Repair 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								
A (800, Great White Shark)	801	208	Computer Lab/Library	Interior window sill	Encapsulated plaster	1/8/2016	010816 - MHS - B800 - R801 - W1	ND (<0.10)
G (500, Angel Shark)	505	404N	Art Classroom	Interior door	Encapsulated plaster	1/8/2016	010816 - MHS - B500 - R505 - W1	ND (<0.10)
I (400, Leopard Shark)	401	401	Classroom	Interior window jamb	Encapsulated plaster	1/8/2016	010816 - MHS - B400 - R401 - W1	ND (<0.10)
				Interior window jamb	Encapsulated plaster (replicate of W1)	1/8/2016	010816 - MHS - B400 - R401 - W2 (replicate)	ND (<0.10)
J (700, Old Gymnasium)	704	117	Faculty Office	Interior door	Encapsulated plaster	1/8/2016	010816 - MHS - B700 - R704 - W1	ND (<0.10)
				Interior window sill	Encapsulated ceramic tile	2/19/2016	021916 - MHS - B700 - R704 - W1	ND (<0.10)
JCES								
F	R18	18	PTA Room	Interior window jamb	Encapsulated plaster	1/8/2016	010816 - JCES - BF - R18 - W1	ND (<0.10)
				Interior window jamb	Encapsulated plaster	1/8/2016	010816 - JCES - BF - R18 - W2	ND (<0.10)
	R19	19	Music Room	Interior window frame	Encapsulated plaster	2/19/2016	021916 - JCES - BF - R19 - W1	ND (<0.10)
				Interior window frame	Encapsulated plaster (duplicate of W1)	2/19/2016	021916 - JCES - BF - R19 - W2 (duplicate)	ND (<0.10)
	R22	22	Art Classroom	Interior window jamb	Encapsulated plaster	1/8/2016	010816 - JCES - BF - R22 - W1	ND (<0.10)
				Interior window jamb	Encapsulated plaster	1/8/2016	010816 - JCES - BF - R22 - W2	ND (<0.10)
				Interior window frame	Encapsulated plaster	2/19/2016	021916 - JCES - BF - R22 - W1	ND (<0.10) UJ
Field Blanks						1/8/2016	010816 - WFB - HEX	ND (<0.10)
						2/19/2016	021916 - WFB - HEX	ND (<0.10)

Notes:

1.Analytical reports (1601458 and 16021055) were provided by the laboratory, ALS Environmental. Samples were analyzed by USEPA method SW 8082. Sample area was 100 cm^2.
2. DVRs (35809A and 35941A: USEPA Level III) were provided by LDC.
3. For DVR 35941A, the surrogate spike %R was slightly lower than the QC limits of 40-140, affecting all TCL compounds (not detected [UJ] qualified in one sample).
4. No Aroclors were detected. Total PCBs are shown as less than (<) the highest method reporting limit.
5. 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.
6. Example of sample ID:



Abbreviations:

µg/100 cm^2 = micrograms per 100 square centimeters
cm^2 = square centimeters
DVR = data validation report
FB = field blank
HEX = hexane
JCES = Juan Cabrillo Elementary School
LDC = Laboratory Data Consultants, Inc.
MHS = Malibu High School
ND = Testing result not detected above the reporting limit
PCB = polychlorinated biphenyl
QC = quality control
%R = percent recoveries
SW = solid waste
TCL = target compounds list
UJ = Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.
USEPA = United States Environmental Protection Agency

FIGURES

208

W1(1)

Legend

- Windows
- Doors
- Encapsulation Repair Surface Wipe Sample Location

Notes:
1. Floor Plan Room ID is shown for each room.
2. Floor plan reference: HMC Architects (2010)
3. Figure dimensions are approximate.
4. Sample locations are approximate.
5. Abbreviations:
   MHS = Malibu High School
   (1) = Sample collected on 1/8/2016

0 2.5 5 10
Feet

RAMBOLL ENVIRON

DRAFTED BY: RRH | Date: 3/3/2016

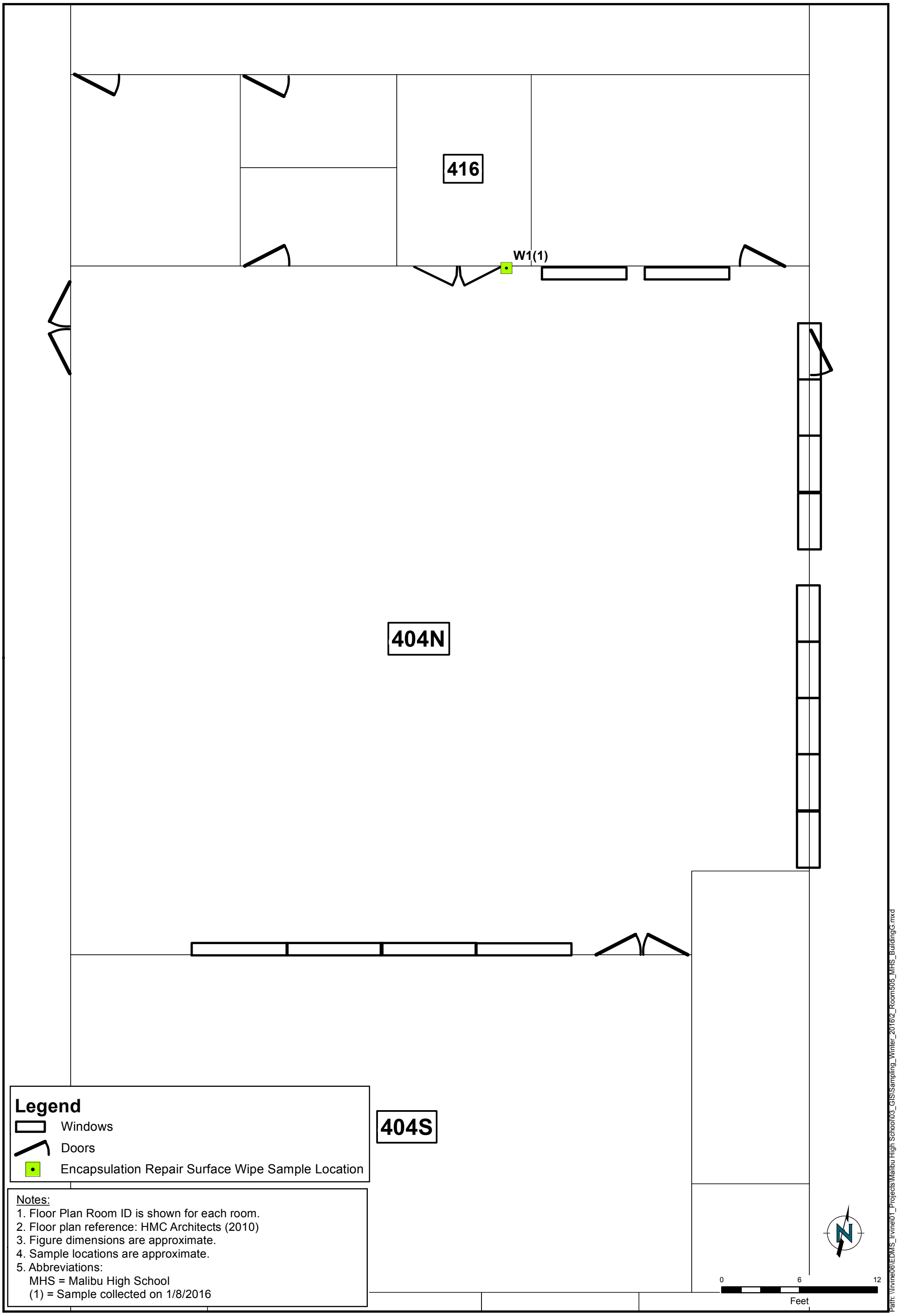
Location of the Surface Wipe Sample in Room 801 (Room ID 208) in Building A (800, Great White Shark) at MHS - Winter 2015/2016

Malibu High School
30215 Morning View Drive, Malibu, California

Figure 1

PROJECT: 0433980S

Path: \\Irvine06\EDMS_Irvine\01_Projects\Malibu High School\03_GIS\Sampling_Winter_2016\1_Room801_MHS_BuildingA.mxd



RAMBOLL ENVIRON

DRAFTED BY: RRH | Date: 3/3/2016

Location of the Surface Wipe Sample in Room 505 (Room ID 404N) in Building G (500, Angel Shark) at MHS - Winter 2015/2016

Malibu High School
30215 Morning View Drive, Malibu, California

Figure
2

PROJECT: 0433980S

Legend

- Windows
- Doors
- Encapsulation Repair Surface Wipe Sample Location with Replicate

Notes:
1. Floor Plan Room ID is shown for each room.
2. Floor plan reference: HMC Architects (2010)
3. Figure dimensions are approximate.
4. Sample locations are approximate.
5. Abbreviations:
   MHS = Malibu High School
   (1) = Samples collected on 1/8/2016

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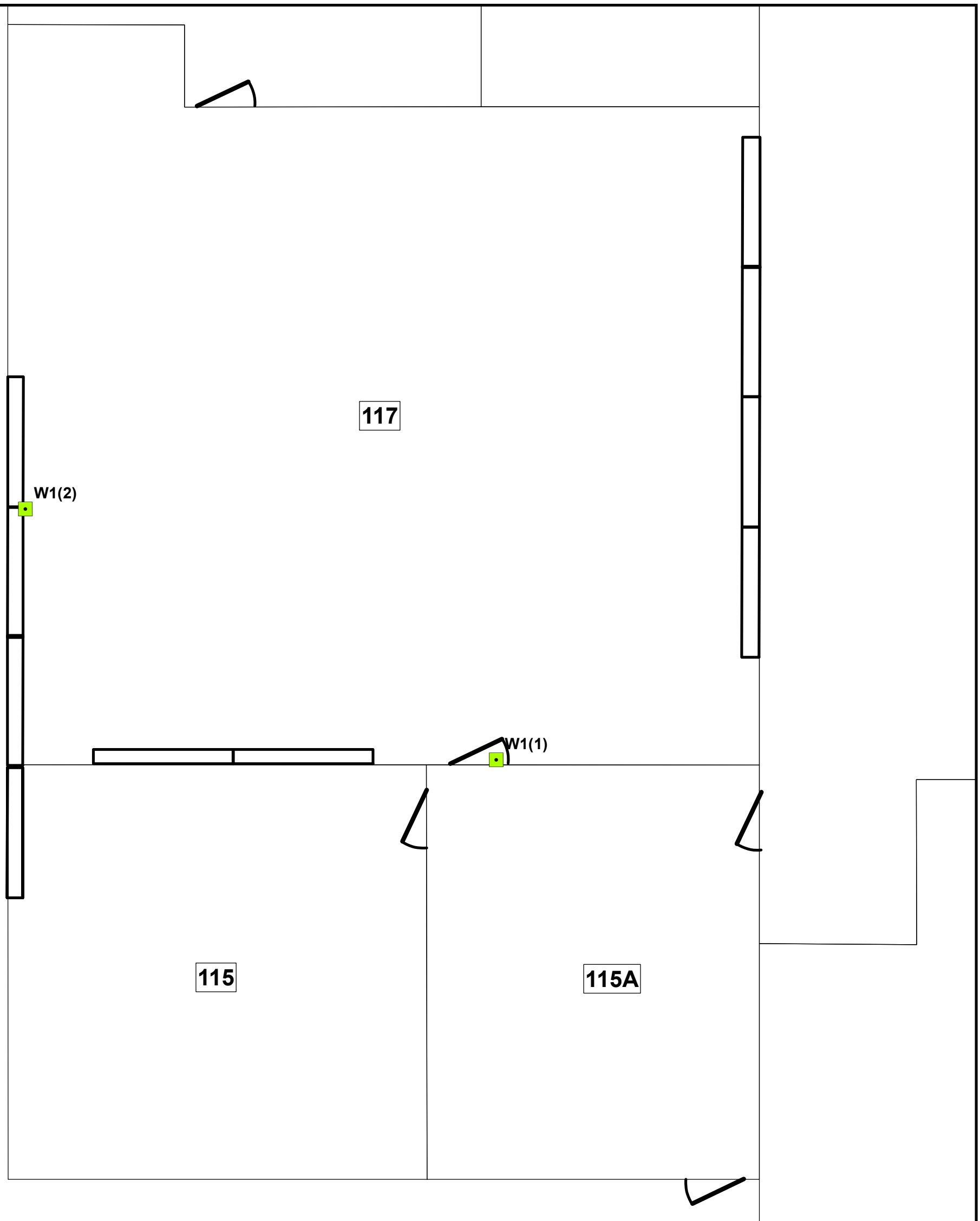
RAMBOLL ENVIRON

