



ANALYTICAL REPORT

PREPARED FOR

Attn: Terri Choy
AECOM
1001 Bishop Street
Honolulu, Hawaii 96813
Generated 3/24/2023 1:48:17 PM

JOB DESCRIPTION

Red Hill - AFFF Assessment Sampling

JOB NUMBER

580-124965-1

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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Designee for
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Case Narrative

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

Job ID: 580-124965-1

Job ID: 580-124965-1

Laboratory: Eurofins Seattle

Narrative

CASE NARRATIVE

Client: AECOM
Project: Red Hill - AFFF Assessment Sampling
Report Number: 580-124965-1

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 03/16/2023; the samples arrived in good condition, properly preserved and on ice. The temperature of the coolers at receipt was 1.2 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-RHMW10-WGN01LF-2303W2 (580-124965-1), AF-RHMW16-WGN01LF-2303W2 (580-124965-2), AF-HDMW225303-WGN01LF-2303W2 (580-124965-3), AF-HDMW12A-WGN01LF-2303W2 (580-124965-4) and AF-HDMW12A-WGFD01LF-2303W2 (580-124965-5) 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-RHMW10-WGN01LF-2303W2 (580-124965-1), AF-RHMW16-WGN01LF-2303W2 (580-124965-2), AF-HDMW225303-WGN01LF-2303W2 (580-124965-3), AF-HDMW12A-WGN01LF-2303W2 (580-124965-4), AF-HDMW12A-WGFD01LF-2303W2 (580-124965-5), (CCV 680-769036/27), (580-124965-A-2 MS) and (580-124965-A-2 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: 580-124965-1

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: 580-124965-1

Client Sample ID: AF-RHMW10-WGN01LF-2303W2

Lab Sample ID: 580-124965-1

Date Collected: 03/14/23 12:55

Matrix: Water

Date Received: 03/16/23 13:00

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 Q	5.0	1.1	mg/L			03/22/23 17:51	1

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

Client Sample Results

Client: AECOM

Job ID: 580-124965-1

Project/Site: Red Hill - AFFF Assessment Sampling

Client Sample ID: AF-RHMW16-WGN01LF-2303W2

Lab Sample ID: 580-124965-2

Date Collected: 03/13/23 14:30

Matrix: Water

Date Received: 03/16/23 13:00

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 18:15	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: 580-124965-1

Client Sample ID: AF-HDMW225303-WGN01LF-2303W2

Lab Sample ID: 580-124965-3

Date Collected: 03/14/23 10:40

Matrix: Water

Date Received: 03/16/23 13:00

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 19:25	1

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

Client Sample Results

Client: AECOM

Job ID: 580-124965-1

Project/Site: Red Hill - AFFF Assessment Sampling

Client Sample ID: AF-RHMW12A-WGN01LF-2303W2

Lab Sample ID: 580-124965-4

Date Collected: 03/13/23 11:10

Matrix: Water

Date Received: 03/16/23 13:00

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 19:48	1

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

Client Sample Results

Client: AECOM

Job ID: 580-124965-1

Project/Site: Red Hill - AFFF Assessment Sampling

Client Sample ID: AF-RHMW12A-WGFD01LF-2303W2

Lab Sample ID: 580-124965-5

Date Collected: 03/13/23 11:10

Matrix: Water

Date Received: 03/16/23 13:00

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 20:12	1

QC Sample Results

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

Job ID: 580-124965-1

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: 580-124965-2 MS
Matrix: Water
Analysis Batch: 769036

Client Sample ID: AF-RHMW16-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	19.7		mg/L		98	50 - 150

Lab Sample ID: 580-124965-2 MSD
Matrix: Water
Analysis Batch: 769036

Client Sample ID: AF-RHMW16-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	18.7		mg/L		93	50 - 150	5	50

