



ANALYTICAL REPORT

PREPARED FOR

Attn: Terri Choy
AECOM
1001 Bishop Street
Honolulu, Hawaii 96813

Generated 1/23/2023 6:12:08 PM Revision 2

JOB DESCRIPTION

Red Hill - AFFF Assessment Sampling

JOB NUMBER

580-121247-1

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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Case Narrative

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

Job ID: 580-121247-1

Job ID: 580-121247-1

Laboratory: Eurofins Seattle

Narrative

CASE NARRATIVE

Client: AECOM

Project: Red Hill - AFFF Assessment Sampling

Report Number: 580-121247-1

REVISION 2: January 23, 2023

The report was revised to narrate that the MS/MSD was not spiked with the target analyte for 2-(2-BUTOXYETHOXY)ETHANOL. See full note in the analyte section below.

REVISION 1: DECEMBER 30, 2022

Report revised to correct the client IDs for samples 1, 4, and 5 per client revised COC.

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

Five samples were received on 12/14/2022 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 5.1° 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 - 2-(2-BUTOXYETHOXY)ETHANOL

Samples AF-RHMW16-WGN01B-2212W1 (580-121247-1), AF-RHMW06-WGN01B-2212W1 (580-121247-2), AF-RHMW06-WQEB01-2212W1 (580-121247-3), AF-RHMW10-WGN01B-2212W1 (580-121247-4) and AF-RHMW12A-WGN01B-2212W1 (580-121247-5) were analyzed for glycols in accordance with EPA SW-846 Method 8015B - DAI. The samples were analyzed on 12/16/2022 and 12/17/2022.

Spike compounds were inadvertently omitted during the extraction process for the matrix spike/matrix spike duplicate (MS/MSD); therefore, matrix spike recoveries are unavailable for analytical batch 680-755535. The associated laboratory control sample (LCS/LCSD) met acceptance criteria.

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

Definitions/Glossary

Client: AECOM

Job ID: 580-121247-1

Project/Site: Red Hill - AFFF Assessment Sampling

Qualifiers

GC Semi VOA

Qualifier	Qualifier Description
J1	Estimated: The quantitation is an estimation due to discrepancies in meeting certain analyte-specific quality control criteria.
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
Project/Site: Red Hill - AFFF Assessment Sampling

Job ID: 580-121247-1

Client Sample ID: AF-RHMW16-WGN01B-2212W1

Lab Sample ID: 580-121247-1

Date Collected: 12/10/22 15:30

Matrix: Water

Date Received: 12/14/22 13:33

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			12/17/22 23:06	1

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

Client Sample Results

Client: AECOM

Job ID: 580-121247-1

Project/Site: Red Hill - AFFF Assessment Sampling

Client Sample ID: AF-RHMW06-WGN01B-2212W1

Lab Sample ID: 580-121247-2

Date Collected: 12/08/22 15:25

Matrix: Water

Date Received: 12/14/22 13:33

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			12/16/22 21:16	1

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

Client Sample Results

Client: AECOM

Job ID: 580-121247-1

Project/Site: Red Hill - AFFF Assessment Sampling

Client Sample ID: AF-RHMW06-WQEB01-2212W1

Lab Sample ID: 580-121247-3

Date Collected: 12/08/22 17:10

Matrix: Water

Date Received: 12/14/22 13:33

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			12/16/22 21:38	1

1

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Client Sample Results

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

Job ID: 580-121247-1

Client Sample ID: AF-RHMW10-WGN01B-2212W1

Lab Sample ID: 580-121247-4

Date Collected: 12/11/22 13:35

Matrix: Water

Date Received: 12/14/22 13:33

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			12/17/22 23:28	1

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

Client Sample Results

Client: AECOM

Job ID: 580-121247-1

Project/Site: Red Hill - AFFF Assessment Sampling

Client Sample ID: AF-RHMW12A-WGN01B-2212W1

Lab Sample ID: 580-121247-5

Date Collected: 12/09/22 21:45

Matrix: Water

Date Received: 12/14/22 13:33

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			12/17/22 23:51	1

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

QC Sample Results

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

Job ID: 580-121247-1

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

Lab Sample ID: MB 680-755535/13
Matrix: Water
Analysis Batch: 755535

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			12/16/22 20:31	1

Lab Sample ID: LCS 680-755535/6
Matrix: Water
Analysis Batch: 755535

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	22.3		mg/L		112	50 - 150

Lab Sample ID: LCSD 680-755535/7
Matrix: Water
Analysis Batch: 755535

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	23.8		mg/L		119	50 - 150	7	50

