



ANALYTICAL REPORT

PREPARED FOR

Attn: Terri Choy
AECOM
1001 Bishop Street
Honolulu, Hawaii 96813
Generated 5/10/2023 2:51:49 PM

JOB DESCRIPTION

Red Hill - AFFF Assessment Sampling

JOB NUMBER

580-126799-1

Eurofins Seattle

Job Notes

This report may not be reproduced except in full, and with written approval from the laboratory. The results relate only to the samples tested. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

The test results in this report relate only to the samples as received by the laboratory and will meet all requirements of the methodology, with any exceptions noted. This report shall not be reproduced except in full, without the express written approval of the laboratory. All questions should be directed to the Eurofins Environment Testing Northwest, LLC Project Manager.

Authorization



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Authorized for release by
Marie Walker, Senior Project Manager
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(253)248-4972



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Case Narrative

Client: AECOM
Project/Site: Red Hill - AFFF Assessment Sampling

Job ID: 580-126799-1

Job ID: 580-126799-1

Laboratory: Eurofins Seattle

Narrative

CASE NARRATIVE

Client: AECOM
Project: Red Hill - AFFF Assessment Sampling
Report Number: 580-126799-1

This case narrative is in the form of an exception report, where only the anomalies related to this report, method specific performance and/or QA/QC issues are discussed. If there are no issues to report, this narrative will include a statement that documents that there are no relevant data issues.

It should be noted that samples with elevated Reporting Limits (RLs) resulting from a dilution may not be able to satisfy customer reporting limits in some cases. Such increases in the RLs are an unavoidable but acceptable consequence of sample dilution that enables quantification of target analytes within the calibration range of the instrument or that reduces the interferences thereby enabling the quantification of target analytes.

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

All holding times were met and proper preservation noted for the methods performed on these samples, unless otherwise detailed in the individual sections below.

RECEIPT

Five samples were received on 5/3/2023 10:30 AM. Unless otherwise noted below, the samples arrived in good condition, and where required, properly preserved and on ice. The temperature of the cooler at receipt was 2.2° C.

Note: All samples which require thermal preservation are considered acceptable if the arrival temperature is within 2C of the required temperature or method specified range. For samples with a specified temperature of 4C, samples with a temperature ranging from just above freezing temperature of water to 6C shall be acceptable. Samples that are hand delivered immediately following collection may not meet these criteria, however they will be deemed acceptable according to NELAC standards, if there is evidence that the chilling process has begun, such as arrival on ice, etc.

GLYCOLS

Samples AF-RHMW12A-WGN01LF-2305W1 (580-126799-1), AF-RHMW12A-WGFD01LF-2305W1 (580-126799-2), AF-RHMW16-WGN01LF-2305W1 (580-126799-3), AF-RHMW06-WGN01LF-2305W1 (580-126799-4) and AF-RHMW04-WGN01LF-2305W1 (580-126799-5) were analyzed for glycols in accordance with EPA SW-846 Method 8015B - DAI. The samples were analyzed on 05/07/2023.

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

Definitions/Glossary

Client: AECOM

Job ID: 580-126799-1

Project/Site: Red Hill - AFFF Assessment Sampling

Qualifiers

GC Semi VOA

Qualifier	Qualifier Description
M	Manual integrated compound.
U	Undetected at the Limit of Detection.

Glossary

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

Client Sample Results

Client: AECOM

Job ID: 580-126799-1

Project/Site: Red Hill - AFFF Assessment Sampling

Client Sample ID: AF-RHMW12A-WGN01LF-2305W1

Lab Sample ID: 580-126799-1

Date Collected: 05/01/23 09:45

Matrix: Water

Date Received: 05/03/23 10:30

Method: SW846 8015C GLY - Glycols- Direct Injection (GC/FID)

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
2-(2-Butoxyethoxy)ethanol	3.0	U	5.0	1.1	mg/L			05/07/23 13:00	1

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11

Client Sample Results

Client: AECOM
Project/Site: Red Hill - AFFF Assessment Sampling

Job ID: 580-126799-1

Client Sample ID: AF-RHMW12A-WGFD01LF-2305W1

Lab Sample ID: 580-126799-2

Date Collected: 05/01/23 09:45

Matrix: Water

Date Received: 05/03/23 10:30

Method: SW846 8015C GLY - Glycols- Direct Injection (GC/FID)

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
2-(2-Butoxyethoxy)ethanol	3.0	U M	5.0	1.1	mg/L			05/07/23 13:23	1

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11

Client Sample Results

Client: AECOM
Project/Site: Red Hill - AFFF Assessment Sampling

Job ID: 580-126799-1

Client Sample ID: AF-RHMW16-WGN01LF-2305W1

Lab Sample ID: 580-126799-3

Date Collected: 05/01/23 12:15

Matrix: Water

Date Received: 05/03/23 10:30

Method: SW846 8015C GLY - Glycols- Direct Injection (GC/FID)

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
2-(2-Butoxyethoxy)ethanol	3.0	U M	5.0	1.1	mg/L			05/07/23 13:46	1