DRAFTED BY: RRH | Date: 3/3/2016

Locations of Surface Wipe Samples in Room 401 (Room ID 401)
in Building I (400, Leopard Shark) at MHS - Winter 2015/2016
Malibu High School
30215 Morning View Drive, Malibu, California

Figure
3

PROJECT: 0433980S



Legend

- Windows
- Doors
- Encapsulation Repair Surface Wipe Sample Locations

Notes:
1. Floor Plan Room ID is shown for each room.
2. Floor plan reference: HMC Architects (2010)
3. Figure dimensions are approximate.
4. Sample locations are approximate.
5. Abbreviations:
   MHS = Malibu High School
   (1) = Sample collected on 1/8/2016
   (2) = Sample collected on 2/19/2016

N

0 1.5 3 6

Feet

Path: \\Irvine06\EDMS_Irvine\01_Projects\Malibu High School\03_GIS\Sampling_Winter_2016\4_Room704_705_MHS_BuildingJ.mxd

RAMBOLL ENVIRON

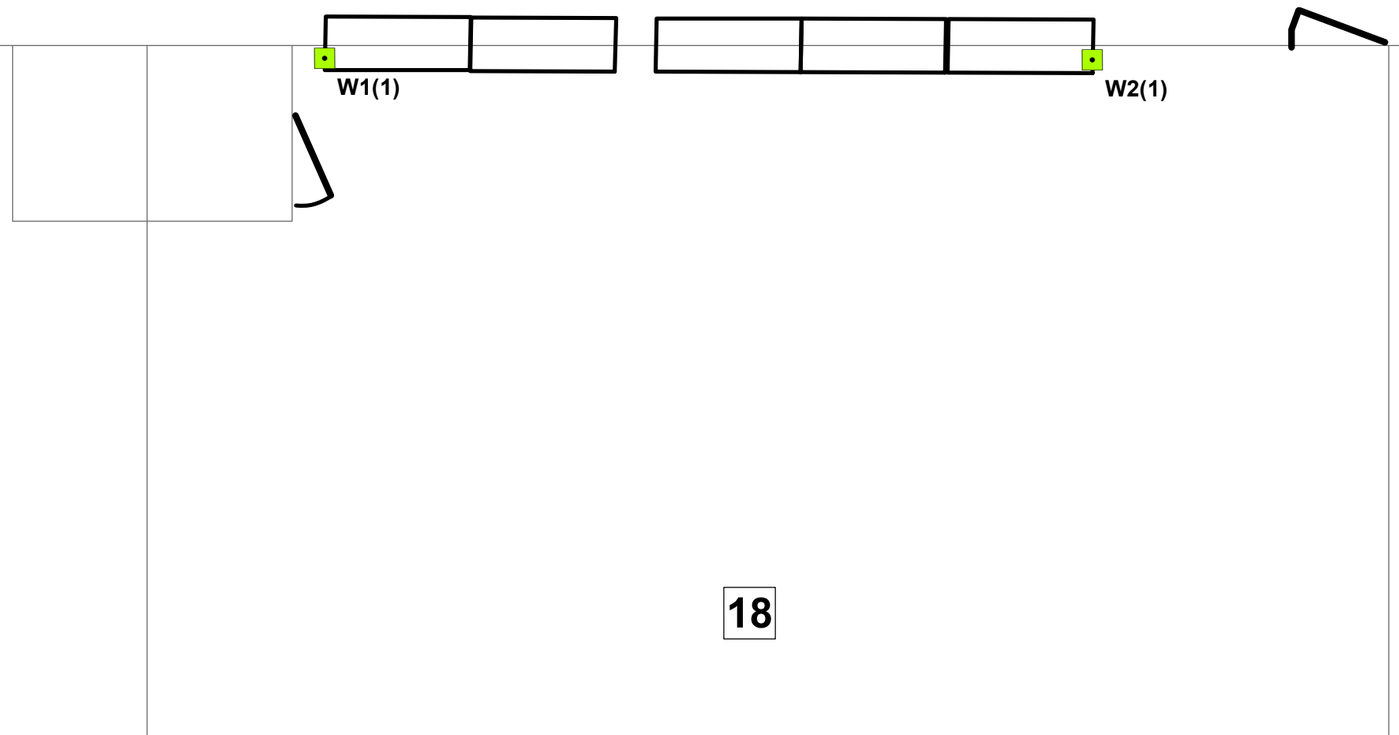
DRAFTED BY: RRH | Date: 3/3/2016

Locations of Surface Wipe Samples in Room 704 (Room ID 117) in Building J (700, Old Gymnasium) at MHS - Winter 2015/2016

Malibu High School
30215 Morning View Drive, Malibu, California

Figure 4

PROJECT: 0433980S



Legend

- Windows
- Doors
- Encapsulation Repair Surface Wipe Sample Locations

Notes:
1. Floor Plan Room ID is shown for each room.
2. Floor plan reference: JE Jacobs (2001)
3. Figure dimensions are approximate.
4. Sample locations are approximate.
5. Abbreviations:
   JCES = Juan Cabrillo Elementary School
   (1) = Samples collected on 1/8/2016

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Feet

N

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RAMBOLL ENVIRON

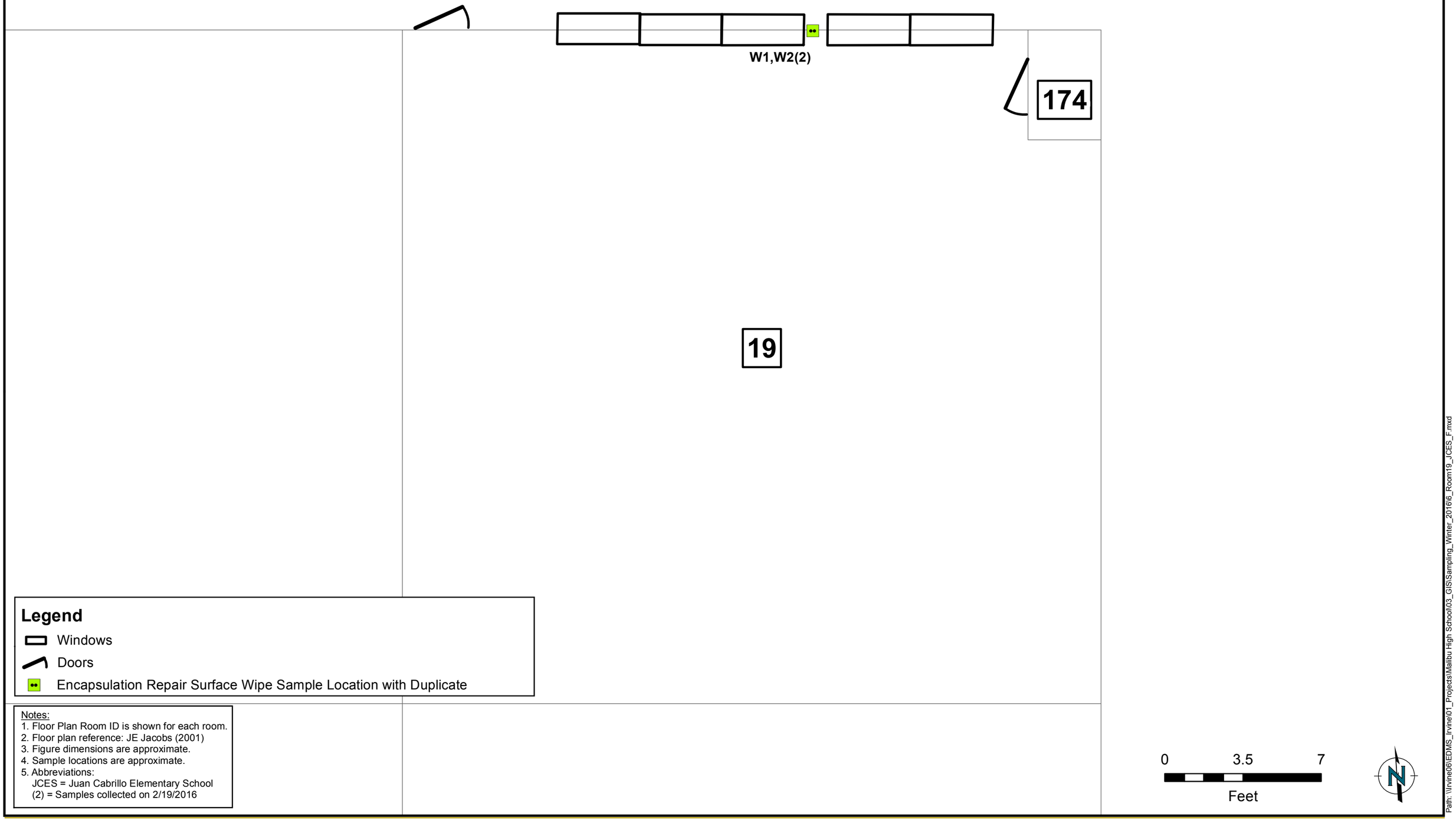
DRAFTED BY: RRH | Date: 3/3/2016

Locations of Surface Wipe Samples in Room 18 in Building F at JCES - Winter 2015/2016

Juan Cabrillo Elementary School
30237 Morning View Drive, Malibu, California

Figure
5

PROJECT: 0433980S



Legend

- Windows
- Doors
- Encapsulation Repair Surface Wipe Sample Location with Duplicate

Notes:
1. Floor Plan Room ID is shown for each room.
2. Floor plan reference: JE Jacobs (2001)
3. Figure dimensions are approximate.
4. Sample locations are approximate.
5. Abbreviations:
   JCES = Juan Cabrillo Elementary School
   (2) = Samples collected on 2/19/2016

0 3.5 7
Feet

N

Path: \\Irvine06\EDMS_Irvine\01_Projects\Malibu High School\03_GIS\Sampling_Winter_2016\6_Room19_JCES_F.mxd

RAMBOLL ENVIRON

DRAFTED BY: RRH | Date: 3/3/2016

Locations of Surface Wipe Samples in Room 19 in Building F at JCES - Winter 2015/2016

Juan Cabrillo Elementary School
30237 Morning View Drive, Malibu, California

Figure
6

PROJECT: 0433980S

22

177

W2(1)

W1(2)

W1(1)

Legend

- Windows
- Doors
- Encapsulation Repair Surface Wipe Sample Locations

Notes:
1. Floor Plan Room ID is shown for each room.
2. Floor plan reference: JE Jacobs (2001)
3. Figure dimensions are approximate.
4. Sample locations are approximate.
5. Abbreviations:
   JCES = Juan Cabrillo Elementary School
   (1) = Samples collected on 1/8/2016
   (2) = Sample collected on 2/19/2016

0 3.5 7

Feet

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RAMBOLL ENVIRON

DRAFTED BY: RRH | Date: 3/4/2016

Locations of Surface Wipe Samples in Room 22 in Building F at JCES - Winter 2015/2016

Juan Cabrillo Elementary School
30237 Morning View Drive, Malibu, California

Figure 7

PROJECT: 0433980S

ATTACHMENT A
PHOTOLOG – LOCATIONS TO REPAIR – DAMAGED ENCAPSULATION AREAS

Photo 1. Room 801

Photo 2. Room 801

Photo 3. Room 801 - Interior window gap in encapsulant.

