

 **ANALYTICAL REPORT****PREPARED FOR**

Attn: Terri Choy
AECOM

1001 Bishop Street
Honolulu, Hawaii 96813

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JOB DESCRIPTION

Red Hill - AFFF Assessment Sampling

JOB NUMBER

580-124966-1

Job Notes

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The data in the report relate to the field sample(s) as received by the laboratory and associated QC. All results have been reviewed and have been found to be compliant with laboratory and accreditation requirements, with the exception of the noted deviation(s). For questions, please contact the Project Manager.

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
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Table of Contents

Cover Page	1
Table of Contents	3
Case Narrative	4
Definitions	5
Client Sample Results	6
QC Sample Results	9
Chronicle	10
Certification Summary	11
Sample Summary	12
Chain of Custody	13
Receipt Checklists	19

Case Narrative

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

Job ID: 580-124966-1

Job ID: 580-124966-1

Laboratory: Eurofins Seattle

Narrative

CASE NARRATIVE

Client: AECOM
Project: Red Hill - AFFF Assessment Sampling
Report Number: 580-124966-1

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.

Following DoD QSM guidelines, manual integrations were performed only when necessary and are in compliance with the laboratory's standard operating procedure, Acceptable Manual Integration Practices, SOP No.: Q-S-002. The reason(s) for manual integration have been documented on the affected chromatogram(s), which is/are provided in the raw data package. The raw data also includes the original chromatogram(s) prior to any manual integration being performed. Manual integrations are detailed in the manual integration summary forms following this narrative.

It should be noted that samples with elevated Limits of Quantitation (LOQs) resulting from a dilution may not be able to satisfy customer reporting limits in some cases. Such increases in the LOQs 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

The samples were received on 03/20/2023; the samples arrived in good condition, properly preserved and on ice. The temperature of the coolers at receipt was 1.0 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-RHMW225401-WGN01B-2303W2 (580-124966-1), AF-RHMW03-WGN01LF-2303W2 (580-124966-2) and AF-RHMW02-WGN01LF-2303W2 (580-124966-3) were analyzed for glycols in accordance with EPA SW-846 Method 8015B - DAI. The samples were analyzed on 03/22/2023.

The closing continuing calibration verification (CCV) associated with batch 680-769036 recovered above the upper control limit for 2-(2-Butoxyethoxy)ethanol. The samples associated with this CCV were non-detects for the affected analyte; therefore, the data has been reported. The associated samples are impacted: AF-RHMW225401-WGN01B-2303W2 (580-124966-1), AF-RHMW03-WGN01LF-2303W2 (580-124966-2), AF-RHMW02-WGN01LF-2303W2 (580-124966-3), (CCV 680-769036/27), (580-124966-A-3 MS) and (580-124966-A-3 MSD).

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

Definitions/Glossary

Client: AECOM

Job ID: 580-124966-1

Project/Site: Red Hill - AFFF Assessment Sampling

Qualifiers

GC Semi VOA

Qualifier	Qualifier Description
M	Manual integrated compound.
Q	One or more quality control criteria failed.
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
Project/Site: Red Hill - AFFF Assessment Sampling

Job ID: 580-124966-1

Client Sample ID: AF-RHMW225401-WGN01B-2303W2

Lab Sample ID: 580-124966-1

Date Collected: 03/16/23 11:40

Matrix: Water

Date Received: 03/20/23 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 Q	5.0	1.1	mg/L			03/22/23 20:35	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: 580-124966-1

Client Sample ID: AF-RHMW03-WGN01LF-2303W2

Lab Sample ID: 580-124966-2

Date Collected: 03/16/23 12:05

Matrix: Water

Date Received: 03/20/23 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 Q	5.0	1.1	mg/L			03/22/23 20:58	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: 580-124966-1

Client Sample ID: AF-RHMW02-WGN01LF-2303W2

Lab Sample ID: 580-124966-3

Date Collected: 03/16/23 10:40

Matrix: Water

Date Received: 03/20/23 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 Q	5.0	1.1	mg/L			03/22/23 21:22	1

