

Badin Business Park LLC

c/o Alcoa Corporation
201 Isabella Street
Suite 500
Pittsburgh, PA 15212-5858 USA
Tel: 1 412 315 2900

June 26, 2019

Robert C. McDaniel
Facility Management Branch
Hazardous Waste Section
North Carolina Department of Environmental Quality
217 West Jones Street
Raleigh, North Carolina 27603

VIA ELECTRONIC MAIL

**Re: Targeted Soil Sampling Confirmatory Sampling Report
Badin Business Park (f/k/a Alcoa - Badin Works)
Badin, North Carolina
EPA ID: NCD 003 162 542**

Dear Mr. McDaniel:

This letter documents the results of confirmation soil sampling efforts performed at the Badin Business Park facility on June 11, 2019. The sample was collected as a follow up action to the detection of a single polychlorinated biphenyl (PCB) Aroclor, Aroclor 1232, as reported in the January 28, 2019, *Targeted Sampling Report* (Report). A confirmation sample was collected from a location adjacent to the location previously containing the detection; no constituents were detected above laboratory detection limits.

The May 31, 2018 *Targeted Sampling Work Plan* (Work Plan) was developed as a guidance document in support of sampling and investigative activities at the Badin Business Park LLC, formerly known as the Alcoa Badin Works facility. The Work Plan was prepared following receipt of the North Carolina Department of Environmental Quality (NCDEQ) January 31, 2018 correspondence concerning the review and conditional approval of the *Investigative Work Plan for the Phase 4 and 5 Corrective Measures Study, Alcoa/Badin Landfill, and Former Ball Field*, a meeting with NCDEQ personnel on May 10, 2018, and a subsequent conference call with NCDEQ personnel on May 24, 2018.

NCDEQ determined that previous environmental investigations have targeted known or suspected areas of the facility where constituents of interest (COIs) were known to have been utilized. Other areas of the facility were not evaluated because they were covered by plant buildings or other obstructions, or not suspected to be impacted. The objective of the Work Plan was to provide information to assess the presence or suspected presence of COIs in soils on the facility property not previously investigated. To accomplish the objective, surface and subsurface soil samples were collected to assess soil quality conditions and to screen for the presence of potential source areas that have not been identified in previous investigations.

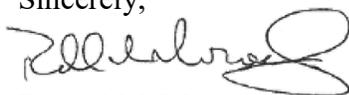
Robert C. McDaniel
Targeted Soil Sampling Confirmatory Sampling Report
June 26, 2019

As reported in the January 28, 2019 Report, a single PCB Aroclor, Aroclor 1232, was detected in one shallow soil sample (ANO-SB002 (0'-1')) at a concentration above the Protection of Groundwater Preliminary Soil Remediation Goal (PSRG) but below the Industrial PSRG. PCB Aroclors were not detected in the remaining soil samples at concentrations above either PSRG. Aroclor 1232 has not been historically detected in soil or groundwater samples. Further, Aroclor 1232 is not common to past operations and as a result the detection of Aroclor 1232 was believed to be anomalous.

During a March 19, 2019 follow-up meeting with the NCDEQ Hazardous Waste Section, it was discussed that a confirmation sample should be collected from the location where the detection occurred and the sample analyzed for Aroclor 1232. On June 11, 2019, ENVIRONEERING, Inc. personnel collected a confirmation sample from a sample location (ANO-SB003 (0'-1')) adjacent to the location previously containing the detection. No constituents were detected above laboratory detection limits. A map showing the location of the sample is provided as Figure 1. Soil sample confirmation analytical results and equipment blank analytical results are summarized in Tables 1 and 2. The laboratory report and completed chain of custody form is provided in Appendix A.

Badin Business Park LLC appreciates the time and effort your office has spent on this project, and we look forward to working with you in the future. Should you have any questions or comments, please contact Jason Mibroda of Alcoa at (412) 315-2783 at your convenience.