Photo 4. Room 801 - Additional interior window gap in encapsulant.

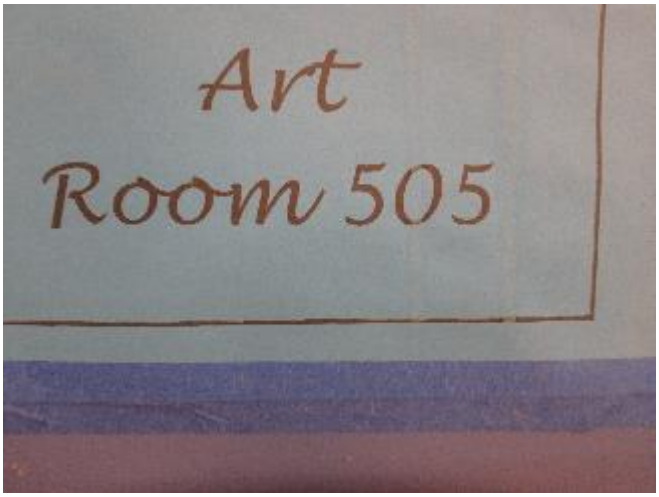

Photo 5. Room 505

Photo 6. Room 505 - Door to Room 505B

Photo 7. Room 505 – Door to Room 505B - Interior door gap in encapsulant.

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Photo 8. Room 401

Photo 9. Room 401 - Interior window gap in encapsulant.

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Photo 10. Room 704

Photo 11. Room 704 - Interior door gap in encapsulant.

Photo 12. Room 704 - Interior window gap in encapsulant.

Photo 13. Room 704 - Interior window gap in encapsulant.

Photo 14. Room 18

Photo 15. Room 18

Photo 16. Room 18 - Interior window gap in encapsulant.

Photo 17. Room 18 - Additional interior window gap in encapsulant.

Photo 18. Room 19

Photo 19. Room 19

Photo 20. Room 19 - Interior window gap in encapsulant.

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Photo 21. Room 22

Photo 22. Room 22

Photo 23. Room 22 - Interior window gap in encapsulant.

Photo 24. Room 22 - Additional interior window gap in encapsulant.

Photo 25. Room 22 - Additional interior window gap in encapsulant.

Photo 26. Room 22 - Additional interior window gap in encapsulant.

Photo 27. Room 22 - Additional interior window gap in encapsulant.

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ATTACHMENT B
PHOTOLOG – ENCAPSULATION REPAIR SURFACE WIPE SAMPLING – WINTER 2015/2016

Photo 1. Room 801

Photo 2. Room 801 – Location of surface wipe sample (010816-MHS-B800-R801-W1).

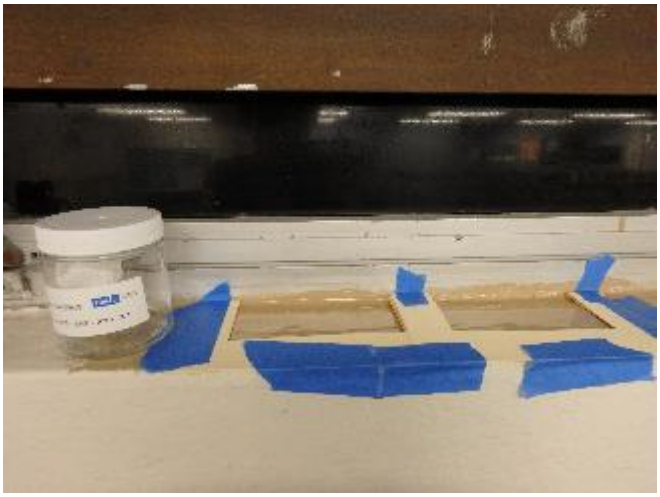

Photo 3. Room 801 – Surface wipe sample (010816-MHS-B800-R801-W1).

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Photo 4. Room 505

Photo 5. Room 505 - Location of surface wipe sample (010816-MHS-B500-R505-W1).

Photo 6. Room 505 – Surface wipe sample (010816-MHS-B500-R505-W1).

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Photo 7. Room 401

Photo 8. Room 401 - Location of surface wipe samples (010816-MHS-B400-R401-W1 and 010816-MHS-B400-R401-W2, replicate).

Photo 9. Room 401 - Surface wipe samples (010816-MHS-B400-R401-W1 and 010816-MHS-B400-R401-W2, replicate).

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Photo 10. Room 704

Photo 11. Room 704 - Location of surface wipe sample (010816-MHS-B700-R704-W1).

Photo 12. Room 704 – Surface wipe sample (010816-MHS-B700-R704-W1).

Photo 13. Room 704 - Location of surface wipe sample (021916-MHS-B700-R704-W1).

 **Photo 14.** Room 704 - Surface wipe sample (021916-MHS-B700-R704-W1).	**=THIS SPACE IS INTENTIONALLY LEFT BLANK=**
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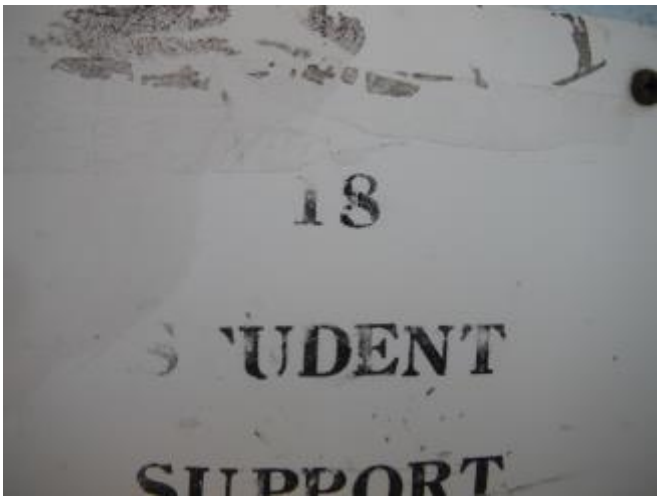

Photo 15. Room 18

Photo 16. Room 18 – Location of surface wipe samples (010816-JCES-BF-R18-W1).

Photo 17. Room 18 – Location of surface wipe sample (010816-JCES-BF-R18-W1).

Photo 18. Room 18 – Location of surface wipe sample (010816-JCES-BF-R18-W2).

Photo 19. Room 18 – Location of surface wipe sample (010816-JCES-BF-R18-W2).

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Photo 20. Room 19

Photo 21. Room 19 – Location of surface wipe samples (021916-JCES-BF-R19-W1 and 021916-JCES-BF-R19-W2, duplicate).

Photo 22. Room 19 – Location of surface wipe samples (021916-JCES-BF-R19-W1 and 021916-JCES-BF-R19-W2, duplicate).

Photo 23. Room 19 – Surface wipe samples (021916-JCES-BF-R19-W1 and 021916-JCES-BF-R19-W2, duplicate).

Photo 24. Room 22

Photo 25. Room 22 – Location of surface wipe sample (010816-JCES-BF-R22-W1).

Photo 26. Room 22 – Surface wipe sample (010816-JCES-BF-R22-W1).

Photo 27. Room 22 – Location of surface wipe sample (010816-JCES-BF-R22-W2).

Photo 28. Room 22 – Location of surface wipe sample (010816-JCES-BF-R22-W2).

Photo 29. Room 22 – Location of surface wipe sample (021916-JCES-BF-R22-W1).

Photo 30. Room 22 – Surface wipe sample (021916-JCES-BF-R22-W1).

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ATTACHMENT C
LABORATORY ANALYTICAL REPORTS AND DATA VALIDATION FOR RAMBOLL ENVIRON'S SURFACE WIPE SAMPLING OF MHS AND JCES

LABORATORY REPORT #1601458 (SURFACE WIPE)
SAMPLE DATE: JANUARY 8, 2016

22-Jan-2016

Yi Tian
ENVIRON International Corp
18100 VonKarman Ave.
Suite 600
Irvine, CA 92612

Re: **SMMUSD (04-339805)** Work Order: **1601458**

Dear Yi,

ALS Environmental received 10 samples on 13-Jan-2016 10:30 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 NELAP standard requirements and QC 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 19.

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

Sincerely,

Chad Whelton

Electronically approved by: Chad Whelton

Chad Whelton
Project Manager

Certificate No: MN 532786

ADDRESS 3352 128th Avenue Holland, Michigan 49424-9263 | PHONE (616) 399-6070 | FAX (616) 399-6185
ALS GROUP USA, CORP Part of the ALS Laboratory Group A Campbell Brothers Limited Company

ALS Group USA, Corp

Date: 22-Jan-16

Client: ENVIRON International Corp
Project: SMMUSD (04-339805)
Work Order: **1601458**

Work Order Sample Summary

Lab Samp ID	Client Sample ID	Matrix	Tag Number	Collection Date	Date Received	Hold
1601458-01	010816 - MHS - B800 - R801 - W1	Wipe		1/8/2016 18:20	1/13/2016 10:30	☐
1601458-02	010816 - MHS - B500 - R505 - W1	Wipe		1/8/2016 17:25	1/13/2016 10:30	☐
1601458-03	010816 - MHS - B400 - R401 - W1	Wipe		1/8/2016 17:35	1/13/2016 10:30	☐
1601458-04	010816 - MHS - B400 - R401 - W2	Wipe		1/8/2016 17:35	1/13/2016 10:30	☐
1601458-05	010816 - MHS - B700 - R704 - W1	Wipe		1/8/2016 17:00	1/13/2016 10:30	☐
1601458-06	010816 - JCES - BF - R18 - W1	Wipe		1/8/2016 12:40	1/13/2016 10:30	☐
1601458-07	010816 - JCES - BF - R18 - W2	Wipe		1/8/2016 12:40	1/13/2016 10:30	☐
1601458-08	010816 - JCES - BF - R22 - W1	Wipe		1/8/2016 12:15	1/13/2016 10:30	☐
1601458-09	010816 - JCES - BF - R22 - W2	Wipe		1/8/2016 12:15	1/13/2016 10:30	☐
1601458-10	010816 - WFB - HEX	Wipe		1/8/2016 18:45	1/13/2016 10:30	☐

ALS Group USA, Corp

Date: 22-Jan-16

Client: ENVIRON International Corp
Project: SMMUSD (04-339805)
Work Order: 1601458

Case Narrative

Samples for the above noted Work Order were received on 01/13/2016. The attached "Sample Receipt Checklist" documents the status of custody seals, container integrity, preservation, and temperature compliance.

Samples were analyzed according to the analytical methodology previously transmitted in the "Work Order Acknowledgement". Methodologies are also documented in the "Analytical Result" section for each sample. Quality control results are listed in the "QC Report" section. Sample association for the reported quality control is located at the end of each batch summary. If applicable, results are appropriately qualified in the Analytical Result and QC Report sections. The "Qualifiers" section documents the various qualifiers, units, and acronyms utilized in reporting.

With the following exceptions, all sample analyses achieved analytical criteria.

Volatile Organics:
No other deviations or anomalies were noted.

Extractable Organics:
No other deviations or anomalies were noted.