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

QC Sample Results

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

Job ID: 580-124966-1

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

Lab Sample ID: MB 680-769036/12
Matrix: Water
Analysis Batch: 769036

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 M	5.0	1.1	mg/L			03/22/23 17:05	1

Lab Sample ID: LCS 680-769036/6
Matrix: Water
Analysis Batch: 769036

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	19.8		mg/L		99	50 - 150

Lab Sample ID: LCSD 680-769036/7
Matrix: Water
Analysis Batch: 769036

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	19.1		mg/L		95	50 - 150	4	50

Lab Sample ID: 580-124966-3 MS
Matrix: Water
Analysis Batch: 769036

Client Sample ID: AF-RHMW02-WGN01LF-2303W2
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
2-(2-Butoxyethoxy)ethanol	3.0	U M Q	20.0	19.2		mg/L		96	50 - 150

Lab Sample ID: 580-124966-3 MSD
Matrix: Water
Analysis Batch: 769036

Client Sample ID: AF-RHMW02-WGN01LF-2303W2
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
2-(2-Butoxyethoxy)ethanol	3.0	U M Q	20.0	21.4		mg/L		107	50 - 150	11	50

Lab Chronicle

Client: AECOM

Job ID: 580-124966-1

Project/Site: Red Hill - AFFF Assessment Sampling

Client Sample ID: AF-RHMW225401-WGN01B-2303W2

Lab Sample ID: 580-124966-1

Date Collected: 03/16/23 11:40

Matrix: Water

Date Received: 03/20/23 10:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8015C GLY		1	769036	JCK	EET SAV	03/22/23 20:35

Client Sample ID: AF-RHMW03-WGN01LF-2303W2

Lab Sample ID: 580-124966-2

Date Collected: 03/16/23 12:05

Matrix: Water

Date Received: 03/20/23 10:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8015C GLY		1	769036	JCK	EET SAV	03/22/23 20:58

Client Sample ID: AF-RHMW02-WGN01LF-2303W2

Lab Sample ID: 580-124966-3

Date Collected: 03/16/23 10:40

Matrix: Water

Date Received: 03/20/23 10:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8015C GLY		1	769036	JCK	EET SAV	03/22/23 21:22

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: 580-124966-1

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: 580-124966-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
580-124966-1	AF-RHMW225401-WGN01B-2303W2	Water	03/16/23 11:40	03/20/23 10:30
580-124966-2	AF-RHMW03-WGN01LF-2303W2	Water	03/16/23 12:05	03/20/23 10:30
580-124966-3	AF-RHMW02-WGN01LF-2303W2	Water	03/16/23 10:40	03/20/23 10:30

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- 10
- 11

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 N6274223F0104 Site: RHSF		Lab PM: Elaine Walker E-Mail: M.Elaine.Walker@EurofinsET.com PWSID:		Carrier Tracking No(s): FedEx State of Origin: Hawaii		COC No: 2303W2AFE07 Page: Page 1 of 1 Job #:	
Due Date Requested: see subcontract TAT Requested (days): Rush - ASAP Compliance Project: <input type="checkbox"/> Yes <input type="checkbox"/> No PO #: WO #: Project #: 60697810 SSOW#:		Analysis Requested 8015C DAL_GL_DS/2-(2-butoxyethoxy)-ethanol Perform MS/MSD (Yes or No) <input checked="" type="checkbox"/> A Field Filtered Sample (Yes or No) <input checked="" type="checkbox"/> N Field Filtered Sample (Yes or No) <input checked="" type="checkbox"/> N 8015C DAL_GL_DS/2-(2-butoxyethoxy)-ethanol		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: M - Hexane N - None O - AsNaO2 P - Na2O4S Q - Na2SO3 R - Na2S2O3 S - H2SO4 T - TSP Dodecahydrate U - Acetone V - MCAA W - pH 4-5 Z - other (specify)		Total Number of containers: 3 Special Instructions/Note:	
Sample Identification AF-RHMW225401-WGN01B-2303W2 Sample Date: 03/16/23 Sample Time: 1447 Sample Type: G Matrix: (Water, Solid, Other) (Tissue, A-A)		Preservation Code: W		Date/Time: 03/16/23 1345 Date/Time: 03/16/23 1030 Date/Time:		Received by: Miranda Deserno Received by: AECOM Received by: AECOM Received by:	
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 checked="" type="checkbox"/> Radiological 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 checked="" type="checkbox"/> Disposal By Lab <input type="checkbox"/> Archive For _____ Months		Prelim data (Level 1 or 2) - see TAT above. DoD Stage 4 report standard TAT - AECOM-EQUIS EDD.		Date: 03/16/23 Date: 03/16/23 Date:	
Empty Kit Relinquished by:		Relinquished by: Eli Martin Relinquished by: Miranda Deserno Relinquished by:		Date/Time: 03/16/23 1345 Date/Time: 03/16/23 1035 Date/Time:		Company: AECOM Company: AECOM Company:	
Custody Seals Intact: <input type="checkbox"/> Yes <input type="checkbox"/> No		Custody Seal No.:		Cooler Temperature(s) °C and Other Remarks:		Ver: 01/16/2019	