Lab Sample ID: 580-121247-2 MS
Matrix: Water
Analysis Batch: 755535

Client Sample ID: AF-RHMW06-WGN01B-2212W1
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	20.0	3.0	U J1	mg/L		0	50 - 150

Lab Sample ID: 580-121247-2 MSD
Matrix: Water
Analysis Batch: 755535

Client Sample ID: AF-RHMW06-WGN01B-2212W1
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	20.0	3.0	U J1	mg/L		0	50 - 150	NC	50

Lab Sample ID: MB 680-755698/10
Matrix: Water
Analysis Batch: 755698

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			12/17/22 19:59	1

Lab Sample ID: LCS 680-755698/1006
Matrix: Water
Analysis Batch: 755698

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	22.8		mg/L		114	50 - 150

Lab Sample ID: LCSD 680-755698/7
Matrix: Water
Analysis Batch: 755698

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	20.7		mg/L		103	50 - 150	10	50

Eurofins Seattle

Lab Chronicle

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

Job ID: 580-121247-1

Client Sample ID: AF-RHMW16-WGN01B-2212W1

Lab Sample ID: 580-121247-1

Date Collected: 12/10/22 15:30

Matrix: Water

Date Received: 12/14/22 13:33

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8015C GLY		1	755698	JCK	EET SAV	12/17/22 23:06

Client Sample ID: AF-RHMW06-WGN01B-2212W1

Lab Sample ID: 580-121247-2

Date Collected: 12/08/22 15:25

Matrix: Water

Date Received: 12/14/22 13:33

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8015C GLY		1	755535	JCK	EET SAV	12/16/22 21:16

Client Sample ID: AF-RHMW06-WQEB01-2212W1

Lab Sample ID: 580-121247-3

Date Collected: 12/08/22 17:10

Matrix: Water

Date Received: 12/14/22 13:33

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8015C GLY		1	755535	JCK	EET SAV	12/16/22 21:38

Client Sample ID: AF-RHMW10-WGN01B-2212W1

Lab Sample ID: 580-121247-4

Date Collected: 12/11/22 13:35

Matrix: Water

Date Received: 12/14/22 13:33

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8015C GLY		1	755698	JCK	EET SAV	12/17/22 23:28

Client Sample ID: AF-RHMW12A-WGN01B-2212W1

Lab Sample ID: 580-121247-5

Date Collected: 12/09/22 21:45

Matrix: Water

Date Received: 12/14/22 13:33

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8015C GLY		1	755698	JCK	EET SAV	12/17/22 23:51

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: 580-121247-1

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: 580-121247-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
580-121247-1	AF-RHMW16-WGN01B-2212W1	Water	12/10/22 15:30	12/14/22 13:33
580-121247-2	AF-RHMW06-WGN01B-2212W1	Water	12/08/22 15:25	12/14/22 13:33
580-121247-3	AF-RHMW06-WQEB01-2212W1	Water	12/08/22 17:10	12/14/22 13:33
580-121247-4	AF-RHMW10-WGN01B-2212W1	Water	12/11/22 13:35	12/14/22 13:33
580-121247-5	AF-RHMW12A-WGN01B-2212W1	Water	12/09/22 21:45	12/14/22 13:33