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11

Client Sample Results

Client: AECOM
Project/Site: Red Hill - AFFF Assessment Sampling

Job ID: 580-126799-1

Client Sample ID: AF-RHMW06-WGN01LF-2305W1

Lab Sample ID: 580-126799-4

Date Collected: 05/01/23 11:40

Matrix: Water

Date Received: 05/03/23 10:30

Method: SW846 8015C GLY - Glycols- Direct Injection (GC/FID)

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
2-(2-Butoxyethoxy)ethanol	3.0	U M	5.0	1.1	mg/L			05/07/23 14:09	1

- 1
- 2
- 3
- 4
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- 7
- 8
- 9
- 10
- 11

Client Sample Results

Client: AECOM
Project/Site: Red Hill - AFFF Assessment Sampling

Job ID: 580-126799-1

Client Sample ID: AF-RHMW04-WGN01LF-2305W1

Lab Sample ID: 580-126799-5

Date Collected: 05/01/23 10:15

Matrix: Water

Date Received: 05/03/23 10:30

Method: SW846 8015C GLY - Glycols- Direct Injection (GC/FID)

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
2-(2-Butoxyethoxy)ethanol	3.0	U	5.0	1.1	mg/L			05/07/23 14:32	1

- 1
- 2
- 3
- 4
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- 6
- 7
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- 9
- 10
- 11

QC Sample Results

Client: AECOM
 Project/Site: Red Hill - AFFF Assessment Sampling

Job ID: 580-126799-1

Method: 8015C GLY - Glycols- Direct Injection (GC/FID)

Lab Sample ID: MB 680-777342/18
Matrix: Water
Analysis Batch: 777342

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

Analyte	MB Result	MB Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
2-(2-Butoxyethoxy)ethanol	3.0	U	5.0	1.1	mg/L			05/07/23 04:05	1

Lab Sample ID: LCS 680-777342/12
Matrix: Water
Analysis Batch: 777342

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
2-(2-Butoxyethoxy)ethanol	20.0	19.1		mg/L		96	50 - 150

Lab Sample ID: LCSD 680-777342/13
Matrix: Water
Analysis Batch: 777342

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

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
2-(2-Butoxyethoxy)ethanol	20.0	19.3		mg/L		97	50 - 150	1	50

Lab Chronicle

Client: AECOM
Project/Site: Red Hill - AFFF Assessment Sampling

Job ID: 580-126799-1

Client Sample ID: AF-RHMW12A-WGN01LF-2305W1

Lab Sample ID: 580-126799-1

Date Collected: 05/01/23 09:45

Matrix: Water

Date Received: 05/03/23 10:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8015C GLY		1	777342	GEM	EET SAV	05/07/23 13:00

Client Sample ID: AF-RHMW12A-WGFD01LF-2305W1

Lab Sample ID: 580-126799-2

Date Collected: 05/01/23 09:45

Matrix: Water

Date Received: 05/03/23 10:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8015C GLY		1	777342	GEM	EET SAV	05/07/23 13:23

Client Sample ID: AF-RHMW16-WGN01LF-2305W1

Lab Sample ID: 580-126799-3

Date Collected: 05/01/23 12:15

Matrix: Water

Date Received: 05/03/23 10:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8015C GLY		1	777342	GEM	EET SAV	05/07/23 13:46

Client Sample ID: AF-RHMW06-WGN01LF-2305W1

Lab Sample ID: 580-126799-4

Date Collected: 05/01/23 11:40

Matrix: Water

Date Received: 05/03/23 10:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8015C GLY		1	777342	GEM	EET SAV	05/07/23 14:09

Client Sample ID: AF-RHMW04-WGN01LF-2305W1

Lab Sample ID: 580-126799-5

Date Collected: 05/01/23 10:15

Matrix: Water

Date Received: 05/03/23 10:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8015C GLY		1	777342	GEM	EET SAV	05/07/23 14:32

Laboratory References:

EET SAV = Eurofins Savannah, 5102 LaRoche Avenue, Savannah, GA 31404, TEL (912)354-7858

Accreditation/Certification Summary

Client: AECOM
Project/Site: Red Hill - AFFF Assessment Sampling

Job ID: 580-126799-1

Laboratory: Eurofins Savannah

Unless otherwise noted, all analytes for this laboratory were covered under each accreditation/certification below.

Authority	Program	Identification Number	Expiration Date
ANAB	Dept. of Defense ELAP	L2463	09-22-24

The following analytes are included in this report, but the laboratory is not certified by the governing authority. This list may include analytes for which the agency does not offer certification.