Chain of Custody Record

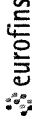
Client Information		Lab PM: Elaine Walker		Carrier Tracking No(s): 2303W2AFE02	
Client Contact:		E-Mail: M.Elaine.Walker@EurofinsET.com		Page: Page 1 of 1	
Company: AECOM		PWSID:		Job #:	
Address: 1001 Bishop St. Suite 1600		Due Date Requested: see subcontract		State of Origin: Hawaii	
City: Honolulu		TAT Requested (days): Rush - ASAP		Analysis Requested	
State, Zip: Hawaii 96813		Compliance Project: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		Preservation Codes: A - HCL M - Hexane B - NaOH N - None C - Zn Acetate O - AsNaO2 D - Nitric Acid P - Na2O4S E - NaHSO4 F - MeOH R - Na2SO3 G - Amchlor S - H2SO4 H - Ascorbic Acid I - Ice J - DI Water K - EDTA L - EDA U - Acetone V - MCAA W - pH 4-5 Z - other (specify) Other:	
PO #: 808-954-4512 / 770-331-0794		WO #:		Total Number of Containers: 3	
Email: Watson Tanji (watson.tanji@aecom.com) / Mark Kromis (mark.kromis@aecom.com)		Project #: 60697810		Special Instructions/Note:	
Project Name: CTO N6274223F0104		SSOW#:			
Site: RH5F					
Sample Identification		Sample Date		Field Filtered Sample (Yes or No)	
AF-RHMW03-WGN01LF-2303W2		3/16/23		X	
Sample Type (C=Comp, G=grab)		Sample Time		Perform MS/MSD (Yes or No)	
G		1205		X	
Matrix (Reswater, Seawater, Other (specify))		Preservation Code:		8015C_DAI_GL_DS/2-(2-butoxyethoxy)-ethanol	
		W		X	
Possible Hazard Identification		Sample Date		Date/Time	
<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		3/16/23		1345	
Deliverable Requested: I, II, III, IV, Other (specify)		Date/Time		Date/Time	
4 report standard TAT - AECOM EQUIS EDD		3/16/23		3/16/23	
Empty Kit Relinquished by:		Date		Date/Time	
Relinquished by: Andy Young 2875		3/16/23		3/16/23	
Relinquished by: Miranda Debarma		3/16/23		3/16/23	
Relinquished by:		Date/Time		Date/Time	
Custody Seals Intact: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		Custody Seal No.:		Cooler Temperature: °C and Other Remarks:	
		1.0/1.0		1.0/1.0	
Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)		Return To Client <input type="checkbox"/> Disposal By Lab <input type="checkbox"/> Archive For _____ Months		Special Instructions/QC Requirements: DOD QSM project.	
Method of Shipment:		Received by: Miranda Debarma		Date/Time: 3/16/23	
		Received by: Andy Young		Date/Time: 3/16/23	
		Received by:		Date/Time:	