Sincerely,

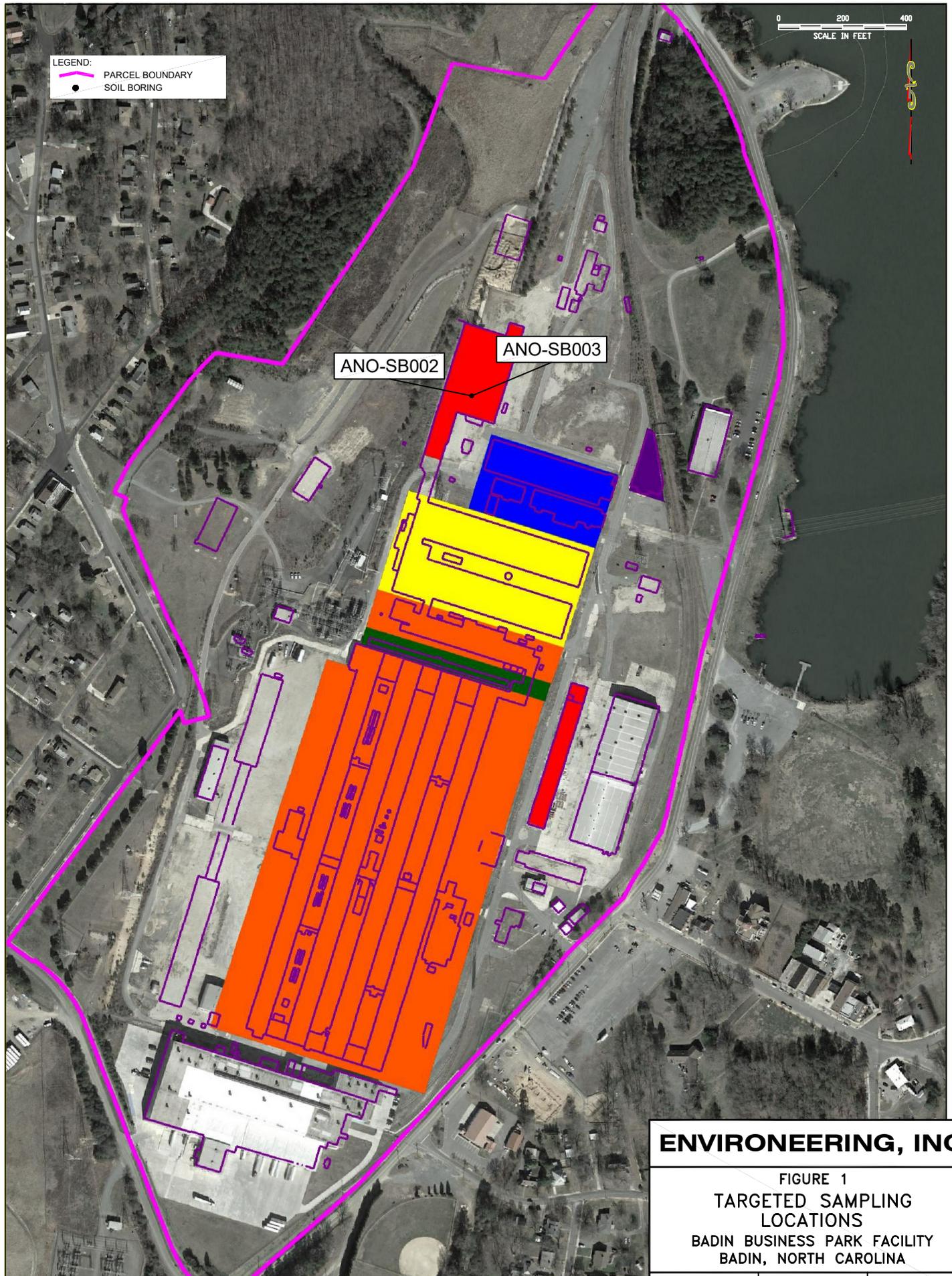


Ronald M. Morosky
Director, Corporate Remediation

Attachments

cc: Jason Mibroda, Alcoa
Michael W. Worden, Enviroengineering

Figure



Robert C. McDaniel
Targeted Soil Sampling Confirmatory Sampling Report
June 26, 2019