Analysis Method	Prep Method	Matrix	Analyte
8015C GLY		Water	2-(2-Butoxyethoxy)ethanol



Sample Summary

Client: AECOM
Project/Site: Red Hill - AFFF Assessment Sampling

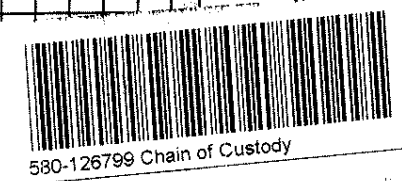
Job ID: 580-126799-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
580-126799-1	AF-RHMW12A-WGN01LF-2305W1	Water	05/01/23 09:45	05/03/23 10:30
580-126799-2	AF-RHMW12A-WGFD01LF-2305W1	Water	05/01/23 09:45	05/03/23 10:30
580-126799-3	AF-RHMW16-WGN01LF-2305W1	Water	05/01/23 12:15	05/03/23 10:30
580-126799-4	AF-RHMW06-WGN01LF-2305W1	Water	05/01/23 11:40	05/03/23 10:30
580-126799-5	AF-RHMW04-WGN01LF-2305W1	Water	05/01/23 10:15	05/03/23 10:30

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Chain of Custody Record

Client Information		Sampler: <u>Matt Yim</u>		Lab PM: Elaine Walker		Carrier Tracking No(s): FedEx		COC No: 2305W1AFEAO5																											
Client Contact:		Phone: <u>509-349-4738</u>		E-Mail: M.Elaine.Walker@EurofinsET.com		State of Origin: Hawaii		Page: Page 1 of 1																											
Company: AECOM		PWSID:		Analysis Requested																															
Address: 1001 Bishop St. Suite 1600		Due Date Requested: see subcontract																																	
City: Honolulu		TAT Requested (days): Rush - 5 Day																																	
State, Zip: Hawaii 96813		Compliance Project: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No																																	
Phone: 808-954-4512 / 770-331-0794		PO #:																																	
Email: Watson Tanji (watson.tanji@aecom.com) / Mark Kromis (mark.kromis@aecom.com)		WO #:		<table border="1"> <tr> <th colspan="2">Preservation Codes:</th> </tr> <tr> <td>A - HCL</td> <td>M - Hexane</td> </tr> <tr> <td>B - NaOH</td> <td>N - None</td> </tr> <tr> <td>C - Zn Acetate</td> <td>O - AsNaO2</td> </tr> <tr> <td>D - Nitric Acid</td> <td>P - Na2O4S</td> </tr> <tr> <td>E - NaHSO4</td> <td>Q - Na2SO3</td> </tr> <tr> <td>F - MeOH</td> <td>R - Na2S2O3</td> </tr> <tr> <td>G - Amchlor</td> <td>S - H2SO4</td> </tr> <tr> <td>H - Ascorbic Acid</td> <td>T - TSP Dodecahydrate</td> </tr> <tr> <td>I - Ice</td> <td>U - Acetone</td> </tr> <tr> <td>J - DI Water</td> <td>V - MCAA</td> </tr> <tr> <td>K - EDTA</td> <td>W - pH 4-5</td> </tr> <tr> <td>L - EDA</td> <td>Z - other (specify)</td> </tr> </table>						Preservation Codes:		A - HCL	M - Hexane	B - NaOH	N - None	C - Zn Acetate	O - AsNaO2	D - Nitric Acid	P - Na2O4S	E - NaHSO4	Q - Na2SO3	F - MeOH	R - Na2S2O3	G - Amchlor	S - H2SO4	H - Ascorbic Acid	T - TSP Dodecahydrate	I - Ice	U - Acetone	J - DI Water	V - MCAA	K - EDTA	W - pH 4-5	L - EDA	Z - other (specify)
Preservation Codes:																																			
A - HCL	M - Hexane																																		
B - NaOH	N - None																																		
C - Zn Acetate	O - AsNaO2																																		
D - Nitric Acid	P - Na2O4S																																		
E - NaHSO4	Q - Na2SO3																																		
F - MeOH	R - Na2S2O3																																		
G - Amchlor	S - H2SO4																																		
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J - DI Water	V - MCAA																																		
K - EDTA	W - pH 4-5																																		
L - EDA	Z - other (specify)																																		
Project Name: CTO N6274223F0104		Project #: 60697810		Job #: <u>126799</u>																															
Site: RHSF		SSOW#:		Total Number of Containers:																															
Sample Identification		Sample Date		Sample Time		Sample Type (C=Comp, G=grab)		Matrix (W=water, S=solid, O=organic, G=Gas, T=Trace, A=Air)		Special Instructions/Note:																									
								<input checked="" type="checkbox"/> Field Filtered Sample (Yes or No) 8016C_DAL_GL_DB/2 (2-butoxyethoxy)-ethano																											
AF-RHMW12A-WGN01LF-2305W1		5/1/23		0945		G W		N N X		3																									
AF-RHMW12A-WGFD01LF-2305W1		5/1/23		0945		G W		N N X		3																									
		2x 5/1/23																																	



Possible Hazard Identification		Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)	
<input checked="" type="checkbox"/> Non-Hazard <input type="checkbox"/> Flammable <input type="checkbox"/> Skin Irritant <input type="checkbox"/> Poison B <input type="checkbox"/> Unknown <input type="checkbox"/> Radiological		<input type="checkbox"/> Return To Client <input checked="" type="checkbox"/> Disposal By Lab <input type="checkbox"/> Archive For _____ Months	
Deliverable Requested: I, II, III, IV, Other (specify)		Special Instructions/QC Requirements: DOD QSM project.	