Lab Chronicle

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

Job ID: 580-124965-1

Client Sample ID: AF-RHMW10-WGN01LF-2303W2

Lab Sample ID: 580-124965-1

Date Collected: 03/14/23 12:55

Matrix: Water

Date Received: 03/16/23 13:00

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 17:51

Client Sample ID: AF-RHMW16-WGN01LF-2303W2

Lab Sample ID: 580-124965-2

Date Collected: 03/13/23 14:30

Matrix: Water

Date Received: 03/16/23 13:00

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 18:15

Client Sample ID: AF-HDMW225303-WGN01LF-2303W2

Lab Sample ID: 580-124965-3

Date Collected: 03/14/23 10:40

Matrix: Water

Date Received: 03/16/23 13:00

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 19:25

Client Sample ID: AF-RHMW12A-WGN01LF-2303W2

Lab Sample ID: 580-124965-4

Date Collected: 03/13/23 11:10

Matrix: Water

Date Received: 03/16/23 13:00

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 19:48

Client Sample ID: AF-RHMW12A-WGFD01LF-2303W2

Lab Sample ID: 580-124965-5

Date Collected: 03/13/23 11:10

Matrix: Water

Date Received: 03/16/23 13:00

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 20:12

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: 580-124965-1

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

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

Sample Summary

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

Job ID: 580-124965-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
580-124965-1	AF-RHMW10-WGN01LF-2303W2	Water	03/14/23 12:55	03/16/23 13:00
580-124965-2	AF-RHMW16-WGN01LF-2303W2	Water	03/13/23 14:30	03/16/23 13:00
580-124965-3	AF-HDMW225303-WGN01LF-2303W2	Water	03/14/23 10:40	03/16/23 13:00
580-124965-4	AF-RHMW12A-WGN01LF-2303W2	Water	03/13/23 11:10	03/16/23 13:00
580-124965-5	AF-RHMW12A-WGFD01LF-2303W2	Water	03/13/23 11:10	03/16/23 13:00

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

Chain of Custody Record

Unit # AWG 016 6257 8867

Client Information Client Contact: <u>Olivia Shively</u> Phone: <u>856-938-7770</u> PWSID:		Lab PM: <u>Elaine Walker</u> E-Mail: <u>M.Elaine.Walker@EurofinsET.com</u> State of Origin: <u>Hawaii</u>		Carrier Tracking No(s): <u>2303W2AFE03</u> Page: <u>Page 1 of 1</u> Job #:	
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@aeocom.com / Mark.Kromis@aeocom.com</u> Project Name: <u>CTO N6274223F0104</u> Site: <u>RHSF</u>		Due Date Requested: <u>see subcontract</u> TAT Requested (days): <u>Rush - ASAP</u> Compliance Project: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No PO #: _____ WO #: _____ Project #: <u>60697810</u> SSOW#: _____		Analysis Requested <div style="font-size: 2em; opacity: 0.5; text-align: center; position: absolute; top: 50%; left: 50%; transform: translate(-50%, -50%); pointer-events: none;"> 8015C_DAL_GL_D5/2-(2-butoxyethoxy)-ethanol </div>	
Sample Identification AF-RHMW10-WGN01F-2303W2 Sample Date: <u>3/19/23</u> Sample Time: <u>1255</u> Sample Type (C=Comp, G=grab): <u>G</u> Matrix (W=water, S=solid, O=on-site, B=lab, A=air): _____ Preservation Code: _____		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 Total Number of Containers: <u>3</u>		Special Instructions/Note: 	
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		Prelim data (Level 1 or 2) - see TAT above. DoD Stage <u>4</u> . report standard <u>TAT_AECCOMEQUIS.FDD</u> .		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>Olivia Shively</u> Relinquished by: <u>James Mason</u> Relinquished by: _____		Date/Time: <u>3/14/23 1500</u> Date/Time: <u>3/15/23 1400</u> Date/Time: _____		Date/Time: <u>3/14/23 1500</u> Date/Time: <u>3/16/23 1300</u> Date/Time: _____	
Company: <u>AECCOM</u>		Company: <u>AECCOM</u>		Company: <u>AECCOM</u>	
Custody Seal No.: _____ <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		Cooler Temperature(s) °C and Other Remarks: <u>1.2/1.2</u>		Ver: 01/16/2019	