Tables

Table 1
Soil Sample Analytical Results
Former Anode Plant Area
Badin Business Park Facility
Badin, North Carolina

Sample ID	Method	CAS	Units	ANO-SB003 (0'-1')	PSRG Prot. of GW	PSRG Ind/Comm
Surface Material				Crushed Concrete		
Thickness of Surface Material				6"		
Sample Depth Below Surface Material				0'-1'		
Date				6/11/2019		
Time				13:30		
Percent Moisture	ASTM D2974-87		%	14.7		
PCB-1232 (Aroclor 1232)	EPA 8082	11141-16-5	mg/kg	ND <0.0348	0.0059	0.73
<p><i>Soil sample ANO-SB003 (0'-1') was collected adjacent to sample ANO-SB002 (0'-1') to confirm previous results.</i></p> <p><i>ND - The analyte was not detected above laboratory detection limits. Subscript indicates compound-specific MDL in mg/kg.</i></p> <p><i>NCDEQ Preliminary Soil Remediation Goals (PSRG) - May 2019</i></p>						

Table 2
Field Blank Sample Analytical Results
Former Anode Plant Area
Badin Business Park Facility
Badin, North Carolina

Sample ID	Method	CAS	Units	ANO-EB001
Location				Equipment Blank
Date				6/11/2019
Time				13:50
PCB-1232 (Aroclor 1232)	EPA 8082	11141-16-5	<i>mg/l</i>	ND <0.00021

ND - The analyte was not detected above laboratory detection limits. Subscript indicates compound-specific MDL in mg/l.

Robert C. McDaniel
Targeted Soil Sampling Confirmatory Sampling Report
June 26, 2019

Appendix A

Laboratory Report and Chain of Custody Form

June 19, 2019

Michael W. Worden
Environeering, Inc.
16100 Cairnway
Suite 320
Houston, TX 77084

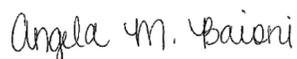
RE: Project: 137-267
Pace Project No.: 92432687

Dear Michael Worden:

Enclosed are the analytical results for sample(s) received by the laboratory on June 12, 2019. The results relate only to the samples included in this report. Results reported herein conform to the most current, applicable TNI/NELAC standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

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

Sincerely,



Angela Baioni
angela.baioni@pacelabs.com
(704)875-9092
Project Manager

Enclosures



REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
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CERTIFICATIONS

Project: 137-267

Pace Project No.: 92432687

Charlotte Certification IDs

9800 Kincey Ave. Ste 100, Huntersville, NC 28078

Louisiana/NELAP Certification # LA170028

North Carolina Drinking Water Certification #: 37706

North Carolina Field Services Certification #: 5342

North Carolina Wastewater Certification #: 12

South Carolina Certification #: 99006001

Florida/NELAP Certification #: E87627

Kentucky UST Certification #: 84

Virginia/VELAP Certification #: 460221

REPORT OF LABORATORY ANALYSIS

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SAMPLE SUMMARY

Project: 137-267
Pace Project No.: 92432687

Lab ID	Sample ID	Matrix	Date Collected	Date Received
92432687001	ANO-SB003 (0'-1)	Solid	06/11/19 13:30	06/12/19 09:41
92432687002	ANO-EB001	Water	06/11/19 13:50	06/12/19 09:41

REPORT OF LABORATORY ANALYSIS

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SAMPLE ANALYTE COUNT

Project: 137-267
Pace Project No.: 92432687

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
92432687001	ANO-SB003 (0'-1)	EPA 8082A	SEM	2	PASI-C
		ASTM D2974-87	KDF	1	PASI-C
92432687002	ANO-EB001	EPA 8082A	SEM	2	PASI-C

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 137-267
Pace Project No.: 92432687