Empty Kit Relinquished by:		Date:		Time:		Method of Shipment:	
Relinquished by: <u>Matt Yim</u>		Date/Time: <u>5/1/23 1340</u>		Company: <u>AECOM</u>		Received by: <u>Alex Edmonds</u>	
Relinquished by: <u>Alex Edmonds</u>		Date/Time: <u>5/1/23 1400</u>		Company: <u>AECOM</u>		Received by: <u>[Signature]</u>	
Relinquished by:		Date/Time:		Company:		Date/Time: <u>5/3/23 1030</u>	

Custody Seals Intact: Custody Seal No.: Cooler Temperature(s) °C and Other Remarks: Ver: 01/16/2019

22/2-0

Eurofins FGS, Seattle
 5755 8th Street East
 Tacoma, WA 98424

Chain of Custody Record

eurofins Environment Testing
 America

Client Information		Sample: <i>GABRIELA ALLEN</i>	Lab PM: Elaine Walker	Carrier Tracking No(s): FedEx	COC No: 2305W1AFEA06		
Client Contact:		Phone: <i>808-639-8454</i>	E-Mail: M.Elaine.Walker@EurofinsET.com	State of Origin: Hawaii	Page: Page 1 of 1		
Company: AECOM		PWSD:		Analysis Requested			
Address: 1001 Bishop St. Suite 1600		Due Date Requested: see subcontract					
City: Honolulu		TAT Requested (days): Rush - 5 Day					
State, Zip: Hawaii 96813		Compliance Project: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No					
Phone: 808-954-4512 / 770-331-0794		PO #:					
Email: Watson Tanji (watson.tanji@aecom.com) / Mark Kromis (mark.kromis@aecom.com)		WO #:					
Project Name: CTO N6274223F0104		Project #: 60697810		Preservation Codes: A - HCL M - Hexane B - NaOH N - None C - Zn Acetate O - AsNaO2 D - Nitric Acid P - Na2CO3 E - NaHSO4 Q - Na2SO3 F - MeOH R - Na2S2O3 G - Anchlor S - H2SO4 H - Ascorbic Acid T - TSP Dodecahydrate I - Ice U - Acetone J - DI Water V - MCAA K - EDTA W - pH 4-5 L - EDA Z - other (specify)			
Site: RHSF		SSGW#:					
Field Filtered Sample (Yes or No)		8016C, DAL, GL, DSR 2-(p-butylphenyl)ethanol					
Sample Identification		Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (H=Water, S=Soil, O=Organic, ST=Sludge, AA=Air)	Total Number of Containers	Special Instructions/Note:
AF-RHMW16-WGN01LF-2305W1		05/01/23	1215	G	W		
		05/01/23					
Possible Hazard Identification				Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)			
<input checked="" type="checkbox"/> Non-Hazard <input type="checkbox"/> Flammable <input type="checkbox"/> Skin Irritant <input type="checkbox"/> Poison B <input type="checkbox"/> Unknown <input type="checkbox"/> Radiological				<input type="checkbox"/> Return To Client <input type="checkbox"/> Disposal By Lab <input type="checkbox"/> Archive For _____ Months			
Deliverable Requested: I, II, III, IV, Other (specify)				Prelim data (Level 1or2)=see TAT above. DoD Stage 4 Special Instructions/QC Requirements: DOD QSM project. report standard TAT AECOM EQUIS EDD.			
Empty Kit Relinquished by:		Date:	Time:	Method of Shipment:			
Relinquished by: <i>GABRIELA ALLEN</i>		Date/Time: 05/01/23 1340	Company: AECOM	Received by: <i>Aled Edmonds</i>		Date/Time: 5/1/23 1340	Company: AECOM
Relinquished by: <i>Aled Edmonds</i>		Date/Time: 5/1/23 1400	Company: AECOM	Received by: <i>[Signature]</i>		Date/Time: 5/3/23 1030	Company:
Relinquished by:		Date/Time:	Company:	Received by:		Date/Time:	Company:
Custody Seals Intact: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		Custody Seal No.:		Cooler Temperature(s) °C and Other Remarks: 2-2/2.0			