Client Information		Company: AECOM		Lab PM: Elaine Walker		Carrier Tracking No(s): 2303W2AFE01	
Client Contact:		Address: 1001 Bishop St. Suite 1600		E-Mail: M.Elaine.Walker@EurofinsEL.com		Page: Page 1 of 1	
City: Honolulu		State: HI		Phone: 402-871-5712		Job #:	
State: HI		City: Honolulu		E-Mail: M.Elaine.Walker@EurofinsEL.com		State of Origin: Hawaii	
Phone: 808-954-4512 / 770-331-0794		City: Honolulu		E-Mail: M.Elaine.Walker@EurofinsEL.com		State of Origin: Hawaii	
Email: Watson.Tanji@eurofins.com / Mark.Kromis@eurofins.com		City: Honolulu		E-Mail: M.Elaine.Walker@EurofinsEL.com		State of Origin: Hawaii	
Project Name: CTO N6274223F0104		City: Honolulu		E-Mail: M.Elaine.Walker@EurofinsEL.com		State of Origin: Hawaii	
Site: RHSF		City: Honolulu		E-Mail: M.Elaine.Walker@EurofinsEL.com		State of Origin: Hawaii	
Due Date Requested: see subcontract		City: Honolulu		E-Mail: M.Elaine.Walker@EurofinsEL.com		State of Origin: Hawaii	
TAT Requested (days): Rush - ASAP		City: Honolulu		E-Mail: M.Elaine.Walker@EurofinsEL.com		State of Origin: Hawaii	
Compliance Project: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		City: Honolulu		E-Mail: M.Elaine.Walker@EurofinsEL.com		State of Origin: Hawaii	
PO #:		City: Honolulu		E-Mail: M.Elaine.Walker@EurofinsEL.com		State of Origin: Hawaii	
WO #:		City: Honolulu		E-Mail: M.Elaine.Walker@EurofinsEL.com		State of Origin: Hawaii	
Project #:		City: Honolulu		E-Mail: M.Elaine.Walker@EurofinsEL.com		State of Origin: Hawaii	
60697810		City: Honolulu		E-Mail: M.Elaine.Walker@EurofinsEL.com		State of Origin: Hawaii	
SSOW#:		City: Honolulu		E-Mail: M.Elaine.Walker@EurofinsEL.com		State of Origin: Hawaii	
Sample Identification		City: Honolulu		E-Mail: M.Elaine.Walker@EurofinsEL.com		State of Origin: Hawaii	
AF-RHMW02-WGN01LE-2303W2		City: Honolulu		E-Mail: M.Elaine.Walker@EurofinsEL.com		State of Origin: Hawaii	
Sample Date		City: Honolulu		E-Mail: M.Elaine.Walker@EurofinsEL.com		State of Origin: Hawaii	
3/16/23		City: Honolulu		E-Mail: M.Elaine.Walker@EurofinsEL.com		State of Origin: Hawaii	
Sample Time		City: Honolulu		E-Mail: M.Elaine.Walker@EurofinsEL.com		State of Origin: Hawaii	
1040		City: Honolulu		E-Mail: M.Elaine.Walker@EurofinsEL.com		State of Origin: Hawaii	
Sample Type		City: Honolulu		E-Mail: M.Elaine.Walker@EurofinsEL.com		State of Origin: Hawaii	
G		City: Honolulu		E-Mail: M.Elaine.Walker@EurofinsEL.com		State of Origin: Hawaii	
Matrix		City: Honolulu		E-Mail: M.Elaine.Walker@EurofinsEL.com		State of Origin: Hawaii	
W		City: Honolulu		E-Mail: M.Elaine.Walker@EurofinsEL.com		State of Origin: Hawaii	
Field Filtered Sample (Yes or No)		City: Honolulu		E-Mail: M.Elaine.Walker@EurofinsEL.com		State of Origin: Hawaii	
N		City: Honolulu		E-Mail: M.Elaine.Walker@EurofinsEL.com		State of Origin: Hawaii	