Sample: ANO-SB003 (0'-1) **Lab ID: 92432687001** Collected: 06/11/19 13:30 Received: 06/12/19 09:41 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8082 GCS PCB									
Analytical Method: EPA 8082A Preparation Method: EPA 3546									
PCB-1232 (Aroclor 1232)	ND	ug/kg	76.6	34.8	2	06/14/19 20:47	06/17/19 10:19	11141-16-5	
Surrogates									
Decachlorobiphenyl (S)	183	%	10-130		2	06/14/19 20:47	06/17/19 10:19	2051-24-3	D3,S3
Percent Moisture									
Analytical Method: ASTM D2974-87									
Percent Moisture	14.7	%	0.10	0.10	1		06/13/19 17:08		

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ANALYTICAL RESULTS

Project: 137-267
Pace Project No.: 92432687

Sample: ANO-EB001		Lab ID: 92432687002		Collected: 06/11/19 13:50	Received: 06/12/19 09:41	Matrix: Water			
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8082 GCS PCB RVE		Analytical Method: EPA 8082A Preparation Method: EPA 3510C							
PCB-1232 (Aroclor 1232)	ND	ug/L	0.50	0.21	1	06/13/19 21:05	06/19/19 05:13	11141-16-5	
Surrogates									
Decachlorobiphenyl (S)	69	%	10-130		1	06/13/19 21:05	06/19/19 05:13	2051-24-3	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: 137-267
Pace Project No.: 92432687

QC Batch: 481089	Analysis Method: EPA 8082A
QC Batch Method: EPA 3510C	Analysis Description: 8082 GCS PCB
Associated Lab Samples: 92432687002	

METHOD BLANK: 2602536 Matrix: Water
Associated Lab Samples: 92432687002

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
PCB-1232 (Aroclor 1232)	ug/L	ND	0.50	0.21	06/19/19 05:51	
Decachlorobiphenyl (S)	%	84	10-130		06/19/19 05:51	

LABORATORY CONTROL SAMPLE: 2602537

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Decachlorobiphenyl (S)	%			79	10-130	

MATRIX SPIKE SAMPLE: 2602538

Parameter	Units	92432868001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Decachlorobiphenyl (S)	%				94	10-130	

SAMPLE DUPLICATE: 2602539

Parameter	Units	92432687002 Result	Dup Result	RPD	Max RPD	Qualifiers
PCB-1232 (Aroclor 1232)	ug/L	ND	ND		30	
Decachlorobiphenyl (S)	%	69	60			

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: 137-267
Pace Project No.: 92432687

QC Batch: 481275 Analysis Method: EPA 8082A
QC Batch Method: EPA 3546 Analysis Description: 8082 GCS PCB
Associated Lab Samples: 92432687001

METHOD BLANK: 2603337 Matrix: Solid
Associated Lab Samples: 92432687001

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
PCB-1232 (Aroclor 1232)	ug/kg	ND	33.4	15.2	06/17/19 11:03	
Decachlorobiphenyl (S)	%	83	10-130		06/17/19 11:03	

LABORATORY CONTROL SAMPLE: 2603338

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Decachlorobiphenyl (S)	%			84	10-130	

MATRIX SPIKE SAMPLE: 2603339

Parameter	Units	92433182001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Decachlorobiphenyl (S)	%				83	10-130	

SAMPLE DUPLICATE: 2603340

Parameter	Units	92433182002 Result	Dup Result	RPD	Max RPD	Qualifiers
PCB-1232 (Aroclor 1232)	ug/kg	ND	ND		30	
Decachlorobiphenyl (S)	%	76	81			

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

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QUALIFIERS

Project: 137-267

Pace Project No.: 92432687

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.

ND - Not Detected at or above adjusted reporting limit.

TNTC - Too Numerous To Count

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit - The lowest concentration value that meets project requirements for quantitative data with known precision and bias for a specific analyte in a specific matrix.

S - Surrogate

1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

Acid preservation may not be appropriate for 2 Chloroethylvinyl ether.

A separate vial preserved to a pH of 4-5 is recommended in SW846 Chapter 4 for the analysis of Acrolein and Acrylonitrile by EPA Method 8260.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

LABORATORIES

PASI-C Pace Analytical Services - Charlotte

ANALYTE QUALIFIERS

D3 Sample was diluted due to the presence of high levels of non-target analytes or other matrix interference.