Chain of Custody Record

United AFB 22578843

Client Information Client Contact: MARK KROMIS 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		Lab P.M.: Elaine Walker E-Mail: M.Elaine.Walker@EurofinsET.com State of Origin: Hawaii Carrier Tracking No(s): 2303W2AFE06 Page: 1 of 1 Job #:	
Due Date Requested: see subcontract TAT Requested (days): Rush - ASAP Compliance Project: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No PO #: WO #: Project #: 60697810 SSOW#:		Analysis Requested 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:	
Sample ID: AF-RHMW16-WGN01LF-2303W2 Sample Type: G Sample Time: 1430 Sample Date: 03/19/23 Matrix: Water Preservation Code: W		Total Number of Containers: 3 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 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: Alex Edwards Relinquished by: Alex Edwards Relinquished by: Alex Edwards Relinquished by:		Method of Shipment: Date/Time: 3/13/23 1500 Date/Time: 3/16/23 1300 Date/Time:	
Custody Seals Intact: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Custody Seal No.:		Cooler Temperature(s) °C and Other Remarks: 1-2/1.2 Ver: 01/16/2019	



Chain of Custody Record

016-625 7774

Client Information Supplier: <u>Olivia Shively</u> Lab PIN: <u>Elaine Walker</u> Phone: <u>856-938-7710</u> E-Mail: <u>M.Elaine.Walker@EurofinsEL.com</u> State of Origin: <u>Hawaii</u>		Camer Tracking No(s): <u>2303W2AFE04</u> Page: <u>Page 1 of 1</u> Job #:	
Due Date Requested: see subcontract TAT requested (days): <u>Rush - ASAP</u>		Analysis Requested	
Compliance Project: <u>Δ Yes Δ No</u> PO #:		Field Filtered Sample (Yes or No) <input checked="" type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
WO #:		Perform MS/MSD (Yes or No) <input checked="" type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
Project #: <u>60697810</u>		Total Number of containers <input checked="" type="checkbox"/> 3	
Site: <u>RHSF</u>		Special Instructions/Note:	
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 (watson.tanji@aeom.com) / Mark.Kromis (mark.kromis@aeom.com)</u> Project Name: <u>CTO N6274223F0104</u>		Preservation Codes: M - Hexane N - None O - AsNaO2 P - Na2O4S Q - Na2SO3 R - Na2SSO3 S - H2SO4 T - TSP Dodecahydrate U - Acetone V - MCAA W - pH 4-5 Z - other (specify)	
Sample Identification AF-HDMW225303-WGN01LF-2303W2		Special Instructions/Note:	
Sample Date: <u>3/14/23</u>	Sample Time: <u>1040</u>	Sample Type (C=Comp, G=grab) <u>G</u>	Matrix (W=water, S=solid, O=wastewater, I=In tissue, A=Air) <u>W</u>
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		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)		Special Instructions/QC Requirements: DOD QSM project 4-report standard IAT_AECOM E-Quis FDD	
Empty Kit Relinquished by: <u>Olivia Shively</u>		Method of Shipment:	
Date/Time: <u>3/14/23 1500</u>		Date/Time: <u>3/14/23 1500</u>	
Relinquished by: <u>James Mason</u>		Received by: <u>James Mason</u>	
Date/Time: <u>3/15/23 1400</u>		Date/Time: <u>3/16/23 1300</u>	
Relinquished by: <u>James Mason</u>		Received by: <u>Paul Karter</u>	
Date/Time:		Date/Time:	
Relinquished by:		Received by:	
Cooler Temperature(s) °C and Other Remarks: <u>1.2/1.2</u>		Cooler Temperature(s) °C and Other Remarks:	
Custody Seals Intact: <u>Δ Yes Δ No</u>		Custody Seal No.:	