Perform MS/MSD (Yes or No)		City: Honolulu		E-Mail: M.Elaine.Walker@EurofinsEL.com		State of Origin: Hawaii	
N		City: Honolulu		E-Mail: M.Elaine.Walker@EurofinsEL.com		State of Origin: Hawaii	
Total Number of Containers		City: Honolulu		E-Mail: M.Elaine.Walker@EurofinsEL.com		State of Origin: Hawaii	
3		City: Honolulu		E-Mail: M.Elaine.Walker@EurofinsEL.com		State of Origin: Hawaii	
Special Instructions/Note:		City: Honolulu		E-Mail: M.Elaine.Walker@EurofinsEL.com		State of Origin: Hawaii	
		City: Honolulu		E-Mail: M.Elaine.Walker@EurofinsEL.com		State of Origin: Hawaii	
Preservation Codes:		City: Honolulu		E-Mail: M.Elaine.Walker@EurofinsEL.com		State of Origin: Hawaii	
M - Hexane		City: Honolulu		E-Mail: M.Elaine.Walker@EurofinsEL.com		State of Origin: Hawaii	
N - None		City: Honolulu		E-Mail: M.Elaine.Walker@EurofinsEL.com		State of Origin: Hawaii	
O - AsNaO2		City: Honolulu		E-Mail: M.Elaine.Walker@EurofinsEL.com		State of Origin: Hawaii	
P - Na2O4S		City: Honolulu		E-Mail: M.Elaine.Walker@EurofinsEL.com		State of Origin: Hawaii	
Q - Na2SO3		City: Honolulu		E-Mail: M.Elaine.Walker@EurofinsEL.com		State of Origin: Hawaii	
R - Na2S2O3		City: Honolulu		E-Mail: M.Elaine.Walker@EurofinsEL.com		State of Origin: Hawaii	
S - H2SO4		City: Honolulu		E-Mail: M.Elaine.Walker@EurofinsEL.com		State of Origin: Hawaii	
T - TSP Dodecahydrate		City: Honolulu		E-Mail: M.Elaine.Walker@EurofinsEL.com		State of Origin: Hawaii	
U - Acetone		City: Honolulu		E-Mail: M.Elaine.Walker@EurofinsEL.com		State of Origin: Hawaii	
V - MCAA		City: Honolulu		E-Mail: M.Elaine.Walker@EurofinsEL.com		State of Origin: Hawaii	
W - pH 4-5		City: Honolulu		E-Mail: M.Elaine.Walker@EurofinsEL.com		State of Origin: Hawaii	
K - EDTA		City: Honolulu		E-Mail: M.Elaine.Walker@EurofinsEL.com		State of Origin: Hawaii	
L - EDA		City: Honolulu		E-Mail: M.Elaine.Walker@EurofinsEL.com		State of Origin: Hawaii	
Other:		City: Honolulu		E-Mail: M.Elaine.Walker@EurofinsEL.com		State of Origin: Hawaii	
		City: Honolulu		E-Mail: M.Elaine.Walker@EurofinsEL.com		State of Origin: Hawaii	
Possible Hazard Identification		City: Honolulu		E-Mail: M.Elaine.Walker@EurofinsEL.com		State of Origin: Hawaii	
<input checked="" type="checkbox"/> Non-Hazard		City: Honolulu		E-Mail: M.Elaine.Walker@EurofinsEL.com		State of Origin: Hawaii	
<input type="checkbox"/> Flammable		City: Honolulu		E-Mail: M.Elaine.Walker@EurofinsEL.com		State of Origin: Hawaii	
<input type="checkbox"/> Skin Irritant		City: Honolulu		E-Mail: M.Elaine.Walker@EurofinsEL.com		State of Origin: Hawaii	
<input type="checkbox"/> Poison B		City: Honolulu		E-Mail: M.Elaine.Walker@EurofinsEL.com		State of Origin: Hawaii	
<input type="checkbox"/> Radiological		City: Honolulu		E-Mail: M.Elaine.Walker@EurofinsEL.com		State of Origin: Hawaii	