S3 Surrogate recovery exceeded laboratory control limits. Analyte presence below reporting limits in associated sample.

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: 137-267
Pace Project No.: 92432687

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
92432687002	ANO-EB001	EPA 3510C	481089	EPA 8082A	481256
92432687001	ANO-SB003 (0'-1)	EPA 3546	481275	EPA 8082A	481429
92432687001	ANO-SB003 (0'-1)	ASTM D2974-87	481075		

REPORT OF LABORATORY ANALYSIS

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	Document Name: Sample Condition Upon Receipt(SCUR)	Document Revised: February 7, 2018 Page 1 of 2
	Document No.:	Issuing Authority:
	F-CAR-CS-033-Rev.06	Pace Carolinas Quality Office

Laboratory receiving samples:

Asheville Eden Greenwood Huntersville Raleigh Mechanicsville

Sample Condition Upon Receipt:

Client Name:

ALCOA - Badin Works

Project:

WO#: 92432687



92432687

Courier: Fed Ex UPS USPS Client
 Commercial Pace Other: _____

Custody Seal Present? Yes No Seals Intact? Yes No

Date/Initials Person Examining Contents: DDS 6/12/14

Packing Material: Bubble Wrap Bubble Bags None Other

Biological Tissue Frozen? Yes No N/A

Thermometer: IR Gun ID: 911005 Type of Ice: Wet Blue None

Cooler Temp (°C): 3.8 Correction Factor: Add/Subtract (°C) -0.1

Temp should be above freezing to 6°C

Cooler Temp Corrected (°C): 3.7

Samples out of temp criteria. Samples on ice, cooling process has begun

USDA Regulated Soil N/A, water sample

Did samples originate in a quarantine zone within the United States: CA, NY, or SC (check maps)?

Did samples originate from a foreign source (internationally, including Hawaii and Puerto Rico)? Yes No

Yes No

Comments/Discrepancy:

Chain of Custody Present?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	1.	
Samples Arrived within Hold Time?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	2.	
Short Hold Time Analysis (<72 hr.)?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	3.	
Rush Turn Around Time Requested?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	4.	
Sufficient Volume?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	5.	
Correct Containers Used?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	6.	
-Pace Containers Used?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A		
Containers Intact?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	7.	
Dissolved analysis: Samples Field Filtered?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	8.	
Sample Labels Match CDC?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	9.	
-Includes Date/Time/ID/Analysis Matrix: <u>WT</u>			
Headspace in VOA Vials (>5-6mm)?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	10.	
Trip Blank Present?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	11.	
Trip Blank Custody Seals Present?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A		

COMMENTS/SAMPLE DISCREPANCY

Field Data Required? Yes No

Lot ID of split containers:

CLIENT NOTIFICATION/RESOLUTION

Person contacted: _____ Date/Time: _____

Project Manager SCURF Review: AMB

Date: 6-13-14

Project Manager SRF Review: AMB

Date: 6-13-14



Document Name:
Sample Condition Upon Receipt(SCUR)
 Document No.:
F-CAR-CS-033-Rev.06

Document Revised: February 7, 2018
 Page 1 of 2
 Issuing Authority:
 Pace Carolinas Quality Office

*Check mark top half of box if pH and/or dechlorination is verified and within the acceptance range for preservation samples.