Chain of Custody Record

016-62578243

Client Information Client Contact: <u>Alex Edmond</u> Phone: <u>608-659-8334</u> PWSID:		Lab PM: <u>Elaine Walker</u> E-Mail: <u>M.Elaine.Walker@EurofinsET.com</u> State of Origin: <u>Hawaii</u>		Carrier Tracking No(s): <u>FEDX UNITED</u> COC No: <u>2303W2AFE05</u> Page: <u>1 of 1</u> Job #:	
Due Date Requested: see subcontract TAT Requested (days): <u>Rush - ASAP</u>		Analysis Requested			
Compliance Project: <u>Δ Yes Δ No</u> PO #:		Total Number of Containers: <u>3</u>			
WO #:		Preservation Codes: M - Hexane A - HCL N - None B - NaOH O - ASNaO2 C - Zn Acetate D - Nitric Acid E - NaHSO4 F - MeOH G - Amchlor H - Ascorbic Acid I - Ice J - DI Water U - Acetone V - MCAA W - pH 4-5 L - EDTA Z - other (specify)			
Project #: <u>60697810</u> SOW#:		Special Instructions/Note: 8015C_DAL_GL_DS/2-(2-butoxyethoxy)-ethanol			
Project Name: <u>CTO N6274223F0104</u> Site: <u>RHSF</u>		Perform MSM/SD (Yes or No)		Field Filtered Sample (Yes or No)	
Sample Identification AF-RH-MW12A-WGN01LF-2303W2 AF-RH-MW12A-WGFD01LF-2303W2		Sample Date <u>03/13/23</u> <u>1110</u>		Sample Type (C=Comp, G=grab) G G	
Matrix (Water, Solid, Organic, Oil, etc) (Issue, A-AJ) W W		Preservation Code: W W		Total Number of Containers: <u>3</u>	
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.					
Relinquished by: <u>Alex Edmond</u> Date/Time: <u>03/13/23 1400</u>		Relinquished by: <u>Alex Edmond</u> Date/Time: <u>03/13/23 1300</u>		Relinquished by: <u>Alex Edmond</u> Date/Time: <u>03/13/23 1506</u>	
Relinquished by: <u>Alex Edmond</u> Date/Time: <u>03/13/23 1400</u>		Relinquished by: <u>Alex Edmond</u> Date/Time: <u>03/13/23 1300</u>		Relinquished by: <u>Alex Edmond</u> Date/Time: <u>03/13/23 1506</u>	
Cooler Temperature(s) °C and Other Remarks: <u>1-2/1-2</u>					

Chain of Custody Record

Unit # 016 625788-13

Client Information		Lab Pmt: Elaine Walker		Carrier Tracking No(s): 2303W2AFE03	
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		Preservation Codes:	
City: Honolulu		TAT Requested (days): Rush - ASAP		A - HCL	
State Zip: Hawaii 96813		Compliance Project: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		M - Hexane	
Phone: 808-954-4512 / 770-331-0794		PO #:		N - None	
Email: Watson Tanji (watson.tanji@aecom.com) / Mark Kromis (mark.kromis@aecom.com)		WO #:		O - AsNaO2	
Project Name: CTO N6274223F014		Project #:		P - Na2O4S	
Site: RH5F		SSOW#:		Q - Na2SO3	
				R - Na2S2O3	
				S - H2SO4	
				T - TSP Dodecahydrate	
				U - Acetone	
				V - MCAA	
				W - pH 4-5	
				L - EDTA	
				K - EDTA	
				Z - other (specify)	
				Other:	
				Total Number of containers	
				3	
				Special Instructions/Note:	
				580-124965 Chain of Custody	
				Barcode	
				3/13/23	
				8015C_DAI_GL_DS/2-(2-butoxyethoxy)-ethanol	
				Perform MS/MSD (Yes or No)	
				Field Filtered Sample (Yes or No)	
				Matrix (Water, Swab, Oil, etc.)	
				Sample Type (C=Comp, G=grab)	
				Sample Time	
				Sample Date	
				Preservation Code: G W	
				AF-RHMW10-WGN01LF-2303W2	
				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: James Mason	
				Date/Time: 3/14/23 1500	
				Relinquished by: James Mason	
				Date/Time: 3/15/23 1400	
				Relinquished by:	
				Date/Time:	
				Custody Seal Intact: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
				Cooler Temperature(s) °C and Other Remarks: 1.2/1.2	