Ver: 01/16/2019

Eurofins FGS, Seattle
5755 8th Street East
Tacoma, WA 98424

Chain of Custody Record

eurofins Environment Testing
America

Client Information		Sampler: <u>Andy Young</u>		Lab PM: Elaine Walker		Carrier Tracking No(s): FedEx		COC No: 2305W1AFE09					
Client Contact:		Phone: <u>402-871-5712</u>		E-Mail: M.Elaine.Walker@EurofinsET.com		State of Origin: Hawaii		Page: Page 1 of 1					
Company: AECOM		PWSID:		Analysis Requested						Job #:			
Address: 1001 Bishop St. Suite 1600		Due Date Requested: see subcontract		<div style="display: flex; align-items: center; justify-content: center;"><div style="writing-mode: vertical-rl; transform: rotate(180deg); font-size: small;">Field Filtered Sample (Yes or No)</div><div style="border: 1px solid black; padding: 5px; margin: 0 10px;">8016C_DAL_GL_D8/2 (p-butylmethoxy)-ethanol</div><div style="text-align: center; font-size: 2em;"></div><div style="writing-mode: vertical-rl; transform: rotate(180deg); font-size: small;">Total Number of Containers</div></div>						Preservation Codes:			
City: Honolulu		TAT Requested (days): Rush - 5 Day								A - HCL		M - Hexane	
State, Zip: Hawaii 96813		Compliance Project: <input type="checkbox"/> Yes <input type="checkbox"/> No								B - NaOH		N - None	
Phone: 808-954-4512 / 770-331-0794		PO #:								C - Zn Acetate		O - AsNaO2	
Email: Watson Tanji (watson.tanji@aecom.com) Mark Kromis (mark.kromis@aecom.com)		WO #:								D - Nitric Acid		P - Na2O4S	
Project Name: CTO N6274223F0104		Project #: 60697810								E - NaHSO4		Q - Na2SO3	
Site: RH5F		SSOW#:		F - MeOH		R - Na2SO4							
Sample Identification		Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (M=metal, S=solid, Q=water, N/L, ST=Sludge, AM=Air)	Preservation Code:		Special Instructions/Note:					
						A							
AF-RH5W06-WGN01LF-2305W1		5/1/23	1140	G	W	N	N	X	3				
<div style="display: flex; align-items: center; justify-content: center;"><div style="text-align: center; font-size: 2em;"></div><div style="writing-mode: vertical-rl; transform: rotate(180deg); font-size: small;">Total Number of Containers</div></div>													
Possible Hazard Identification					Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)								
<input checked="" type="checkbox"/> Non-Hazard <input type="checkbox"/> Flammable <input type="checkbox"/> Skin Irritant <input type="checkbox"/> Poison B <input type="checkbox"/> Unknown <input type="checkbox"/> Radiological					<input type="checkbox"/> Return To Client <input type="checkbox"/> Disposal By Lab <input type="checkbox"/> Archive For _____ Months								
Deliverable Requested: I, II, III, IV, Other (specify)					Prelim data (Level 1or2)=see TAT above. DoD Stage 4 report standard TAT. AECOM EQUIS EDD.								
Empty Kit Relinquished by:					Method of Shipment:								
Relinquished by: <u>Andy Young</u>		Date/Time: <u>5/1/23 1245</u>		Company: AECOM		Received by: <u>Brianne Tominez</u>		Date/Time: <u>5/3/23 1245</u>		Company: AECOM			
Relinquished by: <u>Brianne Tominez</u>		Date/Time: <u>5/3/23 1300</u>		Company: AECOM		Received by: <u>[Signature]</u>		Date/Time: <u>5/3/23 1030</u>		Company:			
Relinquished by:		Date/Time:		Company:		Received by:		Date/Time:		Company:			
Custody Seals Intact: <input type="checkbox"/> Yes <input type="checkbox"/> No		Custody Seal No.:		Cooler Temperature(s) °C and Other Remarks: <u>2-2/2.0</u>						Ver: 01/16/2019			