Project

WO# : 92432687

PM: AMB

Due Date: 06/26/19

Exceptions: VOA, Coliform, TOC, Oil and Grease, DRO/8015 (water) DOC, LLHg

CLIENT: 92-Alcoa

**Bottom half of box is to list number of bottle

Item#	BP4U-125 mL Plastic Unpreserved (N/A) (Cl-)	BP3U-250 mL Plastic Unpreserved (N/A)	BP2U-500 mL Plastic Unpreserved (N/A)	BP1U-1 liter Plastic Unpreserved (N/A)	BP4S-125 mL Plastic H2SO4 (pH < 2) (Cl-)	BP3N-250 mL plastic HNO3 (pH < 2)	BP4Z-125 mL Plastic ZN Acetate & NaOH (>9)	BP4C-125 mL Plastic NaOH (pH > 12) (Cl-)	WGFU-Wide-mouthed Glass Jar Unpreserved	AG1U-1 liter Amber Unpreserved (N/A) (Cl-)	AG1H-1 liter Amber HCl (pH < 2)	AG3U-250 mL Amber Unpreserved (N/A) (Cl-)	AG1S-1 liter Amber H2SO4 (pH < 2)	AG3S-250 mL Amber H2SO4 (pH < 2)	AG3A(DG9A)-250 mL Amber NH4Cl (N/A)(Cl-)	DG9H-40 mL VOA HCl (N/A)	VG9T-40 mL VOA Na2S2O3 (N/A)	VG9U-40 mL VOA Unp (N/A)	DG9P-40 mL VOA H3PO4 (N/A)	VOAK (6 vials per kit)-5035 kit (N/A)	V/GK (3 vials per kit)-VPH/Gas kit (N/A)	SP5T-125 mL Sterile Plastic (N/A - lab)	SP2T-250 mL Sterile Plastic (N/A - lab)	BP3A-250 mL Plastic (NH2)2SO4 (9.3-9.7)	AG0U-100 mL Amber Unpreserved vials (N/A)	V5GU-20 mL Scintillation Vials (N/A)	DG9U-40 mL Amber Unpreserved vials (N/A)		
1																													
2																													
3																													
4																													
5																													
6																													
7																													
8																													
9																													
10																													
11																													
12																													

Sample ID	Type of Preservative	pH upon receipt	Date preservation adjusted	Time preservation adjusted	Amount of Preservative added	Lot #

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e. Out of hold, incorrect preservative, out of temp, incorrect containers).



CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

Section A		Section B		Section C	
Required Client Information:		Required Project Information:		Invoice Information:	
Company: Alcoa-Baldwin Works (Environmental)	Report To: Worden, Michael	Attention: M. Worden	Company Name: ENVIRONMENTAL	Page: 1	Of 1
Address: 138 Fort Belknap Road, 6666 CHERRY	Copy To:	Address: HOUSTON TX 77084	Pace Quote:		
McGrillsville, NC-27660	Purchase Order #:	Project Name: 137-267	Pace Project Manager: angela.baioni@pacelabs.com		
Email: mworden@environmental.com	Project #:	Requested Due Date: 6/11/19	Pace Profile #: 7478-5.5		
Phone: (919)341-6492	Fax:				
Requested Due Date: 6/11/19					

ITEM #	MATRIX	CODE	COLLECTED		DATE	TIME	SAMPLE TYPE (G-RAB C-COMP)	MATRIX CODE (see valid codes to left)	# OF CONTAINERS	PRESERVATIVES	ANALYSIS TEST	8082A - PCB Arcolor 1232	8082A - PCB Arcolor 1232	Requested Analytes: Filtered (Y/N)	TEMP in C	Received on	Ice (Y/N)	Custody Sealed (Y/N)	Cooler (Y/N)	Samples Intact (Y/N)
			START	END																
1	MATRIX Drinking Water	DW			6/11/19	1330	SL G	1	Unpreserved		X	X								
2	MATRIX Waste Water	WT					SL													
3	MATRIX Product	P					SL													
4	MATRIX Soil/Solid	SL					SL													
5	MATRIX Oil	OL					SL													
6	MATRIX Wipe	WP					SL													
7	MATRIX Air	AR					WT G	2												
8	MATRIX Other	OT																		
9	MATRIX Tissue	TS																		
10																				
11																				
12																				

REQUISITIONED BY / AFFIRMATION	DATE	TIME	RECEIVED BY / AFFIRMATION	DATE	TIME	SAMPLE CONDITIONS
Michael Worden	6/11/19	9:41	D. Worden	6/12/19	0941	3-8 Y N Y
ADDITIONAL COMMENTS						
SAMPLER NAME AND SIGNATURE						
PRINT Name of SAMPLER: Michael Worden						
SIGNATURE of SAMPLER: [Signature]						
DATE Signed: 6/11/19						