Univ. AFB 257 8823

Client Information		Lab P/M: Elaine Walker	Carrier Tracking No(s): 2303W2AFEAO6
Client Contact: M. Elaine Walker @ Eurofins ET.com		E-Mail: M.Elaine.Walker@EurofinsET.com	COC No: 2303W2AFEAO6
Company: AECOM		State of Origin: Hawaii	Page: 1 of 1
Address: 1001 Bishop St. Suite 1600		Honolulu, HI 96813	Job #:
City: Honolulu		State: HI	
Phone: 808-954-4512 / 770-331-0794			
Email: mark.kromis@aeom.com			
Project Name: CTO N6274223F0104			
Site: RH5F			
Analysis Requested			
Due Date Requested: See subcontract			
TAT Requested (days): Rush - ASAP			
Compliance Project: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No			
PO #:			
WO #:			
Project #:			
SSOW#:			
15015 DAL GL DS/2-(2-butoxyethoxy)-ethanol			
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			
Total Number of Containers: <input checked="" type="checkbox"/> 3			
Special Instructions/Note:			
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 L - 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 checked="" 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: _____ Date: _____			
Relinquished by: <u>Elaine Walker</u> Date: <u>03/13/23</u> Time: <u>15:00</u> Company: AECOM			
Relinquished by: <u>Elaine Walker</u> Date: <u>3/15/23</u> Time: <u>1400</u> Company: AECOM			
Relinquished 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: _____			



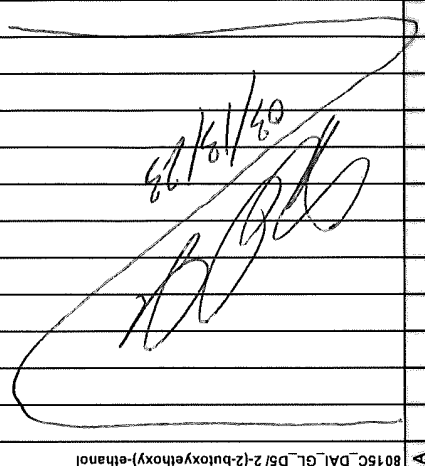
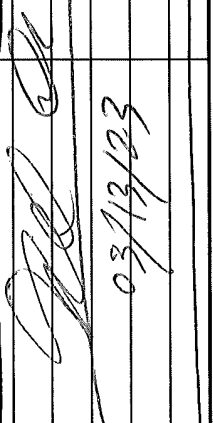
Chain of Custody Record