Eurofins FGS, Seattle
 5755 8th Street East
 Tacoma, WA 98424

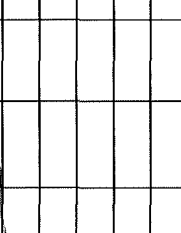
Chain of Custody Record

eurofins Environment Testing
 America

Client Information		Sampler: <u>Andy Young</u>		Lab PM: Elaine Walker		Carrier Tracking No(s): FedEx		COC No: 2305W1AFE08																	
Client Contact:		Phone: <u>402-871-5712</u>		E-Mail: M.Elaine.Walker@EurofinsET.com		State of Origin: Hawaii		Page: Page 1 of 1																	
Company: AECOM		PWSID:		Analysis Requested						Job #:															
Address: 1001 Bishop St. Suite 1600		Due Date Requested: see subcontract		Field Filled Samples (Yes or No) 80 BC_DAL_GL_DS/2-(2-butoxyethoxy)-ethanol <i>CSJ 5/1/23</i>						Preservation Codes: A - HCL M - Hexane B - NaOH N - None C - Zn Acetate O - AsNaO2 D - Nitric Acid P - Na2O4S E - NaHSO4 Q - Na2SO3 F - MeOH R - Na2S2O3 G - Amchlor S - H2SO4 H - Ascorbic Acid T - TSP Dodecahydrate I - Ice U - Acetone J - DI Water V - MCAA K - EDTA W - pH 4-5 L - EDA Z - other (specify) Other:															
City: Honolulu		TAT Requested (days): Rush - 5 Day																							
State, Zip: Hawaii 96813		Compliance Project: <input type="checkbox"/> Yes <input type="checkbox"/> No																							
Phone: 808-954-4512 / 770-331-0794		PO #:																							
Email: Watson Tanji (watson.tanji@aecom.com) / Mark Kromis (mark.kromis@aecom.com)		WO #:		<table border="1"> <thead> <tr> <th>Sample Identification</th> <th>Sample Date</th> <th>Sample Time</th> <th>Sample Type (C=comp, G=grab)</th> <th>Matrix (Water, Sealed, Overwater/Oil, etc. Trace, Ascid)</th> <th>Field Filled Samples (Yes or No)</th> <th>Total Number of Containers</th> <th>Special Instructions/Note:</th> </tr> </thead> <tbody> <tr> <td>AF-RHMW04-WGN01LF-2305W1</td> <td>5/1/23</td> <td>1015</td> <td>G</td> <td>W</td> <td>N N X</td> <td>3</td> <td></td> </tr> </tbody> </table>						Sample Identification	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (Water, Sealed, Overwater/Oil, etc. Trace, Ascid)	Field Filled Samples (Yes or No)	Total Number of Containers	Special Instructions/Note:	AF-RHMW04-WGN01LF-2305W1	5/1/23	1015	G	W	N N X	3	
Sample Identification	Sample Date	Sample Time	Sample Type (C=comp, G=grab)							Matrix (Water, Sealed, Overwater/Oil, etc. Trace, Ascid)	Field Filled Samples (Yes or No)	Total Number of Containers	Special Instructions/Note:												
AF-RHMW04-WGN01LF-2305W1	5/1/23	1015	G							W	N N X	3													
Project Name: CTO N6274223F0104		Project #: 60697810																							
Site: RHSF		SSOW#:																							
Possible Hazard Identification		Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)																							
<input checked="" type="checkbox"/> Non-Hazard <input type="checkbox"/> Flammable <input type="checkbox"/> Skin Irritant <input type="checkbox"/> Poison B <input type="checkbox"/> Unknown <input type="checkbox"/> Radiological		<input type="checkbox"/> Return To Client <input checked="" type="checkbox"/> Disposal By Lab <input type="checkbox"/> Archive For _____ Months																							
Deliverable Requested: I, II, III, IV, Other (specify)		Prelim data (Level 1 or 2)=see TAT above. DoD Stage 4 report standard TAT. AECOM EQ/IS EOD.		Special Instructions/QC Requirements: DOD QSM project.																					
Empty Kit Relinquished by:		Date:		Time:		Method of Shipment:																			
Relinquished by: <u>Andy Young</u>		Date/Time: <u>5/1/23 / 1245</u>		Company: AECOM		Received by: <u>Brittany Tominez</u>		Date/Time: <u>5/3/23 1245</u>		Company: AECOM															
Relinquished by: <u>Brittany Tominez</u>		Date/Time: <u>5/3/23 1300</u>		Company: AECOM		Received by: <u>[Signature]</u>		Date/Time: <u>5/3/23 1030</u>		Company:															
Relinquished by:		Date/Time:		Company:		Received by:		Date/Time:		Company:															
Custody Seals Intact: <input type="checkbox"/> Yes <input type="checkbox"/> No		Custody Seal No.:		Cooler Temperature(s) °C and Other Remarks: <u>2-2/2-0</u>																					

Ver: 01/16/2019

Chain of Custody Record

Client Information Client Contact: <u>Andy Young</u> Phone: <u>402-871-5712</u> Company: AECOM		Lab PIV: <u>Elaine Walker</u> State of Origin: <u>Hawaii</u> E-Mail: <u>M.Elaine.Walker@EurofinsET.com</u>		Carrier Tracking No(s): <u>2305W1AFEA09</u> Page: <u>Page 1 of 1</u> Job #:	
Due Date Requested: See subcontract TAT Requested (days): <u>Rush - 5 Day</u> Compliance Project: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No PO #:		PWSID Project #: <u>60697810</u> SSOV#:		Preservation Codes: M Hexane A HCL B NaOH C Zn Acetate D Nitric Acid E NaHSO4 F MeOH G Anichlor H Ascorbic Acid I IB J DI Water K EDTA L EDA Other:	
Address: <u>1001 Bishop St. Suite 1600</u> City: <u>Honolulu</u> State, Zip: <u>Hawaii 96813</u> Phone: <u>808-954-4512 / 770-331-0794</u> Email: <u>Watson.Tanji@aeom.com / Mark.Kromis@aeom.com</u> Project Name: <u>CTO N6274223F0104</u> Site: <u>RHSF</u>		Sample Date: <u>5/1/23</u> Sample Time: <u>1140</u> Sample Type (C=Comp, G=grab): <u>G</u> Matrix (Water, Solid, Over-soil, BT=Trak, A=Air) Preservation Code: <u>W</u>		Total Number of containers: <u>3</u> Special Instructions/Note:	
Sample Identification: <u>AF-RHMW06-WIGN01LF-2305W1</u>		Field Filtered Sample (Yes or No): <u>A</u> Perform MS/MSD (Yes or No): <u>N</u> 8015C_DAL_GL_DS/2-(2-butoxyethoxy)-ethanol: <u>X</u>		Barcode:  580-126799 Chain of Custody	
Possible Hazard Identification: <input checked="" type="checkbox"/> Non-Hazard <input type="checkbox"/> Flammable <input type="checkbox"/> Skin Irritant <input type="checkbox"/> Poison B		Deliverable Requested: I, II, III, IV Other (specify):		Sample Disposal (A fee may be assessed if samples are retained longer than 1 month): <input type="checkbox"/> Return To Client <input type="checkbox"/> Disposal By Lab <input type="checkbox"/> Archive For _____ Months	
Relinquished by: <u>Andy Young AEGJS</u> Relinquished by: <u>Barthany Tominez</u> Relinquished by:		Date/Time: <u>5/1/23 / 1245</u> Date/Time: <u>5/3/23 / 1300</u> Date/Time:		Date/Time: <u>5/3/23 / 1245</u> Date/Time: <u>5/3/23 / 1030</u> Date/Time:	
Custody Seals Intact: <u>Δ Yes Δ No</u> Custody Seal No.		Cooler Temperature(s) °C and Other Remarks: <u>2-2/20</u>		Method of Shipment:	