Deliverable Requested: I, II, III, IV, Other (specify)		City: Honolulu		E-Mail: M.Elaine.Walker@EurofinsEL.com		State of Origin: Hawaii	
4 report standard TAT - AECOM EQUIS EDD		City: Honolulu		E-Mail: M.Elaine.Walker@EurofinsEL.com		State of Origin: Hawaii	
Empty Kit Relinquished by:		City: Honolulu		E-Mail: M.Elaine.Walker@EurofinsEL.com		State of Origin: Hawaii	
Relinquished by: Andy Young		City: Honolulu		E-Mail: M.Elaine.Walker@EurofinsEL.com		State of Origin: Hawaii	
Relinquished by: Mirabella DeSarno		City: Honolulu		E-Mail: M.Elaine.Walker@EurofinsEL.com		State of Origin: Hawaii	
Relinquished by:		City: Honolulu		E-Mail: M.Elaine.Walker@EurofinsEL.com		State of Origin: Hawaii	
Custody Seals Intact: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		City: Honolulu		E-Mail: M.Elaine.Walker@EurofinsEL.com		State of Origin: Hawaii	
Custody Seal No.: 1-0/1-c		City: Honolulu		E-Mail: M.Elaine.Walker@EurofinsEL.com		State of Origin: Hawaii	
Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)		City: Honolulu		E-Mail: M.Elaine.Walker@EurofinsEL.com		State of Origin: Hawaii	
<input type="checkbox"/> Return To Client		City: Honolulu		E-Mail: M.Elaine.Walker@EurofinsEL.com		State of Origin: Hawaii	
<input checked="" type="checkbox"/> Disposal By Lab		City: Honolulu		E-Mail: M.Elaine.Walker@EurofinsEL.com		State of Origin: Hawaii	
Archive For: Months		City: Honolulu		E-Mail: M.Elaine.Walker@EurofinsEL.com		State of Origin: Hawaii	
Received by: Mirabella DeSarno		City: Honolulu		E-Mail: M.Elaine.Walker@EurofinsEL.com		State of Origin: Hawaii	
Date/Time: 3/16/23		City: Honolulu		E-Mail: M.Elaine.Walker@EurofinsEL.com		State of Origin: Hawaii	
Company: AECOM		City: Honolulu		E-Mail: M.Elaine.Walker@EurofinsEL.com		State of Origin: Hawaii	
Received by: Andy Young		City: Honolulu		E-Mail: M.Elaine.Walker@EurofinsEL.com		State of Origin: Hawaii	
Date/Time: 3/16/23		City: Honolulu		E-Mail: M.Elaine.Walker@EurofinsEL.com		State of Origin: Hawaii	
Company: AECOM		City: Honolulu		E-Mail: M.Elaine.Walker@EurofinsEL.com		State of Origin: Hawaii	
Received by: Mirabella DeSarno		City: Honolulu		E-Mail: M.Elaine.Walker@EurofinsEL.com		State of Origin: Hawaii	
Date/Time: 3/20/23		City: Honolulu		E-Mail: M.Elaine.Walker@EurofinsEL.com		State of Origin: Hawaii	
Company: AECOM		City: Honolulu		E-Mail: M.Elaine.Walker@EurofinsEL.com		State of Origin: Hawaii	
Received by:		City: Honolulu		E-Mail: M.Elaine.Walker@EurofinsEL.com		State of Origin: Hawaii	
Date/Time:		City: Honolulu		E-Mail: M.Elaine.Walker@EurofinsEL.com		State of Origin: Hawaii	
Cooler Temperature(s) °C and Other Remarks:		City: Honolulu		E-Mail: M.Elaine.Walker@EurofinsEL.com		State of Origin: Hawaii	
		City: Honolulu		E-Mail: M.Elaine.Walker@EurofinsEL.com		State of Origin: Hawaii	