Metals:
No other deviations or anomalies were noted.

Wet Chemistry:
No other deviations or anomalies were noted.

ALS Group USA, Corp

Date: 22-Jan-16

Client: ENVIRON International Corp
Project: SMMUSD (04-339805)
WorkOrder: **1601458**

QUALIFIERS, ACRONYMS, UNITS

Qualifier	Description
*	Value exceeds Regulatory Limit
a	Not 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
n	Not offered for accreditation
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 PQL, 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, Corp

Date: *22-Jan-16*

Client: ENVIRON International Corp
Project: SMMUSD (04-339805) **Work Order:** 1601458
Sample ID: 010816 - MHS - B800 - R801 - W1 **Lab ID:** 1601458-01
Collection Date: 1/8/2016 06:20 PM **Matrix:** WIPE

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
PCBS			**SW8082**		Prep: EPA/600/R-07 / 1/19/16	Analyst: **BLM**
Aroclor 1016	ND		0.10	µg/wipe	1	1/19/2016 10:49 PM
Aroclor 1221	ND		0.10	µg/wipe	1	1/19/2016 10:49 PM
Aroclor 1232	ND		0.10	µg/wipe	1	1/19/2016 10:49 PM
Aroclor 1242	ND		0.10	µg/wipe	1	1/19/2016 10:49 PM
Aroclor 1248	ND		0.10	µg/wipe	1	1/19/2016 10:49 PM
Aroclor 1254	ND		0.10	µg/wipe	1	1/19/2016 10:49 PM
Aroclor 1260	ND		0.10	µg/wipe	1	1/19/2016 10:49 PM
Aroclor 1262	ND		0.10	µg/wipe	1	1/19/2016 10:49 PM
Aroclor 1268	ND		0.10	µg/wipe	1	1/19/2016 10:49 PM
PCBs, Total	ND		0.10	µg/wipe	1	1/19/2016 10:49 PM
Surr: Decachlorobiphenyl	*95.0*		*40-140*	*%REC*	1	1/19/2016 10:49 PM
Surr: Tetrachloro-m-xylene	*85.3*		*40-140*	*%REC*	1	1/19/2016 10:49 PM

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

ALS Group USA, Corp

Date: *22-Jan-16*

Client: ENVIRON International Corp
Project: SMMUSD (04-339805) **Work Order:** 1601458
Sample ID: 010816 - MHS - B500 - R505 - W1 **Lab ID:** 1601458-02
Collection Date: 1/8/2016 05:25 PM **Matrix:** WIPE

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
PCBS			**SW8082**		Prep: EPA/600/R-07 / 1/19/16	Analyst: **BLM**
Aroclor 1016	ND		0.10	µg/wipe	1	1/19/2016 11:04 PM
Aroclor 1221	ND		0.10	µg/wipe	1	1/19/2016 11:04 PM
Aroclor 1232	ND		0.10	µg/wipe	1	1/19/2016 11:04 PM
Aroclor 1242	ND		0.10	µg/wipe	1	1/19/2016 11:04 PM
Aroclor 1248	ND		0.10	µg/wipe	1	1/19/2016 11:04 PM
Aroclor 1254	ND		0.10	µg/wipe	1	1/19/2016 11:04 PM
Aroclor 1260	ND		0.10	µg/wipe	1	1/19/2016 11:04 PM
Aroclor 1262	ND		0.10	µg/wipe	1	1/19/2016 11:04 PM
Aroclor 1268	ND		0.10	µg/wipe	1	1/19/2016 11:04 PM
PCBs, Total	ND		0.10	µg/wipe	1	1/19/2016 11:04 PM
Surr: Decachlorobiphenyl	*96.7*		*40-140*	*%REC*	1	1/19/2016 11:04 PM
Surr: Tetrachloro-m-xylene	*85.8*		*40-140*	*%REC*	1	1/19/2016 11:04 PM

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

ALS Group USA, Corp

Date: *22-Jan-16*

Client: ENVIRON International Corp
Project: SMMUSD (04-339805) **Work Order:** 1601458
Sample ID: 010816 - MHS - B400 - R401 - W1 **Lab ID:** 1601458-03
Collection Date: 1/8/2016 05:35 PM **Matrix:** WIPE

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
PCBS			**SW8082**		Prep: EPA/600/R-07 / 1/19/16	Analyst: **BLM**
Aroclor 1016	ND		0.10	µg/wipe	1	1/19/2016 11:19 PM
Aroclor 1221	ND		0.10	µg/wipe	1	1/19/2016 11:19 PM
Aroclor 1232	ND		0.10	µg/wipe	1	1/19/2016 11:19 PM
Aroclor 1242	ND		0.10	µg/wipe	1	1/19/2016 11:19 PM
Aroclor 1248	ND		0.10	µg/wipe	1	1/19/2016 11:19 PM
Aroclor 1254	ND		0.10	µg/wipe	1	1/19/2016 11:19 PM
Aroclor 1260	ND		0.10	µg/wipe	1	1/19/2016 11:19 PM
Aroclor 1262	ND		0.10	µg/wipe	1	1/19/2016 11:19 PM
Aroclor 1268	ND		0.10	µg/wipe	1	1/19/2016 11:19 PM
PCBs, Total	ND		0.10	µg/wipe	1	1/19/2016 11:19 PM
Surr: Decachlorobiphenyl	*95.9*		*40-140*	*%REC*	1	1/19/2016 11:19 PM
Surr: Tetrachloro-m-xylene	*86.0*		*40-140*	*%REC*	1	1/19/2016 11:19 PM

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

ALS Group USA, Corp

Date: *22-Jan-16*

Client: ENVIRON International Corp
Project: SMMUSD (04-339805) **Work Order:** 1601458
Sample ID: 010816 - MHS - B400 - R401 - W2 **Lab ID:** 1601458-04
Collection Date: 1/8/2016 05:35 PM **Matrix:** WIPE

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
PCBS			**SW8082**		Prep: EPA/600/R-07 / 1/19/16	Analyst: **BLM**
Aroclor 1016	ND		0.10	µg/wipe	1	1/19/2016 11:33 PM
Aroclor 1221	ND		0.10	µg/wipe	1	1/19/2016 11:33 PM
Aroclor 1232	ND		0.10	µg/wipe	1	1/19/2016 11:33 PM
Aroclor 1242	ND		0.10	µg/wipe	1	1/19/2016 11:33 PM
Aroclor 1248	ND		0.10	µg/wipe	1	1/19/2016 11:33 PM
Aroclor 1254	ND		0.10	µg/wipe	1	1/19/2016 11:33 PM
Aroclor 1260	ND		0.10	µg/wipe	1	1/19/2016 11:33 PM
Aroclor 1262	ND		0.10	µg/wipe	1	1/19/2016 11:33 PM
Aroclor 1268	ND		0.10	µg/wipe	1	1/19/2016 11:33 PM
PCBs, Total	ND		0.10	µg/wipe	1	1/19/2016 11:33 PM
Surr: Decachlorobiphenyl	*96.9*		*40-140*	*%REC*	1	1/19/2016 11:33 PM
Surr: Tetrachloro-m-xylene	*85.9*		*40-140*	*%REC*	1	1/19/2016 11:33 PM

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

ALS Group USA, Corp

Date: *22-Jan-16*

Client: ENVIRON International Corp
Project: SMMUSD (04-339805) **Work Order:** 1601458
Sample ID: 010816 - MHS - B700 - R704 - W1 **Lab ID:** 1601458-05
Collection Date: 1/8/2016 05:00 PM **Matrix:** WIPE

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
PCBS			**SW8082**		Prep: EPA/600/R-07 / 1/19/16	Analyst: **BLM**
Aroclor 1016	ND		0.10	µg/wipe	1	1/19/2016 11:48 PM
Aroclor 1221	ND		0.10	µg/wipe	1	1/19/2016 11:48 PM
Aroclor 1232	ND		0.10	µg/wipe	1	1/19/2016 11:48 PM
Aroclor 1242	ND		0.10	µg/wipe	1	1/19/2016 11:48 PM
Aroclor 1248	ND		0.10	µg/wipe	1	1/19/2016 11:48 PM
Aroclor 1254	ND		0.10	µg/wipe	1	1/19/2016 11:48 PM
Aroclor 1260	ND		0.10	µg/wipe	1	1/19/2016 11:48 PM
Aroclor 1262	ND		0.10	µg/wipe	1	1/19/2016 11:48 PM
Aroclor 1268	ND		0.10	µg/wipe	1	1/19/2016 11:48 PM
PCBs, Total	ND		0.10	µg/wipe	1	1/19/2016 11:48 PM
Surr: Decachlorobiphenyl	*96.2*		*40-140*	*%REC*	1	1/19/2016 11:48 PM
Surr: Tetrachloro-m-xylene	*85.8*		*40-140*	*%REC*	1	1/19/2016 11:48 PM

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

ALS Group USA, Corp

Date: *22-Jan-16*

Client: ENVIRON International Corp
Project: SMMUSD (04-339805)
Work Order: 1601458
Sample ID: 010816 - JCES - BF - R18 - W1
Lab ID: 1601458-06
Collection Date: 1/8/2016 12:40 PM
Matrix: WIPE

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
PCBS			**SW8082**		Prep: EPA/600/R-07 / 1/19/16	Analyst: **BLM**
Aroclor 1016	ND		0.10	µg/wipe	1	1/20/2016 12:02 AM
Aroclor 1221	ND		0.10	µg/wipe	1	1/20/2016 12:02 AM
Aroclor 1232	ND		0.10	µg/wipe	1	1/20/2016 12:02 AM
Aroclor 1242	ND		0.10	µg/wipe	1	1/20/2016 12:02 AM
Aroclor 1248	ND		0.10	µg/wipe	1	1/20/2016 12:02 AM
Aroclor 1254	ND		0.10	µg/wipe	1	1/20/2016 12:02 AM
Aroclor 1260	ND		0.10	µg/wipe	1	1/20/2016 12:02 AM
Aroclor 1262	ND		0.10	µg/wipe	1	1/20/2016 12:02 AM
Aroclor 1268	ND		0.10	µg/wipe	1	1/20/2016 12:02 AM
PCBs, Total	ND		0.10	µg/wipe	1	1/20/2016 12:02 AM
Surr: Decachlorobiphenyl	*97.3*		*40-140*	*%REC*	1	1/20/2016 12:02 AM
Surr: Tetrachloro-m-xylene	*86.9*		*40-140*	*%REC*	1	1/20/2016 12:02 AM

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

ALS Group USA, Corp

Date: *22-Jan-16*

Client: ENVIRON International Corp
Project: SMMUSD (04-339805) **Work Order:** 1601458
Sample ID: 010816 - JCES - BF - R18 - W2 **Lab ID:** 1601458-07
Collection Date: 1/8/2016 12:40 PM **Matrix:** WIPE

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
PCBS			**SW8082**		Prep: EPA/600/R-07 / 1/19/16	Analyst: **BLM**
Aroclor 1016	ND		0.10	µg/wipe	1	1/20/2016 12:17 AM
Aroclor 1221	ND		0.10	µg/wipe	1	1/20/2016 12:17 AM
Aroclor 1232	ND		0.10	µg/wipe	1	1/20/2016 12:17 AM
Aroclor 1242	ND		0.10	µg/wipe	1	1/20/2016 12:17 AM
Aroclor 1248	ND		0.10	µg/wipe	1	1/20/2016 12:17 AM
Aroclor 1254	ND		0.10	µg/wipe	1	1/20/2016 12:17 AM
Aroclor 1260	ND		0.10	µg/wipe	1	1/20/2016 12:17 AM
Aroclor 1262	ND		0.10	µg/wipe	1	1/20/2016 12:17 AM
Aroclor 1268	ND		0.10	µg/wipe	1	1/20/2016 12:17 AM
PCBs, Total	ND		0.10	µg/wipe	1	1/20/2016 12:17 AM
Surr: Decachlorobiphenyl	*96.8*		*40-140*	*%REC*	1	1/20/2016 12:17 AM
Surr: Tetrachloro-m-xylene	*85.3*		*40-140*	*%REC*	1	1/20/2016 12:17 AM