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Chain of Custody Record



Client Information		Sample: <i>Ch. 10-22 / 1700</i>	Lab PM: Elaine Walker	Carrier Tracking No(s):	COC No: 2212W2EU-03
Client Contact:		Phone: <i>252 2575993</i>	E-Mail: <i>M.Elaine.Walker@EurofinsET.com</i>	FedEx	Page: Page 1 of 1
Company: AECOM		PWSID:		Job #:	
Address: 1001 Bishop St. Suite 1600		Due Date Requested: see subcontract		Analysis Requested	
City: Honolulu		TAT Requested (days): <i>Rush - ASAP</i>		Total Number of containers: <i>3</i>	
State, Zip: Hawaii 96813		Compliance Project: <input type="checkbox"/> Yes <input type="checkbox"/> No		Preservation Codes: 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 X - EDTA Y - EDA Z - other (specify)	
Phone: 808-954-4512 / 808-356-5311		PO #:		Special Instructions/Note: Store ALL samples until notified by client to dispose	
Email: <i>Watson.Tanji@aeom.com</i> / <i>Brant.Landers@aeom.com</i>		WO #:		Barcode:  580-121247 Chain of Custody	
Project Name: CTO N6274223F0104		Project #: 60697810			
Site: RH5F		SSOW#:			
Sample Identification		Sample Date: <i>12-10-22 1530</i>	Sample Type: G	Field Filtered Sample (Yes or No): <input checked="" type="checkbox"/> Yes	Perform MS/MSD (Yes or No): <input checked="" type="checkbox"/> Yes
AF-RHMW16-WGND1B-2212W2		Sample Time: <i>12-10-22 1530</i>	Preservation Code: W	8015C_DAI_GL_DS/2-(2-butoxyethoxy)-ethanol	
<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			
Empty Kit Relinquished by:		Special Instructions/QC Requirements DOD QSM project.			
Relinquished by: <i>Ch. 10-22 / 1700</i>		Method of Shipment:			
Relinquished by: <i>Ch. 10-22 / 1700</i>		Date: <i>12-10-22 1700</i>			
Relinquished by: <i>Ch. 10-22 / 1700</i>		Date/Time: <i>12-10-22 1700</i>			
Relinquished by: <i>Ch. 10-22 / 1700</i>		Date/Time: <i>12-10-22 1700</i>			
Relinquished by: <i>Ch. 10-22 / 1700</i>		Date/Time: <i>12-10-22 1700</i>			
Custody Seals intact: <input type="checkbox"/> Yes <input type="checkbox"/> No		Cooler Temperature(s) °C and Other Remarks: <i>5.1/5.1</i>			



Client Information Company: AECOM Address: 1001 Bishop St. Suite 1600 City: Honolulu State, Zip: Hawaii 96813 Phone: 808-954-4512 / 808-356-5311 Email: Watson.Tanji@aecom.com / Brant.Landers@aecom.com Project Name: CTO N6274223F0104 Site: RHSE		Sampler: <u>Christina Harvate</u> Lab PM: <u>Elaine Walker</u> Phone: <u>252-259-5993</u> E-Mail: <u>M.Elaine.Walker@EurofinsET.com</u>		Carrier Tracking No(s): <u>2212W1EU-07</u> State of Origin: <u>Hawaii</u> Page: <u>Page 1 of 1</u> Job #:	
Due Date Requested: <u>See subcontract</u> TAT Requested (days): <u>Rush - ASAP</u> Compliance Project: <u>Δ Yes Δ No</u> PO #: <u> </u> WO #: <u> </u> Project #: <u>60697810</u> SSOW#: <u> </u>		Analysis Requested			
Matrix: <u>W-water, S-solid, O-wasteoil, GF=Glass, A=Air</u> Sample Type: <u>G=grab</u> Sample Time: <u>12/13/22 1525</u> Sample Date: <u>12/13/22</u> Preservation Code: <u> </u>		Field Filtered Sample (Yes or No) <input checked="" type="checkbox"/> Yes <input checked="" type="checkbox"/> No Perform MS/MSD (Yes or No) <input checked="" type="checkbox"/> Yes <input checked="" type="checkbox"/> No 8015C_DAL_GL_DS/2-(2-butoxyethoxy)-ethanol <u> </u>		Total Number of Containers: <u>3</u> Special Instructions/Note: <u>Store ALL samples until notified by client to dispose</u>	
Sample Identification AF-RHMW06-WGN01B-2212W1 AF-RHMW06-WQEB01-2212W1		Sample Date: <u>12/13/22</u> Sample Time: <u>1525</u> Sample Date: <u>12/13/22</u> Sample Time: <u>1710</u>		Preservation Codes: M - Hexane N - None O - AsNaO2 P - Na2O4S Q - Na2SO3 R - Na2SO4 S - H2SO4 T - TSP Dodecahydrate U - Acetone V - MCAA W - pH 4-5 X - EDTA Y - EDA Z - other (specify) Other:	
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		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			
Deliverable Requested I II III IV, Other (specify) 4. report standard TAT. AECOM EQUIS EDD		Prelim data (Level 1 or 2) - see TAT above DoD Stage Method of Shipment:			
Empty Kit Reinquished by: <u> </u> Date: <u> </u>		Date/Time: <u>12/13/22 1825</u> Date/Time: <u>12/13/22 1340</u> Date/Time: <u> </u>			
Relinquished by: <u> </u> Relinquished by: <u> </u> Relinquished by: <u> </u>		Received by: <u>Miranda DeSno</u> Received by: <u> </u> Received by: <u> </u>			
Custody Seals Intact: <u>Δ Yes Δ No</u> Custody Seal No: <u>51/5.1</u>		Cooler Temperature(s) °C and Other Remarks: <u> </u>			