Chain of Custody Record

Client Information Company: AECOM Address: 1001 Bishop St. Suite 1600 City: Honolulu State, Zip: Hawaii 96813 Phone: 808-954-4512 / 770-331-0794 Email: Watson.Tanji@aecom.com / Mark.Kromis@aecom.com Project Name: CTO NB274223F0104 Site: RHSF		Lab PM: Elaine Walker E-Mail: M.Elaine.Walker@EurofinsET.com Carrier Tracking No(s): FedEx State of Origin: Hawaii		Sample: Andy Young Phone: 402-871-5712 PWSID:		COC No: 2305W1AFEAO8 Page: 1 of 1 Job #:	
Due Date Requested: see subcontract TAT Requested (days): Rush - 5 Day Compliance Project: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No PO #: _____ WO #: _____ Project #: 60697610 SSOW#: _____				Analysis Requested Total Number of Containers: 3 Preservation Codes: A HCL M Hexane B NaOH N None C Zn Acetate O AsNaO2 D Nitric Acid P Na2O4S E NaHSO4 Q Na2SO3 F MeOH R Na2S2O3 G Amchlor S H2SO4 H Ascorbic Acid T TSP Dodecahydrate I Ice U Acetone J DI Water V MCAA K EDTA W pH 4-5 L EDA X other (specify) Other:			
Sample Identification AF-RHMM04-WGN01LE-2305W1		Sample Date: 5/21/23 Sample Time: 1015 Sample Type: G Matrix: W		Field Filtered Sample (Yes or No): <input checked="" type="checkbox"/> N Perform MS/MSD (Yes or No): <input checked="" type="checkbox"/> A 8015C_DAL_GL_DS/2-(2-butoxyethoxy)-ethanol		Special Instructions/Note: <i>[Handwritten signature and notes]</i>	
Possible Hazard Identification <input checked="" type="checkbox"/> Non-Hazard <input type="checkbox"/> Flammable <input type="checkbox"/> Skin Irritant <input type="checkbox"/> Poison B <input type="checkbox"/> Unknown <input type="checkbox"/> Radiological							
Deliverable Requested: I, II, III, IV, Other (specify) _____ Prelim data (Level 1 or 2)—see TAT above. DoD Stage _____ 4 report standard TAT. AECOM EQUIS EDD.							
Empty Kit Relinquished by Relinquished by: <i>Andy Young</i> Date/Time: 5/11/23 / 1245 Relinquished by: <i>[Signature]</i> Date/Time: 5/3/23 / 1030 Relinquished by: _____ Date/Time: _____							
Custody Seals Intact: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No Cooler Temperature(s) °C and Other Remarks: 2-2/2-0							



Chain of Custody Record

Client Information		Lab P.M.: Elaine Walker	Carrier Tracking No(s): 2305W1AFE05
Client Contact:		State of Origin: Hawaii	Page: Page 1 of 1
Company: AECOM		E-Mail: M.Elaine.Walker@EurofinsET.com	Job #:
Address: 1001 Bishop St. Suite 1600		Analysis Requested	
City: Honolulu		8015C_DAL_GL_DS/(2-butylxyethoxy)-ethanol	
State Zip: Hawaii 96813		Field Filtered Sample (Yes or No) <input checked="" type="checkbox"/> A	
Phone: 808-954-4512 / 770-331-0794		Form MS/MSD (Yes or No) <input checked="" type="checkbox"/> A	
Email: Watson.Tanji@aecom.com / Mark.Kromis@aecom.com		Total Number of Containers: 3	
Project Name: CTO N6274223F0104		Special Instructions/Note:	
Site: RH5F		Preservation Codes:	
Due Date Requested: see subcontract		A HCL M Hexane	
TAT Requested (days): Rush - 5 Day		B NaOH N None	
Compliance Project: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		C Zn Acetate O ASNaO2	
PO #:		D Nitric Acid P Na2O4S	
WO #:		E NaHSO4 Q Na2SO3	
Project #:		F MeOH R Na2S2O3	
SSOW#:		G Amchlor S H2SO4	
Sample Date		H Ascorbic Acid T TSP Dodecahydrate	
Sample Time		I Ice U Acetone	
Sample Type (C=comp, G=grab)		J DI Water V MCAA	
Matrix (W=water, S=solid, O=oil, B=brine, A=air)		K EDTA W pH 4-5	
Sample Date: 5/11/23		L EDA Z other (specify)	
Sample Time: 0945		Other:	
Sample Type: G		Other:	
Matrix: W		Other:	
Sample Date: 5/11/23		Other:	
Sample Time: 0945		Other:	
Sample Type: G		Other:	
Matrix: W		Other:	
Sample Date: NY 5/11/23		Other:	
Sample Time:		Other:	
Sample Type:		Other:	
Matrix:		Other:	