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

ALS Group USA, Corp

Date: *22-Jan-16*

Client: ENVIRON International Corp
Project: SMMUSD (04-339805)
Work Order: 1601458
Sample ID: 010816 - JCES - BF - R22 - W1
Lab ID: 1601458-08
Collection Date: 1/8/2016 12:15 PM
Matrix: WIPE

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
PCBS			**SW8082**		Prep: EPA/600/R-07 / 1/19/16	Analyst: **BLM**
Aroclor 1016	ND		0.10	µg/wipe	1	1/20/2016 12:32 AM
Aroclor 1221	ND		0.10	µg/wipe	1	1/20/2016 12:32 AM
Aroclor 1232	ND		0.10	µg/wipe	1	1/20/2016 12:32 AM
Aroclor 1242	ND		0.10	µg/wipe	1	1/20/2016 12:32 AM
Aroclor 1248	ND		0.10	µg/wipe	1	1/20/2016 12:32 AM
Aroclor 1254	ND		0.10	µg/wipe	1	1/20/2016 12:32 AM
Aroclor 1260	ND		0.10	µg/wipe	1	1/20/2016 12:32 AM
Aroclor 1262	ND		0.10	µg/wipe	1	1/20/2016 12:32 AM
Aroclor 1268	ND		0.10	µg/wipe	1	1/20/2016 12:32 AM
PCBs, Total	ND		0.10	µg/wipe	1	1/20/2016 12:32 AM
Surr: Decachlorobiphenyl	*97.3*		*40-140*	*%REC*	1	1/20/2016 12:32 AM
Surr: Tetrachloro-m-xylene	*87.1*		*40-140*	*%REC*	1	1/20/2016 12:32 AM

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

ALS Group USA, Corp

Date: *22-Jan-16*

Client: ENVIRON International Corp
Project: SMMUSD (04-339805)
Work Order: 1601458
Sample ID: 010816 - JCES - BF - R22 - W2
Lab ID: 1601458-09
Collection Date: 1/8/2016 12:15 PM
Matrix: WIPE

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
PCBS			**SW8082**		Prep: EPA/600/R-07 / 1/19/16	Analyst: **BLM**
Aroclor 1016	ND		0.10	µg/wipe	1	1/20/2016 12:47 AM
Aroclor 1221	ND		0.10	µg/wipe	1	1/20/2016 12:47 AM
Aroclor 1232	ND		0.10	µg/wipe	1	1/20/2016 12:47 AM
Aroclor 1242	ND		0.10	µg/wipe	1	1/20/2016 12:47 AM
Aroclor 1248	ND		0.10	µg/wipe	1	1/20/2016 12:47 AM
Aroclor 1254	ND		0.10	µg/wipe	1	1/20/2016 12:47 AM
Aroclor 1260	ND		0.10	µg/wipe	1	1/20/2016 12:47 AM
Aroclor 1262	ND		0.10	µg/wipe	1	1/20/2016 12:47 AM
Aroclor 1268	ND		0.10	µg/wipe	1	1/20/2016 12:47 AM
PCBs, Total	ND		0.10	µg/wipe	1	1/20/2016 12:47 AM
Surr: Decachlorobiphenyl	*97.7*		*40-140*	*%REC*	1	1/20/2016 12:47 AM
Surr: Tetrachloro-m-xylene	*87.2*		*40-140*	*%REC*	1	1/20/2016 12:47 AM

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

ALS Group USA, Corp

Date: *22-Jan-16*

Client: ENVIRON International Corp
Project: SMMUSD (04-339805)
Work Order: 1601458
Sample ID: 010816 - WFB - HEX
Lab ID: 1601458-10
Collection Date: 1/8/2016 06:45 PM
Matrix: WIPE

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
PCBS			**SW8082**		Prep: EPA/600/R-07 / 1/19/16	Analyst: **BLM**
Aroclor 1016	ND		0.10	µg/wipe	1	1/20/2016 01:01 AM
Aroclor 1221	ND		0.10	µg/wipe	1	1/20/2016 01:01 AM
Aroclor 1232	ND		0.10	µg/wipe	1	1/20/2016 01:01 AM
Aroclor 1242	ND		0.10	µg/wipe	1	1/20/2016 01:01 AM
Aroclor 1248	ND		0.10	µg/wipe	1	1/20/2016 01:01 AM
Aroclor 1254	ND		0.10	µg/wipe	1	1/20/2016 01:01 AM
Aroclor 1260	ND		0.10	µg/wipe	1	1/20/2016 01:01 AM
Aroclor 1262	ND		0.10	µg/wipe	1	1/20/2016 01:01 AM
Aroclor 1268	ND		0.10	µg/wipe	1	1/20/2016 01:01 AM
PCBs, Total	ND		0.10	µg/wipe	1	1/20/2016 01:01 AM
Surr: Decachlorobiphenyl	*94.4*		*40-140*	*%REC*	1	1/20/2016 01:01 AM
Surr: Tetrachloro-m-xylene	*83.7*		*40-140*	*%REC*	1	1/20/2016 01:01 AM

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

ALS Group USA, Corp

Date: 22-Jan-16

Client: ENVIRON International Corp

Work Order: 1601458

Project: SMMUSD (04-339805)

QC BATCH REPORT

Batch ID: **81477** Instrument ID **GC12** Method: **SW8082**

MBLK Sample ID: **MBLK-81477-81477** Units: **µg/wipe** Analysis Date: **1/19/2016 09:51 PM**

Client ID: Run ID: **GC12_160119B** SeqNo: **3666701** Prep Date: **1/19/2016** 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	*0.4524*	0	*0.5*	0	*90.5*	*50-130*	0			
Surr: Tetrachloro-m-xylene	*0.4309*	0	*0.5*	0	*86.2*	*50-130*	0			

LCS Sample ID: **LCS-81477-81477** Units: **µg/wipe** Analysis Date: **1/19/2016 10:05 PM**

Client ID: Run ID: **GC12_160119B** SeqNo: **3666702** Prep Date: **1/19/2016** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Aroclor 1016	5.143	0.10	5	0	103	50-130	0			
Aroclor 1260	5.37	0.10	5	0	107	50-130	0			
Surr: Decachlorobiphenyl	*0.5011*	0	*0.5*	0	*100*	*50-130*	0			
Surr: Tetrachloro-m-xylene	*0.5215*	0	*0.5*	0	*104*	*50-130*	0			

LCSD Sample ID: **LCSD-81477-81477** Units: **µg/wipe** Analysis Date: **1/19/2016 10:20 PM**

Client ID: Run ID: **GC12_160119B** SeqNo: **3666703** Prep Date: **1/19/2016** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Aroclor 1016	5.188	0.10	5	0	104	50-130	5.143	0.886	35	
Aroclor 1260	5.733	0.10	5	0	115	50-130	5.37	6.54	35	
Surr: Decachlorobiphenyl	*0.5037*	0	*0.5*	0	*101*	*50-130*	0.5011	*0.52*	*35*	
Surr: Tetrachloro-m-xylene	*0.5232*	0	*0.5*	0	*105*	*50-130*	0.5215	*0.314*	*35*	

The following samples were analyzed in this batch:

1601458-01A 1601458-02A 1601458-03A
1601458-04A 1601458-05A 1601458-06A
1601458-07A 1601458-08A 1601458-09A
1601458-10A

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 #:	1601458

Customer Information		Project Information		Parameter/Method Request for Analysis	
Purchase Order		Project Name	SMMUSD	A	EPA 8082 for Aroclors
Work Order		Project Number	04-33980S	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@environcorp.com			J	N/A

No.	Sample Description	Date	Time	cm²	Matrix	Pres. Key Numbers	# Bottles	A	B	C	D	E	F	G	H	I	J	Hold
1	010816 - MHS – B800 – R801 - W1	1/8/2016	1920	100	Surface Dust	8	1	PCBs										
2	010816 - MHS – B500 – R505 – W1	1/8/2016	1725	100	Surface Dust	8	1	PCBs										
3	010816 - MHS – B400 – R401 – W1	1/8/2016	1735	100	Surface Dust	8	1	PCBs										
4	010816 - MHS – B400 – R401 – W2	1/8/2016	1735	100	Surface Dust	8	1	PCBs										
5	010816 - MHS – B700 – R704 – W1	1/8/2016	1700	100	Surface Dust	8	1	PCBs										
6	010816 - JCES – BF – R18 – W1	1/8/2016	1240	100	Surface Dust	8	1	PCBs										
7	010816 - JCES – BF – R18 – W2	1/8/2016	1240	100	Surface Dust	8	1	PCBs										
~~8~~	~~010816 - JCES – BF – R19 – W1~~	~~1/8/2016~~		~~100~~	Surface Dust	8	1	PCBs										
~~9~~	~~010816 - JCES – BF – R19 – W2~~	~~1/8/2016~~		~~100~~	Surface Dust	8	1	PCBs										
10	010816 - JCES – BF – R22 – W1	1/8/2016	1215	100	Surface Dust	8	1	PCBs										

Sampler(s): Please Print & Sign	Shipment Method:	Required Turnaround Time: (Check Box)	Results Due Date:
Ahleah Rohr Daniel	FEDEX	☑ 10 Wk Days ☐ 5 Wk Days ☑ 3 Wk Days ☐ 2 Wk Days ☐ 24 Hour ☐ Other	

Relinquished by:	Date:	Time:	Received by:	Date:	Time:	Notes:
	1/8/2016	1900		1/8/16	1900	Follow instructions provided by Yi Tian.
Relinquished by:	Date:	Time:	Received by (Laboratory):	Date:	Time:	
	1/11/16	1500	FedEx	1/13/16	1030	
Logged by (Laboratory):	Date:	Time:	Checked by (Laboratory):			
JOES	1/13/16	1600				

ALS Cooler ID	Cooler Temp	QC Package: (Check Box Below)
	15.2°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 8-4°C

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

☐ 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 #: 1601458

Customer Information		Project Information		Parameter/Method Request for Analysis	
Purchase Order		Project Name	SMMUSD	A	EPA 8082 for Aroclors
Work Order		Project Number	04-33980S	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@environcorp.com			J	N/A

No.	Sample Description	Date	Time	cm²	Matrix	Pres. Key Numbers	# Bottles	A	B	C	D	E	F	G	H	I	J	Hold
1	010816 - JCES – BF – R22 – W2	1/8/2016	1215	100	Surface Dust	8	1	PCBs										
2	010816 - JCES – BF – R22 – W3	1/8/2016		100	Surface Dust	8	1	PCBs										
3	010816 - WFB - HEX	1/8/2016	1845	100	Surface Dust	8	1	PCBs										
4																		
5																		
6																		
7																		
8																		
9																		
10																		

Sampler(s): Please Print & Sign
Ahleah Rohr Daniel

Shipment Method: FEDEX

Required Turnaround Time: (Check Box) ☑ 10 Wk Days ☐ 5 Wk Days ☐ 3 Wk Days ☐ 2 Wk Days ☐ 24 Hour ☐ Other _____

Results Due Date:

Relinquished by:	Date: 1/4/16	Time: 1900	Received by:	Date: 1/8/16	Time: 900	Notes: Follow instructions provided by Yi Tian.	
Relinquished by:	Date: 1/11/16	Time: 1500	Received by (Laboratory): FedEx	Date: 1/13/16	Time: 1030	ALS Cooler ID	Cooler Temp: 5.2°C
Logged by (Laboratory): DES	Date: 1/13/16	Time: 1600	Checked by (Laboratory):				

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 8-4°C

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

FedEx Express **NEW** Package **US Airbill**

FedEx Tracking Number 8037 1503 6221

Form ID No. 0200

Recipient's Copy

1 From

Date 1/8/2016

Sender's Name Ahliah Rohr Daniel Phone 415 426 5026

Company Ramboll Environ

Address ~~1200~~ 201 California St Suite 1200

Dept./Floor/Suite/Room

City San Francisco State CA ZIP 94111

2 Your Internal Billing Reference 04339803

3 To

Recipient's Name Tom Beamish Phone 616 399 6070

Company ALS Environmental

Address 3352 128th Avenue

We cannot deliver to P.O. boxes or P.O. ZIP codes. Dept./Floor/Suite/Room

Address

Use this line for the HOLD location address or for continuation of your shipping address.