Chain of Custody Record

Client Information		Sampler: <u>Andy Young</u>		Lab PM: <u>Elaine Walker</u>		Carrier Tracking No(s): <u>2212W2EU-02</u>	
Client Contact:		Phone: <u>402-871-5712</u>		E-Mail: <u>M.Elaine.Walker@EurofinsE.com</u>		Page: <u>Page 1 of 1</u>	
Company: <u>AECOM</u>		Address: <u>1001 Bishop St. Suite 1600</u>		City: <u>Honolulu</u>		State of Origin: <u>Hawaii</u>	
City: <u>Honolulu</u>		State Zip: <u>Hawaii 96813</u>		Phone: <u>808-954-4512 / 808-356-5311</u>		Job #:	
Email: <u>Watson.Tanji@aecom.com / Brant.Landers@aecom.com</u>		Project #: <u>60697810</u>		SSOW#:		Preservation Codes:	
Site: <u>RHSF</u>		Sample Date: <u>12/11/22</u>		Sample Time: <u>1335</u>		Matrix: <u>W=Water, S=Solid, O=Oil, BT=Tissue, A=Air</u>	
Sample Identification: <u>AF-RHMW10-WGN01B-2212W2</u>		Sample Type: <u>G</u>		Preservation Code: <u>W</u>		Special Instructions/Note:	
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: <input type="checkbox"/> I, <input type="checkbox"/> II, <input type="checkbox"/> III, <input type="checkbox"/> IV, Other (specify)		Empty Kit Relinquished by: <u>Andy Young</u>		Special Instructions/Note: <u>Store ALL samples until notified by client to dispose</u>	
Relinquished by: <u>Andy Young</u>		Date: <u>12/11/22</u>		Time: <u>1500</u>		Total Number of containers: <u>3</u>	
Relinquished by: <u>Elaine Walker</u>		Date: <u>12/12/22</u>		Time: <u>1345</u>		Analysis Requested: <u>8015C_DAL_GL_DS/2-(2-butoxyethoxy)-ethanol</u>	
Relinquished by: <u>Elaine Walker</u>		Date: <u>12/14/22</u>		Time: <u>1030</u>		Perform MS/MSD (Yes or No): <u>A</u>	
Custody Seal Intact: <input type="checkbox"/> Yes, <input type="checkbox"/> No		Custody Seal No: <u>5.1/5.1</u>		Cooler Temperature(s) °C and Other Remarks: <u>5.1/5.1</u>		Field Filtered Sample (Yes or No): <u>N</u>	