Chain of Custody Record



Client Information Address: 1001 Bishop St. Suite 1600 City: Honolulu State, Zip: Hawaii 96813 Phone: 808-954-4512 / 770-331-0794 Email: Watson.Tanji@aeacom.com / Mark.Kromis@aeacom.com Project Name: CTO N6274223F0104 Site: RHSF		Sampler: <i>El. Mastri</i> Phone: <i>617-519-3612</i> Lab P.M.: Elaine Walker E-Mail: M.Elaine.Walker@EurofinsET.com PWSID:	Carmer Tracking No(s): FedEx State of Origin: Hawaii	COC No: 2303W2AFE07 Page: Page 1 of 1 Job #:																								
Due Date Requested: see subcontract TAT Requested (days): Rush - ASAP Compliance Project: <input type="checkbox"/> Yes <input type="checkbox"/> No PO #: WO #: Project #: 60697810 SOW#:	Analysis Requested Total Number of Containers: 3 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:																											
<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>Preservation Code:</th> <th>Field Filtered Sample (Yes or No)</th> <th>Perform MS/MSD (Yes or No)</th> <th>8015C_DAL_GL_DS/2-(2-butylxyethoxy)-ethanol</th> </tr> </thead> <tbody> <tr> <td>AF-RHMW225401-WGN01B-2303W2</td> <td>03/16/23</td> <td>1140</td> <td>G</td> <td>W</td> <td>N</td> <td>N</td> <td>X</td> </tr> <tr> <td><i>EN</i></td> <td><i>03/16/23</i></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> </tbody> </table>	Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Preservation Code:	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	8015C_DAL_GL_DS/2-(2-butylxyethoxy)-ethanol	AF-RHMW225401-WGN01B-2303W2	03/16/23	1140	G	W	N	N	X	<i>EN</i>	<i>03/16/23</i>							Special Instructions/Note: 560-124966 Chain of Custody 			
Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Preservation Code:	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	8015C_DAL_GL_DS/2-(2-butylxyethoxy)-ethanol																					
AF-RHMW225401-WGN01B-2303W2	03/16/23	1140	G	W	N	N	X																					
<i>EN</i>	<i>03/16/23</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)																												
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 Special Instructions/QC Requirements DOD QSM project.																												
Empty Kit Relinquished by Relinquished by: <i>El. Mastri</i> Date/Time: <i>03/16/23</i> 345 Company: AECOM Relinquished by: <i>Michelle Walker</i> Date/Time: <i>3/16/23</i> 1555 Company: AECOM Relinquished by:				Method of Shipment: Date/Time: <i>03/16/23</i> 345 Company: AECOM Date/Time: <i>3/20/23</i> 1030 Company: AECOM Date/Time: Company:																								
Custody Seals Intact: <input type="checkbox"/> Yes <input type="checkbox"/> No				Cooler Temperature(s) °C and Other Remarks: <i>1.0/1.0</i>																								



Chain of Custody Record

Client Information		Lab P/M: Elaine Walker		Carrier Tracking No(s): 2303W2AFE02	
Client Contact: Andy Young		E-Mail: Elaine Walker@EurofinsET.com		Page: Page 1 of 1	
Phone: 402-571-5712		PWSID:		Job #:	
Due Date Requested: see subcontract		Analysis Requested		Preservation Codes:	
TAT Requested (days): Rush - ASAP		80150_DAI_GL_DS/2-(2-butoxyethoxy)-ethanol		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	
Compliance Project: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		Field Filtered Sample (Yes or No) <input checked="" type="checkbox"/> A		M - Hexane N - None O - AsNaO2 P - Na2O4S Q - Na2SO3 R - Na2S2O3 S - H2SO4 T - TSP Dodecahydrate U - Acetone V - MCAA W - pH 4-5 Z - other (specify)	
PO #: 808-954-4512 / 770-331-0794		Perform MS/MSD (Yes or No) <input checked="" type="checkbox"/> X		Total Number of Containers: 3	
WO #: 60697810		Sample Date		Special Instructions/Note:	
Project #: CTO N6274223F0104		Sample Time			
Site: RHSE		Sample Type (C=Comp, G=grab)			
		Preservation Code: G W			
		Matrix (Micro, Swab, On-site, A&A)			
		Sample Date			
		Sample Time			
		Preservation Code: G W			
		Matrix (Micro, Swab, On-site, A&A)			
		Sample Date			
		Sample Time			
		Preservation Code: G W			
		Matrix (Micro, Swab, On-site, A&A)			
		Sample Date			
		Sample Time			
		Preservation Code: G W			
		Matrix (Micro, Swab, On-site, A&A)			