City Holland State MI ZIP 49424

HOLD Weekday
FedEx location address REQUIRED. NOT available for FedEx First Overnight.

HOLD Saturday
FedEx location address REQUIRED. Available ONLY for FedEx Priority Overnight and FedEx 2Day to select locations.

4 Express Package Service * To most locations.

NOTE: Service order has changed. Please select carefully.

Packages up to 150 lbs.
For packages over 150 lbs., use the new FedEx Express Freight US Airbill.

Next Business Day

- [ ] FedEx First Overnight — Earliest next business morning delivery to select locations. Friday shipments will be delivered on Monday unless SATURDAY Delivery is selected.
- [X] FedEx Priority Overnight — Next business morning.* Friday shipments will be delivered on Monday unless SATURDAY Delivery is selected.
- [ ] FedEx Standard Overnight — Next business afternoon.* Saturday Delivery NOT available.

2 or 3 Business Days

- [ ] FedEx 2Day A.M. — Second business morning.* Saturday Delivery NOT available.
- [ ] FedEx 2Day — Second business afternoon.* Thursday shipments will be delivered on Monday unless SATURDAY Delivery is selected.
- [ ] FedEx Express Saver — Third business day.* Saturday Delivery NOT available.

5 Packaging * Declared value limit $500.

- [ ] FedEx Envelope*
- [ ] FedEx Pak*
- [ ] FedEx Box
- [ ] FedEx Tube
- [X] Other

6 Special Handling and Delivery Signature Options

- [X] SATURDAY Delivery — NOT available for FedEx Standard Overnight, FedEx 2Day A.M., or FedEx Express Saver.

Signature Options:

- [ ] No Signature Required — Package may be left without obtaining a signature for delivery.
- [ ] Direct Signature — Someone at recipient's address may sign for delivery. Fee applies.
- [ ] Indirect Signature — If no one is available at recipient's address, someone at a neighboring address may sign for delivery. For residential deliveries only. Fee applies.

Does this shipment contain dangerous goods?

One box must be checked.

- [X] No
- [ ] Yes — As per attached Shipper's Declaration.
- [ ] Yes — Shipper's Declaration not required.
- [ ] Dry Ice — Dry Ice, 9, UN 1845 ____ x ____ kg

Dangerous goods (including dry ice) cannot be shipped in FedEx packaging or placed in a FedEx Express Drop Box.

- [ ] Cargo Aircraft Only

7 Payment Bill to:

Enter FedEx Acct. No. or Credit Card No. below. Obtain recip. Acct. No. [ ]

- [X] Sender — Acct. No. in Section 1 will be billed.
- [ ] Recipient
- [ ] Third Party
- [ ] Credit Card
- [ ] Cash/Check

Total Packages ____ Total Weight ____ lbs. Credit Card Auth. ____

*Our liability is limited to US$100 unless you declare a higher value. See the current FedEx Service Guide for details.

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8037 1503 6221

fedex.com 1.800.GoFedEx 1.800.463.3339

fedex.com 1.800.GoFedEx 1.800.463.3339

ALS Group USA, Corp

Sample Receipt Checklist

Client Name: **ENVIRONINT - CA** Date/Time Received: **13-Jan-16 10:30**

Work Order: **1601458** Received by: **DS**

Checklist completed by Diane Shaw (eSignature) 13-Jan-16 (Date) Reviewed by: Chad Whelton (eSignature) 14-Jan-16 (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):	5.2/5.2 c	SR2	
Cooler(s)/Kit(s):			
Date/Time sample(s) sent to storage:	1/13/2016 4:04:47 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 #35809A (SURFACE WIPE)
SAMPLE DATE: JANUARY 8, 2016

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

February 5, 2016

SUBJECT: SMMUSD, Data Validation

Dear Ms. Tian

Enclosed is the final validation report for the fraction listed below. This SDG was received on January 28, 2016. Attachment 1 is a summary of the samples that were reviewed for each analysis.

LDC Project #35809A:

SDG #	Fraction
1601458	Polychlorinated Biphenyls

The data validation was performed under EPA 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

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

Sincerely,

Pei Geng

Pei Geng
Project Manager/Senior Chemist

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name: SMMUSD

LDC Report Date: March 4, 2016

Parameters: Polychlorinated Biphenyls

Validation Level: Level III

Laboratory: ALS Environmental

Sample Delivery Group (SDG): 1601458

Sample Identification	Laboratory Sample Identification	Matrix	Collection Date
010816-MHS-B800-R801-W1	1601458-01	Wipe	01/08/16
010816-MHS-B500-R505-W1	1601458-02	Wipe	01/08/16
010816-MHS-B400-R401-W1	1601458-03	Wipe	01/08/16
010816-MHS-B400-R401-W2	1601458-04	Wipe	01/08/16
010816-MHS-B700-R704-W1	1601458-05	Wipe	01/08/16
010816-JCES-BF-R18-W1	1601458-06	Wipe	01/08/16
010816-JCES-BF-R18-W2	1601458-07	Wipe	01/08/16
010816-JCES-BF-R22-W1	1601458-08	Wipe	01/08/16
010816-JCES-BF-R22-W2	1601458-09	Wipe	01/08/16
010816-WFB-HEX	1601458-10	Wipe	01/08/16

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.

A curve fit, based on the initial calibration, was established for quantitation. The coefficient of determination (r^2) was greater than or equal to 0.990.

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 010816-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

Samples 010816-MHS-B400-R401-W1 and 010816-MHS-B400-R401-W2 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 1601458

No Sample Data Qualified in this SDG

SMMUSD
Polychlorinated Biphenyls - Laboratory Blank Data Qualification Summary - SDG 1601458

No Sample Data Qualified in this SDG

SMMUSD
Polychlorinated Biphenyls - Field Blank Data Qualification Summary - SDG 1601458

No Sample Data Qualified in this SDG

127 pages-EM

Attachment 1

Level III/IV

LDC #35809 (Ramboll Environ-Irvine / SMMUSD)

LDC	SDG#	DATE REC'D	(2) DATE DUE	PCBs (8082)																															
Matrix:	Wipe/Soil			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	W	S
A	1601458	01/28/16	02/11/16	10	0																														
Total	T/PG			10	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	10

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

L:\Environ (Ramboll Environ)\SMMUSD\35809ST.wpd

LDC #: 35809A3b
SDG #: 1601458
Laboratory: ALS Environmental

VALIDATION COMPLETENESS WORKSHEET
Level III

Date: 2-2-16
Page: 1 of 1
Reviewer:
2nd Reviewer:

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.	Initial calibration/ICV	A / A	≤ ~~20~~ r2 ICV ≤ 20
III.	Continuing calibration	A	≤ 20
IV.	Laboratory Blanks	A	
V.	Field blanks	ND	FB=10
VI.	Surrogate spikes	A	
VII.	Matrix spike/Matrix spike duplicates	N	C.S.
VIII.	Laboratory control samples	A	LCS/D
IX.	Field duplicates	ND	D= 3+4, 6+7, 8+9
X.	Compound quantitation/RL/LOQ/LODs	N	
XI.	Target compound identification	N	
XII.	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; SB=Source blank; OTHER:

	Client ID	Lab ID	Matrix	Date
1	010816-MHS-B800-R801-W1	1601458-01	Wipe	01/08/16
2	010816-MHS-B500-R505-W1	1601458-02	Wipe	01/08/16
3	010816-MHS-B400-R401-W1	1601458-03	Wipe	01/08/16
4	010816-MHS-B400-R401-W2	1601458-04	Wipe	01/08/16
5	010816-MHS-B700-R704-W1	1601458-05	Wipe	01/08/16
6	010816-JCES-BF-R18-W1	1601458-06	Wipe	01/08/16
7	010816-JCES-BF-R18-W2	1601458-07	Wipe	01/08/16
8	010816-JCES-BF-R22-W1	1601458-08	Wipe	01/08/16
9	010816-JCES-BF-R22-W2	1601458-09	Wipe	01/08/16
10	010816-WFB-HEX	1601458-10	Wipe	01/08/16
11				
12				
13				

Notes:

	MBLK-81477						

LABORATORY REPORT #16021055 (SURFACE WIPE)
SAMPLE DATE: FEBRUARY 19, 2016

29-Feb-2016

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

Re: **SMMUSD (04-33980S)** Work Order: **16021055**

Dear Yi,

ALS Environmental received 5 samples on 23-Feb-2016 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 NELAP standard requirements and QC 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 13.

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

Sincerely,

Chad Whelton

Electronically approved by: Chad Whelton

Chad Whelton
Project Manager

Certificate No: MN 532786

ADDRESS 3352 128th Avenue Holland, Michigan 49424-9263 | PHONE (616) 399-6070 | FAX (616) 399-6185
ALS GROUP USA, CORP Part of the ALS Laboratory Group A Campbell Brothers Limited Company

ALS Group USA, Corp

Date: 29-Feb-16

Client: Ramboll Environ, Inc.
Project: SMMUSD (04-33980S)
Work Order: **16021055**

Work Order Sample Summary

Lab Samp ID	Client Sample ID	Matrix	Tag Number	Collection Date	Date Received	Hold
16021055-01	021916-MHS-B700-R704-W1	Wipe		2/19/2016 14:15	2/23/2016 09:30	☐
16021055-02	021916-JCES-BF-R22-W1	Wipe		2/19/2016 14:50	2/23/2016 09:30	☐
16021055-03	021916-WFB-HEX	Wipe		2/19/2016 15:05	2/23/2016 09:30	☐
16021055-04	021916-JCES-BF-R19-W1	Wipe		2/19/2016 15:20	2/23/2016 09:30	☐
16021055-05	021916-JCES-BF-R19-W2	Wipe		2/19/2016 15:25	2/23/2016 09:30	☐

ALS Group USA, Corp

Date: 29-Feb-16

Client: Ramboll Environ, Inc.
Project: SMMUSD (04-33980S)
Work Order: 16021055

Case Narrative

Samples for the above noted Work Order were received on 02/23/2016. The attached "Sample Receipt Checklist" documents the status of custody seals, container integrity, preservation, and temperature compliance.

Samples were analyzed according to the analytical methodology previously transmitted in the "Work Order Acknowledgement". Methodologies are also documented in the "Analytical Result" section for each sample. Quality control results are listed in the "QC Report" section. Sample association for the reported quality control is located at the end of each batch summary. If applicable, results are appropriately qualified in the Analytical Result and QC Report sections. The "Qualifiers" section documents the various qualifiers, units, and acronyms utilized in reporting.

With the following exceptions, all sample analyses achieved analytical criteria.