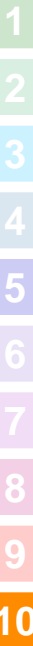


Chain of Custody Record

Client Information		Sample: <i>Ch. Sl. na Bottle</i>		Lab PM: Elaine Walker	Carrier Tracking No(s):	COC No: 2212W2EU-03					
Client Contact:		Phone: <i>252 2575993</i>		E-Mail: M.Elaine.Walker@EurofinsET.com	State of Origin: Hawaii	Page: Page 1 of 1					
Company: AECOM		PWSID:		Job #:							
Address: 1001 Bishop St. Suite 1600		Due Date Requested: see subcontract		Analysis Requested							
City: Honolulu		TAT Requested (days): Rush - ASAP		Total Number of Containers: 3							
State, Zip: Hawaii: 96813		Compliance Project: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		Preservation Codes: M - Hexane 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:							
Phone: 808-954-4512 / 808-356-5311		PO #:		Special Instructions/Note: Store ALL samples until notified by client to dispose							
Email: Watson Tanji (watson.tanji@aecom.com) / Brant Landers (brant.landiers@aecom.com)		WO #:		Barcode:  580-121247 Chain of Custody							
Project Name: CTO N6274223F0104		Project #: 60697810		8015C_DAI_GL_DS/2-(2-butoxyethoxy)-ethanol							
Site: RHSF		SSOW#:		Field Filtered Sample (Yes or No) <input checked="" type="checkbox"/> A							
Sample Identification		Sample Date		Sample Time		Sample Type (C=comp, G=grab)		Preservation Code		Matrix (Water, Solid, Other) (see manual for details)	
AF-RHMW16-WGND01B-2212W2		12-10-22		1530		G		W		<input checked="" type="checkbox"/> 8015C_DAI_GL_DS/2-(2-butoxyethoxy)-ethanol <input type="checkbox"/> Perform MS/MSD (Yes or No) <input checked="" type="checkbox"/> Field Filtered Sample (Yes or No)	
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)											
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 Prelim data (Level 1 or 2) = see TAT above DoD Stage 4 report standard TAT - AECOM EQUUS FDD.											
Relinquished by: <i>Christina Boyd Ho</i>			Date: 12-10-22			Time: 1700			Company: AECOM		
Relinquished by: <i>Christina Boyd Ho</i>			Date: 12-10-22			Time: 1530			Company: AECOM		
Relinquished by:			Date:			Time:			Company:		
Custody Seals Intact: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No			Custody Seal No			Cooler Temperature(s) °C and Other Remarks: 5.1/5.1			Received by: <i>Christina Boyd Ho</i>		
Date/Time: 12-10-22			Date/Time: 12-10-22			Date/Time: 12-10-22			Date/Time: 12-10-22		
Company: AECOM			Company: AECOM			Company: AECOM			Company: AECOM		