Possible Hazard Identification
 Non-Hazard Flammable Skin Irritant Poison B Unknown Radiological
 Deliverable Requested I II III IV Other (specify) 4 report standard TAT - AECOM EQUIS EDD

Empty Kit Relinquished by _____ Date: _____
Relinquished by Andy Young 2/23/23 Date: 3/16/23
Relinquished by _____ Date: 3/16/23
Relinquished by _____ Date: 3/16/23

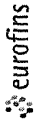
Custody Seals Intact: Yes No
Custody Seal No 1.0/1.0

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
 Return To Client Disposal By Lab Archive For _____ Months
 Special Instructions/QC Requirements DOD QSM project.

Method of Shipment: _____
 Received by: _____ Date/Time: 3/16/23 1:54 PM
 Received by: _____ Date/Time: 3/16/23 1:54 PM
 Received by: _____ Date/Time: 3/16/23 1:54 PM
 Cooler Temperature(s) °C and Other Remarks: 1.0/1.0



Chain of Custody Record



Client Information Client Contact: _____ 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 N6274223F0104 Site: RHSE		Lab PM: Elaine Walker E-Mail: M.Elaine.Walker@EurofinsET.com PWSID: _____ Due Date Requested: see subcontract TAT Requested (days): Rush - ASAP Compliance Project: <input type="checkbox"/> Yes <input type="checkbox"/> No PO #: _____ WO #: _____ Project #: 60697810 SSOW#: _____		Carrier Tracking No(s): 2303WZAFE01 State of Origin: Hawaii Page: Page 1 of 1 Job #: _____	
Sample Identification AF-RHMW02-WGND1LF-2303W2 Sample Date: 3/16/23 1040 Sample Type: G Matrix: W=Water, S=Soil, O=Organic, T=Trace, A=Air		Analysis Requested 8015C_DAL_GL_D5/ 2-(2-butoxyethoxy)-ethanol Perform MS/MSD (Yes or No): <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No Field Filtered Sample (Yes or No): <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No Total Number of Containers: 3		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: _____ M - Hexane N - None O - AsNaO2 P - Na2CO3 Q - Na2SO3 R - Na2S2O3 S - H2SO4 T - TSP Dodecahydrate U - Acetone V - MCAA W - pH 4-5 Z - other (specify)	
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) _____ Empty Kit Relinquished by: _____		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 Special Instructions/QC Requirements: DOD QSM project.		Time Date/Time: 3/16/23 1345 Date/Time: 3/20/23 1040 Date/Time: _____ Company: AECOM Company: AECOM Company: _____	
Relinquished by: Andy Jones ASFS Relinquished by: _____ Relinquished by: _____		Received by: _____ Received by: _____ Received by: _____ Cooler Temperature(s) °C and Other Remarks: 1.0/1.0		Method of Shipment: _____ Company: _____ Company: _____ Company: _____	



Login Sample Receipt Checklist

Client: AECOM

Job Number: 580-124966-1

Login Number: 124966

List Number: 1

Creator: Presley, Kim A

List Source: Eurofins Seattle

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.	N/A	
Sample custody seals, if present, are intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	N/A	
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.	N/A	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	N/A	
Containers are not broken or leaking.	N/A	
Sample collection date/times are provided.	N/A	
Appropriate sample containers are used.	N/A	
Sample bottles are completely filled.	N/A	
Sample Preservation Verified.	N/A	
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").	N/A	
Multiphasic samples are not present.	N/A	
Samples do not require splitting or compositing.	N/A	
Residual Chlorine Checked.	N/A	

Login Sample Receipt Checklist

Client: AECOM

Job Number: 580-124966-1

Login Number: 124966

List Number: 2

Creator: Meincke, Griffin E

List Source: Eurofins Savannah

List Creation: 03/22/23 12:09 PM

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