Volatile Organics:
No other deviations or anomalies were noted.

Extractable Organics:

Batch 82795, Method PCB_8082_WIPE_ENVIRON, Sample 16021055-02A: One or more surrogate recoveries were below the lower control limits. The sample results may be biased low.

Metals:
No other deviations or anomalies were noted.

Wet Chemistry:
No other deviations or anomalies were noted.

ALS Group USA, Corp

Date: 29-Feb-16

Client: Ramboll Environ, Inc.
Project: SMMUSD (04-33980S)
WorkOrder: **16021055**

QUALIFIERS, ACRONYMS, UNITS

Qualifier	Description
*	Value exceeds Regulatory Limit
a	Not 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
n	Not offered for accreditation
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 PQL, 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, Corp

Date: *29-Feb-16*

Client: Ramboll Environ, Inc.
Project: SMMUSD (04-33980S) **Work Order:** 16021055
Sample ID: 021916-MHS-B700-R704-W1 **Lab ID:** 16021055-01
Collection Date: 2/19/2016 02:15 PM **Matrix:** WIPE

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
PCBS			**SW8082**		Prep: EPA/600/R-07 / 2/23/16	Analyst: **BLM**
Aroclor 1016	ND		0.10	µg/wipe	1	2/24/2016 08:13 PM
Aroclor 1221	ND		0.10	µg/wipe	1	2/24/2016 08:13 PM
Aroclor 1232	ND		0.10	µg/wipe	1	2/24/2016 08:13 PM
Aroclor 1242	ND		0.10	µg/wipe	1	2/24/2016 08:13 PM
Aroclor 1248	ND		0.10	µg/wipe	1	2/24/2016 08:13 PM
Aroclor 1254	ND		0.10	µg/wipe	1	2/24/2016 08:13 PM
Aroclor 1260	ND		0.10	µg/wipe	1	2/24/2016 08:13 PM
Aroclor 1262	ND		0.10	µg/wipe	1	2/24/2016 08:13 PM
Aroclor 1268	ND		0.10	µg/wipe	1	2/24/2016 08:13 PM
PCBs, Total	ND		0.10	µg/wipe	1	2/24/2016 08:13 PM
Surr: Decachlorobiphenyl	*43.7*		*40-140*	*%REC*	1	2/24/2016 08:13 PM
Surr: Tetrachloro-m-xylene	*42.8*		*40-140*	*%REC*	1	2/24/2016 08:13 PM

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

ALS Group USA, Corp

Date: *29-Feb-16*

Client: Ramboll Environ, Inc.
Project: SMMUSD (04-33980S)
Work Order: 16021055
Sample ID: 021916-JCES-BF-R22-W1
Lab ID: 16021055-02
Collection Date: 2/19/2016 02:50 PM
Matrix: WIPE

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
PCBS			**SW8082**		Prep: EPA/600/R-07 / 2/23/16	Analyst: **BLM**
Aroclor 1016	ND		0.10	µg/wipe	1	2/24/2016 08:28 PM
Aroclor 1221	ND		0.10	µg/wipe	1	2/24/2016 08:28 PM
Aroclor 1232	ND		0.10	µg/wipe	1	2/24/2016 08:28 PM
Aroclor 1242	ND		0.10	µg/wipe	1	2/24/2016 08:28 PM
Aroclor 1248	ND		0.10	µg/wipe	1	2/24/2016 08:28 PM
Aroclor 1254	ND		0.10	µg/wipe	1	2/24/2016 08:28 PM
Aroclor 1260	ND		0.10	µg/wipe	1	2/24/2016 08:28 PM
Aroclor 1262	ND		0.10	µg/wipe	1	2/24/2016 08:28 PM
Aroclor 1268	ND		0.10	µg/wipe	1	2/24/2016 08:28 PM
PCBs, Total	ND		0.10	µg/wipe	1	2/24/2016 08:28 PM
Surr: Decachlorobiphenyl	*35.2*	S	*40-140*	*%REC*	1	2/24/2016 08:28 PM
Surr: Tetrachloro-m-xylene	*34.2*	S	*40-140*	*%REC*	1	2/24/2016 08:28 PM

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

ALS Group USA, Corp

Date: *29-Feb-16*

Client: Ramboll Environ, Inc.
Project: SMMUSD (04-33980S)
Work Order: 16021055
Sample ID: 021916-WFB-HEX
Lab ID: 16021055-03
Collection Date: 2/19/2016 03:05 PM
Matrix: WIPE

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
PCBS			**SW8082**		Prep: EPA/600/R-07 / 2/23/16	Analyst: **BLM**
Aroclor 1016	ND		0.10	µg/wipe	1	2/24/2016 08:42 PM
Aroclor 1221	ND		0.10	µg/wipe	1	2/24/2016 08:42 PM
Aroclor 1232	ND		0.10	µg/wipe	1	2/24/2016 08:42 PM
Aroclor 1242	ND		0.10	µg/wipe	1	2/24/2016 08:42 PM
Aroclor 1248	ND		0.10	µg/wipe	1	2/24/2016 08:42 PM
Aroclor 1254	ND		0.10	µg/wipe	1	2/24/2016 08:42 PM
Aroclor 1260	ND		0.10	µg/wipe	1	2/24/2016 08:42 PM
Aroclor 1262	ND		0.10	µg/wipe	1	2/24/2016 08:42 PM
Aroclor 1268	ND		0.10	µg/wipe	1	2/24/2016 08:42 PM
PCBs, Total	ND		0.10	µg/wipe	1	2/24/2016 08:42 PM
Surr: Decachlorobiphenyl	*42.8*		*40-140*	*%REC*	1	2/24/2016 08:42 PM
Surr: Tetrachloro-m-xylene	*40.5*		*40-140*	*%REC*	1	2/24/2016 08:42 PM

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

ALS Group USA, Corp

Date: *29-Feb-16*

Client: Ramboll Environ, Inc.
Project: SMMUSD (04-33980S)
Work Order: 16021055
Sample ID: 021916-JCES-BF-R19-W1
Lab ID: 16021055-04
Collection Date: 2/19/2016 03:20 PM
Matrix: WIPE

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
PCBS			**SW8082**		Prep: EPA/600/R-07 / 2/23/16	Analyst: **BLM**
Aroclor 1016	ND		0.10	µg/wipe	1	2/24/2016 08:57 PM
Aroclor 1221	ND		0.10	µg/wipe	1	2/24/2016 08:57 PM
Aroclor 1232	ND		0.10	µg/wipe	1	2/24/2016 08:57 PM
Aroclor 1242	ND		0.10	µg/wipe	1	2/24/2016 08:57 PM
Aroclor 1248	ND		0.10	µg/wipe	1	2/24/2016 08:57 PM
Aroclor 1254	ND		0.10	µg/wipe	1	2/24/2016 08:57 PM
Aroclor 1260	ND		0.10	µg/wipe	1	2/24/2016 08:57 PM
Aroclor 1262	ND		0.10	µg/wipe	1	2/24/2016 08:57 PM
Aroclor 1268	ND		0.10	µg/wipe	1	2/24/2016 08:57 PM
PCBs, Total	ND		0.10	µg/wipe	1	2/24/2016 08:57 PM
Surr: Decachlorobiphenyl	*71.3*		*40-140*	*%REC*	1	2/24/2016 08:57 PM
Surr: Tetrachloro-m-xylene	*69.2*		*40-140*	*%REC*	1	2/24/2016 08:57 PM

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

ALS Group USA, Corp

Date: *29-Feb-16*

Client: Ramboll Environ, Inc.
Project: SMMUSD (04-33980S)
Work Order: 16021055
Sample ID: 021916-JCES-BF-R19-W2
Lab ID: 16021055-05
Collection Date: 2/19/2016 03:25 PM
Matrix: WIPE

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
PCBS			**SW8082**		Prep: EPA/600/R-07 / 2/23/16	Analyst: **BLM**
Aroclor 1016	ND		0.10	µg/wipe	1	2/24/2016 09:12 PM
Aroclor 1221	ND		0.10	µg/wipe	1	2/24/2016 09:12 PM
Aroclor 1232	ND		0.10	µg/wipe	1	2/24/2016 09:12 PM
Aroclor 1242	ND		0.10	µg/wipe	1	2/24/2016 09:12 PM
Aroclor 1248	ND		0.10	µg/wipe	1	2/24/2016 09:12 PM
Aroclor 1254	ND		0.10	µg/wipe	1	2/24/2016 09:12 PM
Aroclor 1260	ND		0.10	µg/wipe	1	2/24/2016 09:12 PM
Aroclor 1262	ND		0.10	µg/wipe	1	2/24/2016 09:12 PM
Aroclor 1268	ND		0.10	µg/wipe	1	2/24/2016 09:12 PM
PCBs, Total	ND		0.10	µg/wipe	1	2/24/2016 09:12 PM
Surr: Decachlorobiphenyl	*54.3*		*40-140*	*%REC*	1	2/24/2016 09:12 PM
Surr: Tetrachloro-m-xylene	*52.2*		*40-140*	*%REC*	1	2/24/2016 09:12 PM

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

ALS Group USA, Corp

Date: 29-Feb-16

Client: Ramboll Environ, Inc.

Work Order: 16021055

Project: SMMUSD (04-33980S)

QC BATCH REPORT

Batch ID: **82795** Instrument ID **GC12** Method: **SW8082**

MBLK Sample ID: **MBLK-82795-82795** Units: **µg/wipe** Analysis Date: **2/24/2016 07:29 PM**

Client ID: Run ID: **GC12_160224A** SeqNo: **3711264** Prep Date: **2/23/2016** 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	*0.4065*	0	*0.5*	0	*81.3*	*50-130*	0			
Surr: Tetrachloro-m-xylene	*0.3812*	0	*0.5*	0	*76.2*	*50-130*	0			

LCS Sample ID: **LCS-82795-82795** Units: **µg/wipe** Analysis Date: **2/24/2016 07:44 PM**

Client ID: Run ID: **GC12_160224A** SeqNo: **3711265** Prep Date: **2/23/2016** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Aroclor 1016	5.052	0.10	5	0	101	50-130	0			
Aroclor 1260	5.271	0.10	5	0	105	50-130	0			
Surr: Decachlorobiphenyl	*0.5202*	0	*0.5*	0	*104*	*50-130*	0			
Surr: Tetrachloro-m-xylene	*0.5016*	0	*0.5*	0	*100*	*50-130*	0			

LCSD Sample ID: **LCSD-82795-82795** Units: **µg/wipe** Analysis Date: **2/24/2016 07:58 PM**

Client ID: Run ID: **GC12_160224A** SeqNo: **3711266** Prep Date: **2/23/2016** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Aroclor 1016	4.993	0.10	5	0	99.9	50-130	5.052	1.17	35	
Aroclor 1260	5.273	0.10	5	0	105	50-130	5.271	0.0487	35	
Surr: Decachlorobiphenyl	*0.5203*	0	*0.5*	0	*104*	*50-130*	0.5202	*0.025*	*35*	
Surr: Tetrachloro-m-xylene	*0.4952*	0	*0.5*	0	*99*	*50-130*	0.5016	*1.28*	*35*	

The following samples were analyzed in this batch:

16021055-01A, 16021055-02A, 16021055-03A, 16021055-04A, 16021055-05A

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

Chain of Custody Form

Page 1 of 1

☐ 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 #: 16021055

Customer Information		Project Information		Parameter/Method Request for Analysis	
Purchase Order		Project Name	SMMUSD	A	EPA 8082 for Aroclors
Work Order		Project Number	04-33980S	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@environcorp.com			J	N/A

No.	Sample Description	Date	Time	cm²	Matrix	Pres. Key Numbers	# Bottles	A	B	C	D	E	F	G	H	I	J	Hold
1	021916-MHS-B700-R704-W1	2/19/16	1415	100	Surface Dust	8	1	PCBs										
2	021916-JCES-BF-R22-W1	"	1450	100	Surface Dust	8	1	PCBs										
3	021916-WFB-HEX	"	1505	100	Surface Dust	8	1	PCBs										
4	021916-JCES-BF-R19-W1	"	1520	100	Surface Dust	8	1	PCBs										
5	021916-JCES-BF-R19-W2	"	1525	100	Surface Dust	8	1	PCBs										
6				100	Surface Dust	8	1	PCBs										
7				100	Surface Dust	8	1	PCBs										
8				100	Surface Dust	8	1	PCBs										
9				100	Surface Dust	8	1	PCBs										
10				100	Surface Dust	8	1	PCBs										

Sampler(s): Please Print & Sign: Jennifer Dishon [signature]

Shipment Method: FEDEX

Required Turnaround Time: (Check Box) ☐ Other ____ ☑ 10 Wk Days ☐ 5 Wk Days ☐ 3 Wk Days ☐ 2 Wk Days ☐ 24 Hour

Results Due Date:

Relinquished by:	Date:	Time:	Received by:	Date:	Time:
[signature]	2/22/16	0700	FedEx		
Relinquished by:	2/23/16	930	Received by (Laboratory): M Broadt		
Logged by (Laboratory): MB	2/23/16	1240	Checked by (Laboratory):		

Notes: Follow instructions provided by Yi Tian.