Client Information		Sampler: <u>Christina Harvath</u>		Lab PM: <u>Elaine Walker</u>		Carrier Tracking No(s): <u>2212W1EU-07</u>	
Client Contact:		Phone: <u>252-259-5993</u>		E-Mail: <u>M.Elaine.Walker@EurofinsET.com</u>		Page: <u>Page 1 of 1</u>	
Company: <u>AECOM</u>		Address: <u>1001 Bishop St. Suite 1600</u>		City: <u>Honolulu</u>		State of Origin: <u>Hawaii</u>	
State, Zip: <u>Hawaii 96813</u>		Phone: <u>808-954-4512 / 808-356-5311</u>		Project Name: <u>CTO N6274223F0104</u>		Job #:	
City: <u>Honolulu</u>		Email: <u>Watson.Tanji@aecom.com / Brant.Landers@aecom</u>		Project #: <u>60697810</u>		Preservation Codes:	
Site: <u>RHSE</u>		Compliance Project: <u>Δ Yes Δ No</u>		WO #: <u></u>		M - Hexane N - None O - AsNaO2 P - Na2O4S Q - Na2SO3 R - Na2SO4 S - H2SO4 T - TSP Dodecahydrate U - Acetone V - MCAA W - pH 4-5 X - EDTA Y - EDA Z - other (specify)	
Due Date Requested: <u>See subcontract</u>		TAT Requested (days): <u>Rush - ASAP</u>		Field Filtered Sample (Yes or No): <u>X</u>		Perform MS/MSD (Yes or No): <u>X</u>	
PO #: <u></u>		Sample Date: <u>12/13/22</u>		Sample Time: <u>1525</u>		Matrix: <u>W</u>	
Project #: <u>60697810</u>		Sample Date: <u>12/13/22</u>		Sample Time: <u>1710</u>		Matrix: <u>W</u>	
SSOW#: <u></u>		Sample Date: <u>12/13/22</u>		Sample Time: <u></u>		Matrix: <u></u>	
Site: <u>RHSE</u>		Sample Date: <u></u>		Sample Time: <u></u>		Matrix: <u></u>	
Sample Identification		AF-RHMW06-WGN01B-2212W1		AF-RHMW06-WQEB01-2212W1		AF-RHMW06-WQEB01-2212W1	
Special Instructions/Note:		Store ALL samples until notified by client to dispose		Store ALL samples until notified by client to dispose		Store ALL samples until notified by client to dispose	
Total Number of Containers		3		3		3	
Analysis Requested		8015C_BAL_GL_DS/2-(2-butoxyethoxy)-ethanol		8015C_BAL_GL_DS/2-(2-butoxyethoxy)-ethanol		8015C_BAL_GL_DS/2-(2-butoxyethoxy)-ethanol	
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 <u>Months</u>		Return To Client <input type="checkbox"/> Disposal By Lab <input type="checkbox"/> Archive For <u>Months</u>		Return To Client <input type="checkbox"/> Disposal By Lab <input type="checkbox"/> Archive For <u>Months</u>	
Possible Hazard Identification		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"/>		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"/>		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"/>	
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		Prelim data (Level 1 or 2) - see TAT above DoD Stage 4. report standard TAT. AECOM EQUIS EDD		Prelim data (Level 1 or 2) - see TAT above DoD Stage 4. report standard TAT. AECOM EQUIS EDD	
Empty Kit Reinquished by		Date/Time: <u>12/13/22</u>		Date/Time: <u>1825</u>		Date/Time: <u>1825</u>	
Relinquished by: <u>Christina Harvath</u>		Company: <u>AECOM</u>		Date/Time: <u>12/13/22</u>		Date/Time: <u>1825</u>	
Relinquished by: <u>Miranda Pennington</u>		Company: <u>AECOM</u>		Date/Time: <u>12/14/22</u>		Date/Time: <u>1030</u>	
Relinquished by: <u></u>		Company: <u></u>		Date/Time: <u></u>		Date/Time: <u></u>	
Custody Seals Intact: <u>Δ Yes Δ No</u>		Custody Seal No		Cooler Temperature(s) °C and Other Remarks: <u>5/1/5.1</u>		Cooler Temperature(s) °C and Other Remarks: <u>5/1/5.1</u>	