016-625-7773

Client Information Client Contact: Olivia Shively Phone: 856-938-7710		Lab P/N: Elaine Walker E-Mail: M.Elaine.Walker@EurofinsET.com		Carrier Tracking No(s): 2303W2AFEAO4 State of Origin: Hawaii		COC No.: 2303W2AFEAO4 Page: Page 1 of 1 Job #:	
Due Date Requested: See subcontract TAT Requested (days): Rush - ASAP		Compliance Project: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No PO #:		Analysis Requested:		Preservation Codes: M - Hexane N - None O - AsNaO2 P - Na2O4S Q - Na2SO3 R - H2SO4 S - H2SO4 T - TSP Dodecahydrate U - Acetone V - MCAA W - pH 4-5 X - EDTA L - EDA Other:	
Project Name: CTO N6274223F0104 Site: RHSF		Project #: 60697810 SSO#:		Field Filtered Sample (Yes or No)		Total Number of Containers: 3	
Sample Identification: AF-HDMW225303-WGN01LF-2303W2		Sample Date: 3/14/23 Sample Time: 1040 Sample Type (C=Comp, G=grab): G Matrix (W=water, S=solid, O=swab, T=tissue, A=air): W		Perform MS/MSD (Yes or No)		Special Instructions/Note:	
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		Sample Date: 3/14/23 Sample Time: 1040 Sample Type (C=Comp, G=grab): G Matrix (W=water, S=solid, O=swab, T=tissue, A=air): W		Field Filtered Sample (Yes or No)		Special Instructions/Note:	
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 <input type="checkbox"/> Months		Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)	
Empty Kit Relinquished by: Olivia Shively		Date/Time: 3/14/23 1500		Method of Shipment:		Date/Time: 3/14/23 1500	
Relinquished by: James Mason		Date/Time: 3/15/23 1400		Received by: James Mason		Date/Time: 3/14/23 1500	
Relinquished by:		Date/Time:		Received by: Olivia Shively		Date/Time: 3/16/23 1300	
Relinquished by:		Date/Time:		Received by:		Date/Time:	
Custody Seals Intact: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		Custody Seal No.		Cooler Temperature(s) °C and Other Remarks: 1.2/1.2		Company: AECOM	



016-6257843

Client Information Client Contact: GABRIEL ALLEN Phone: 808-639-8434 PWSID		Lab PM: Elaine Walker E-Mail: M.Elaine.Walker@EurofinsET.com State of Origin: Hawaii		Carrier Tracking No(s): 71772 FedEx UNITED Page: Page 1 of 1 Job #:		COC No: 2303W2AFEA05	
Due Date Requested: see subcontract TAT Requested (days): Rush - ASAP Compliance Project: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No PO #: 03/19/23 WO #: 03/19/23 Project #: 60697810 SOW#:		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_DSr-2-(2-butylethoxy)-ethanol		Analysis Requested 		Preservation Codes: M - Hexane N - None O - AsNaO2 P - Na2O4S Q - Na2SO3 R - Na2SO3 S - H2SO4 G - Amchlor H - Ascorbic Acid I - Ice J - DI Water V - MCAA 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@aeacom.com / Mark.Kromis@aeacom.com Project Name: CTO N6274223F0104 Site: RHSF		Sample Date: 03/19/23 Sample Time: 110 Sample Type (C=Comp, G=grab): G Matrix (W=water, S=solid, O=oil, A=air): W Preservation Code: W		Total Number of Containers: 3 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 type="checkbox"/> Radiological Deliverable Requested I II III IV, Other (specify)	
Sample Identification AF-RHMW12A-WGND01LF-2303W2 AF-RHMW12A-WGFD01LF-2303W2 		Sample Date: 03/19/23 Sample Time: 1300 Sample Type (C=Comp, G=grab): G Matrix (W=water, S=solid, O=oil, A=air): W Preservation Code: W		Total Number of Containers: 3 Special Instructions/Note:		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.	
Relinquished by: GABRIEL ALLEN Date/Time: 03/19/23 / 1414 Company: AECOM		Relinquished by: YDOR KASHKEL Date/Time: 3/15/23 Company: AECOM		Relinquished by: YDOR KASHKEL Date/Time: 3/17/23 Company: ETS SA		Method of Shipment: 12/1/2 Date/Time:	
Relinquished by:		Relinquished by:		Relinquished by:		Cooler Temperature(s) °C and Other Remarks:	



Login Sample Receipt Checklist

Client: AECOM

Job Number: 580-124965-1

Login Number: 124965

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: 580-124965-1

Login Number: 124965

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.		