<input checked="" type="checkbox"/> Possible Hazard Identification	<input type="checkbox"/> Non-Hazard	<input type="checkbox"/> Flammable	<input type="checkbox"/> Skin Irritant	<input type="checkbox"/> Poison B	<input type="checkbox"/> Unknown	<input type="checkbox"/> Radiological
Deliverable Requested: I, II, III, IV, Other (specify)						
Prelim data (Level 1 or 2) - see TAT above. DoD Stage 4 report standard TAT AECOM EQUIS EDD						
Return To Client <input type="checkbox"/>			Disposal By Lab <input type="checkbox"/>		Archive For _____ Months	
Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)						

Relinquished by: Alex Kromis	Date/Time: 5/11/23 1400	Company: AECOM
Relinquished by: Alex Kromis	Date/Time: 5/11/23 1340	Company: AECOM
Relinquished by: Alex Kromis	Date/Time: 5/13/23 1030	Company: AECOM

Custody Seal No	Cooler Temperature(s) °C and Other Remarks: 22/2.0
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Chain of Custody Record

Client Information Client Contact: <i>Garblce Arizon</i> Phone: <i>808-659-3434</i>		Lab P.I.M: Elaine Walker E-Mail: <i>M.Elaine.Walker@EurofinsET.com</i>		Carrier Tracking No(s): FedEx State of Origin: Hawaii		COC No: 2305W1AFA06 Page: Page 1 of 1 Job #:	
Company: AECOM		Due Date Requested: see subcontract		Analysis Requested: <i>[Large Handwritten Signature]</i>		Preservation Codes: A HCL B NaOH C Zn Acetate D Nitric Acid E NaHSO4 F MeOH G Amchlor H Ascorbic Acid I Ice J DI Water K EDTA L EDA Other:	
Address: 1001 Bishop St, Suite 1600 City: Honolulu State, Zip: Hawaii 96813 Phone: 808-954-4512 / 770-331-0794 Email: Watson.Tanji@aeocom.com / Mark.Kromis@aeocom.com		TAT Requested (days): Rush - 5 Day Compliance Project: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		8015C DAL GL OS/2-(2-butoxyethoxy)-ethanol		Total Number of Containers: 3	
Project Name: CTO N6274223F0104		PO #: WO #: Project #: 60697810 SSOW#:		Perform MS/MSD (Yes or No) <input checked="" type="checkbox"/> <input type="checkbox"/>		Special Instructions/Note:	
Site: RHSF		Sample Date: <i>5/10/23</i>		Field Filtered Sample (Yes or No) <input checked="" type="checkbox"/> <input type="checkbox"/>			
Sample Identification: AF-RHMMW16-WGN01LF-2305W1		Sample Type: (C=Comp, G=grab) G		Matrix: (None, Acetic, Chloroform, Ethanol, MTBE, Toluene, Xylene)			
Possible Hazard Identification: <input checked="" type="checkbox"/> Non-Hazard <input type="checkbox"/> Flammable <input type="checkbox"/> Skin Irritant <input type="checkbox"/> Poison B		Sample Time: <i>1215</i>		Preservation Code: G W			
Deliverable Requested: I, II, III, IV Other (specify)		Sample Date: <i>5/10/23</i>		Field Filtered Sample (Yes or No) <input checked="" type="checkbox"/> <input type="checkbox"/>			
Empty Kit Relinquished by:		Date: <i>5/10/23</i>		Field Filtered Sample (Yes or No) <input checked="" type="checkbox"/> <input type="checkbox"/>			
Relinquished by: <i>Garblce Arizon</i>		Date/Time: <i>5/10/23 / 1340</i>		Field Filtered Sample (Yes or No) <input checked="" type="checkbox"/> <input type="checkbox"/>			
Relinquished by: <i>Alex Edmond</i>		Date/Time: <i>5/12/23 / 1401</i>		Field Filtered Sample (Yes or No) <input checked="" type="checkbox"/> <input type="checkbox"/>			
Relinquished by:		Date/Time:		Field Filtered Sample (Yes or No) <input checked="" type="checkbox"/> <input type="checkbox"/>			
Custody Seals Intact: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		Date/Time: <i>5/10/23 / 1340</i>		Field Filtered Sample (Yes or No) <input checked="" type="checkbox"/> <input type="checkbox"/>			
Custody Seal No.		Date/Time: <i>5/12/23 / 1030</i>		Field Filtered Sample (Yes or No) <input checked="" type="checkbox"/> <input type="checkbox"/>			
Cooler Temperature(s) °C and Other Remarks: <i>2-2/2.0</i>		Date/Time: <i>5/12/23 / 1030</i>		Field Filtered Sample (Yes or No) <input checked="" type="checkbox"/> <input type="checkbox"/>			
Cooler Temperature(s) °C and Other Remarks:		Date/Time:		Field Filtered Sample (Yes or No) <input checked="" type="checkbox"/> <input type="checkbox"/>			
Cooler Temperature(s) °C and Other Remarks:		Date/Time:		Field Filtered Sample (Yes or No) <input checked="" type="checkbox"/> <input type="checkbox"/>			



Login Sample Receipt Checklist

Client: AECOM

Job Number: 580-126799-1

Login Number: 126799

List Number: 2

Creator: Drake, Victoria

List Source: Eurofins Savannah

List Creation: 05/05/23 11:46 AM

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