Chain of Custody Record

Client Information		Sampler: <u>Andy Young</u>		Lab PM: <u>Elaine Walker</u>		Carrier Tracking No(s): <u>2212W2EU-02</u>	
Client Contact:		Phone: <u>402-871-5712</u>		E-Mail: <u>M.Elaine.Walker@EurofinsET.com</u>		Page: <u>Page 1 of 1</u>	
Company: <u>AECOM</u>		Address: <u>1001 Bishop St. Suite 1600</u>		City: <u>Honolulu</u>		State of Origin: <u>Hawaii</u>	
State Zip: <u>Hawaii 96813</u>		Phone: <u>808-954-4512 / 808-356-5311</u>		PO #: <u></u>		Job #:	
Email: <u>Watson.Tanji@aecom.com / Brant.Landers@aecom.com</u>		Project #: <u>60697810</u>		WO #: <u></u>		Preservation Codes:	
Site: <u>RHSF</u>		Project Name: <u>CTO N6274223F0104</u>		SSOW#: <u></u>		A - HCL M - Hexane N - None O - AsNaO2 P - Na2O4S Q - Na2SO3 R - Na2SO4 S - H2SO4 T - TSP Dodecahydrate U - Acetone V - MCAA W - pH 4-5 X - EDTA Y - EDA Z - other (specify)	
Due Date Requested: <u>See subcontract</u>		TAT Requested (days): <u>Rush - ASAP</u>		Compliance Project: <u>Δ Yes Δ No</u>		A - Nitric Acid B - MeOH C - Amchlor D - Ascorbic Acid E - Ice F - DI Water G - EDTA H - EDA I - other (specify)	
Sample Identification		Sample Date		Sample Time		Sample Type	
AF-RHMW10-WGN01B-2212W2		12/11/22		1335		G	
Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)		Preservation Code		Sample Type (C=Comp, G=grab)		Matrix	
		W		G		W	
Perform MS/MSD (Yes or No)		Field Filtered Sample (Yes or No)		8015C_DAL_GL_DS/2-(2-butoxyethoxy)-ethanol		Total Number of containers	
X		X		A		3	
Special Instructions/Note:		Return To Client		Disposal By Lab		Archive For	
Store ALL samples until notified by client to dispose		<input type="checkbox"/>		<input checked="" type="checkbox"/>		Months	
Possible Hazard Identification		Non-Hazard		Flammable		Skin Irritant	
<input checked="" type="checkbox"/>		<input type="checkbox"/>		<input type="checkbox"/>		<input type="checkbox"/>	
Deliverable Requested I II III IV, Other (specify)		Empty Kit Relinquished by		Relinquished by		Custody Seal No	
4 report standard IAT_AECOM E-Quis FDD		Date: <u>12/11/22</u>		Date: <u>12/11/22</u>		Δ Yes Δ No	
Prelim data (Level 1or2)=see TAT above. DoD Stage 4 report standard IAT_AECOM E-Quis FDD		Date: <u>12/11/22</u>		Date: <u>12/11/22</u>		Custody Seal No	
Empty Kit Relinquished by		Date: <u>12/11/22</u>		Date: <u>12/11/22</u>		Custody Seal No	
Relinquished by: <u>Andy Young</u>		Date: <u>12/11/22</u>		Date: <u>12/11/22</u>		Custody Seal No	
Relinquished by: <u>Elaine Walker</u>		Date: <u>12/11/22</u>		Date: <u>12/11/22</u>		Custody Seal No	
Relinquished by:		Date: <u>12/11/22</u>		Date: <u>12/11/22</u>		Custody Seal No	
Custody Seals Intact:		Cooler Temperature(s) °C and Other Remarks: <u>5.1/5.1</u>		Date/Time: <u>12-12-22 13:40</u>		Company: <u>AECOM</u>	
Δ Yes Δ No				Date/Time: <u>12/14/22 10:30</u>		Company: <u>AECOM</u>	
				Date/Time:		Company:	



Chain of Custody Record

Client Information		Sampler: CHRIS WOMACK	Lab Pw: Elaine Walker	Carrier Tracking No(s): 2212W2EU-01	COC No: 2212W2EU-01
Address: 1001 Bishop St. Suite 1600 City: Honolulu State: HI Zip: 96813		Phone: (914) 749-9323	Email: M.Elaine.Walker@EurofinsET.com	FedEX State of Origin: Hawaii	Page: Page 1 of 1 Job #:
Company: AECOM		RWSID		Analysis Requested	
Due Date Requested: See subcontract		TAT Requested (days): Rush - ASAP		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:	
Compliance Project: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		PO #:		M - Hexane N - None O - AsNaO2 P - Na2O4S Q - Na2SO3 R - Na2SO3 S - H2SO4 T - TSP Dodecahydrate U - Acetone V - MCAA W - pH 4-5 Z - other (specify)	
WO #:		Project #: 60697810		Total Number of Containers: 3	
Site: RHSE		SSOW#:		Special Instructions/Note: Store ALL samples until notified by client to dispose	
Sample Identification		AF-RHMW12A-WGN01B-2212W2	Sample Date: 12/9/22	Sample Time: 2145	Sample Type (C=Comp, G=grab): G
Matrix (W=water, S=solid, O=oil, I=infusible, A=air)		W	Field Filtered Sample (Yes or No): <input checked="" type="checkbox"/> No	Form MS/MSD (Yes or No): <input checked="" type="checkbox"/> No	8015C_DAL_GL_DS/2-(2-butoxyethoxy)-ethanol
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	
Empty Kit Relinquished by:		Date: 12/9/22		Time: 2300	
Relinquished by: CHRIS WOMACK		Date/Time: 12-9-22 1340		Company: AECOM	
Relinquished by: GABRIEL ALLEN		Date/Time: 12-9-22 1340		Company: AECOM	
Relinquished by:		Date/Time:		Company:	
Custody Seals Intact: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		Custody Seal No:		Cooler Temperature (°C) and Other Remarks: 5-1/51	