ALS Cooler ID | Cooler Temp: 2.8C

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 8-4°C

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

ORIGIN ID:EMTA (213) 943-6300
JENNIFER DISHON
RAMBOLL ENVIRON
707 WILSHIRE BOULEVARD
SUITE 4950
LOS ANGELES, CA 90017
UNITED STATES US

SHIP DATE: 22FEB16
ACTWGT: 25.00 LB
CAD: 107788007/NET3730

BILL SENDER

TO **ALS**
ALS ENVIRONMENTAL
3352 128TH AVE.

HOLLAND MI 49424
(213) 943-6330 REF: 0433980S
INV:
PO: DEPT:

540J/97D7/7Z7F

FedEx Express

TUE - 23 FEB 10:30A
PRIORITY OVERNIGHT

TRK# 0201 **7756 9899 9518**

NA HLMA

49424
MI-US **GRR**

After printing this label:
1. Use the 'Print' button on this page to print your label to your laser or inkjet printer.
2. Fold the printed page along the horizontal line.
3. Place label in shipping pouch and affix it to your shipment so that the barcode portion of the label can be read and scanned.

Warning: Use only the printed original label for shipping. Using a photocopy of this label for shipping purposes is fraudulent and could result in additional billing charges, along with the cancellation of your FedEx account number.
Use of this system constitutes your agreement to the service conditions in the current FedEx Service Guide, available on fedex.com. FedEx will not be responsible for any claim in excess of $100 per package, whether the result of loss, damage, delay, non-delivery, misdelivery, or misinformation, unless you declare a higher value, pay an additional charge, document your actual loss and file a timely claim. Limitations found in the current FedEx Service Guide apply. Your right to recover from FedEx for any loss, including intrinsic value of the package, loss of sales, income interest, profit, attorney's fees, costs, and other forms of damage whether direct, incidental, consequential, or special is limited to the greater of $100 or the authorized declared value. Recovery cannot exceed actual documented loss. Maximum for items of extraordinary value is $1,000, e.g. jewelry, precious metals, negotiable instruments and other items listed in our ServiceGuide. Written claims must be filed within strict time limits, see current FedEx Service Guide.

ALS Group USA, Corp

Sample Receipt Checklist

Client Name: **ENVIRONINT - CA** Date/Time Received: **23-Feb-16 09:30**

Work Order: **16021055** Received by: **MB**

Checklist completed by Meghan Broadbent (eSignature) 23-Feb-16 (Date) Reviewed by: Chad Whelton (eSignature) 23-Feb-16 (Date)

Matrices: surface dust

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):	2.8/2.8	SR2	
Cooler(s)/Kit(s):			
Date/Time sample(s) sent to storage:	2/23/2016 12:44:57 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 #35941A (SURFACE WIPE)
SAMPLE DATE: FEBRUARY 19, 2016

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

March 2, 2016

SUBJECT: SMMUSD, Data Validation

Dear Ms. Tian

Enclosed is the final validation report for the fraction listed below. This SDG was received on February 29, 2016. Attachment 1 is a summary of the samples that were reviewed for each analysis.

LDC Project #35941A:

SDG #	Fraction
16021055	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

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

Sincerely,

Pei Geng
Project Manager/Senior Chemist

Level III/IV

LDC #35941 (Ramboll Environ-Irvine / SMMUSD)

LDC	SDG#	DATE REC'D	(2) DATE DUE	PCBs (8082)																															
Matrix:	Wipe/Soil			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	W	S
A	16021055	02/29/16	03/14/16	5	0																														
Total	A/PG			5	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	5

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

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name: SMMUSD

LDC Report Date: March 1, 2016

Parameters: Polychlorinated Biphenyls

Validation Level: Level III

Laboratory: ALS Environmental

Sample Delivery Group (SDG): 16021055

Sample Identification	Laboratory Sample Identification	Matrix	Collection Date
021916-MHS-B700-R704-W1	16021055-01	Wipe	02/19/16
021916-JCES-BF-R22-W1	16021055-02	Wipe	02/19/16
021916-WFB-HEX	16021055-03	Wipe	02/19/16
021916-JCES-BF-R19-W1	16021055-04	Wipe	02/19/16
021916-JCES-BF-R19-W2	16021055-05	Wipe	02/19/16

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.

For compounds where average calibration factors were utilized, percent relative standard deviations (%RSD) were less than or equal to 20.0%.

In the case where the laboratory used a calibration curve to evaluate the compounds, all coefficients of determination (r^2) were greater than or equal to 0.990.

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 021916-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 with the following exceptions:

Sample	Surrogate	%R (Limits)	Affected Compound	Flag	A or P
021916-JCES-BF-R22-W1	Decachlorobiphenyl Tetrachloro-m-xylenes	35.2 (40-140) 34.2 (40-140)	All TCL compounds	UJ (all non-detects)	P

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 021916-JCES-BF-R19-W1 and 021916-JCES-BF-R19-W2 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.

Due to surrogate %R, data were qualified as estimated in one sample.

The quality control criteria reviewed, other than those discussed above, were met and are considered acceptable. Sample results that were found to be estimated (J) are usable for limited purposes only. Based upon the data validation all other results are considered valid and usable for all purposes.

SMMUSD
Polychlorinated Biphenyls - Data Qualification Summary - SDG 16021055

Sample	Compound	Flag	A or P	Reason
021916-JCES-BF-R22-W1	All TCL compounds	UJ (all non-detects)	P	Surrogate spikes (%R)

SMMUSD
Polychlorinated Biphenyls - Laboratory Blank Data Qualification Summary - SDG 16021055

No Sample Data Qualified in this SDG

SMMUSD
Polychlorinated Biphenyls - Field Blank Data Qualification Summary - SDG 16021055

No Sample Data Qualified in this SDG

LDC #: 35941A3b
SDG #: 16021055
Laboratory: ALS Environmental

VALIDATION COMPLETENESS WORKSHEET
Level III

Date: 3-1-16
Page: 1 of 1
Reviewer:
2nd Reviewer:

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.	Initial calibration/ICV	A/A	≤20, r2 ICV≤20
III.	Continuing calibration	A	≤20
IV.	Laboratory Blanks	A	
V.	Field blanks	ND	FB=3
VI.	Surrogate spikes	SW	
VII.	Matrix spike/Matrix spike duplicates	N	C.S.
VIII.	Laboratory control samples	A	LCS/D
IX.	Field duplicates	ND	D=4+5
X.	Compound quantitation/RL/LOQ/LODs	N	
XI.	Target compound identification	N	
XII.	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; SB=Source blank; OTHER:

	Client ID	Lab ID	Matrix	Date
1	021916-MHS-B700-R704-W1	16021055-01	Wipe	02/19/16
2	021916-JCES-BF-R22-W1	16021055-02	Wipe	02/19/16
3	021916-WFB-HEX	16021055-03	Wipe	02/19/16
4	021916-JCES-BF-R19-W1	16021055-04	Wipe	02/19/16
5	021916-JCES-BF-R19-W2	16021055-05	Wipe	02/19/16
6				
7				
8				
9				
10				

Notes:

	MBLK-82795						

VALIDATION FINDINGS WORKSHEET

METHOD: Pesticide/PCBs (EPA SW 846 Method 8081/8082)

A. alpha-BHC	I. Dieldrin	Q. Endrin ketone	Y. Aroclor-1242	GG. Chlordane
B. beta-BHC	J. 4,4'-DDE	R. Endrin aldehyde	Z. Aroclor-1248	HH. Chlordane (Technical)
C. delta-BHC	K. Endrin	S. alpha-Chlordane	AA. Aroclor-1254	II. oxy-Chlordane
D. gamma-BHC	L. Endosulfan II	T. gamma-Chlordane	BB. Aroclor-1260	JJ. Mirex
E. Heptachlor	M. 4,4'-DDD	U. Toxaphene	CC. 2,4'-DDD	KK.
F. Aldrin	N. Endosulfan sulfate	V. Aroclor-1016	DD. 2,4'-DDE	LL.
G. Heptachlor epoxide	O. 4,4'-DDT	W. Aroclor-1221	EE. 2,4'-DDT	MM.
H. Endosulfan I	P. Methoxychlor	X. Aroclor-1232	FF. Hexachlorobenzene	NN.

Notes:_____

LDC #: 35941A36

VALIDATION FINDINDS WORKSHEET
Surrogate Recovery

Page: 1 of 1
Reviewer: CW
2nd Reviewer: [illegible]

METHOD: X **GC** __ **HPLC**

Are surrogates required by the method? Yes X or No____.

Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".

Y N N/A Were surrogates spiked into all samples and blanks?

Y N N/A Did all surrogate recoveries (%R) meet the QC limits?

#	Sample ID	Detector/ Column	Surrogate Compound	%R (Limits)	Qualifications
	2		O	35.2 (40-140)	J/UJ/P (ND)
			Y	34.2 (↓)	↓ ↓
				( )	
				( )	
				( )	
				( )	
				( )	
				( )	
				( )	
				( )	
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				( )	
				( )	
				( )	
				( )	

	Surrogate Compound		Surrogate Compound		Surrogate Compound		Surrogate Compound		
A	Chlorobenzene (CBZ)	G	Octacosane	M	Benzo(e)Pyrene	S	1-Chloro-3-Nitrobenzene	Y	Tetrachloro-m- xylene
B	4-Bromofluorobenzene (BFB)	H	Ortho-Terphenyl	N	Terphenyl-D14	T	3,4-Dinitrotoluene	Z	2-Bromonaphthalene
C`	a,a,a-Trifluorotoluene	I	Fluorobenzene (FBZ)	O	Decachlorobiphenyl (DCB)	U	Tripentyltin	AA	Chloro-octadecane
D	Bromochlorobenene	J	n-Triacontane	P	1-methylnaphthalene	V	Tri-n-propyltin	BB	2,4-Dichlorophenylacetic acid
E	1,4-Dichlorobutane	K	Hexacosane	Q	Dichlorophenyl Acetic Acid (DCAA)	W	Tributyl Phosphate	CC	2,5-Dibromotoluene
F	1,4-Difluorobenzene (DFB)	L	Bromobenzene	R	4-Nitrophenol	X	Triphenyl Phosphate		