



ANALYTICAL REPORT

PREPARED FOR

Attn: Terri Choy
AECOM

1001 Bishop Street
Honolulu, Hawaii 96813

Generated 10/13/2023 11:50:46 AM

JOB DESCRIPTION

Red Hill - AFFF Assessment Sampling

JOB NUMBER

580-132501-1

Eurofins Seattle

Job Notes

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

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

Authorization



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Case Narrative

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

Job ID: 580-132501-1

Job ID: 580-132501-1

Laboratory: Eurofins Seattle

Narrative

CASE NARRATIVE

Client: AECOM
Project: Red Hill - AFFF Assessment Sampling
Report Number: 580-132501-1

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 10/06/2023; the samples arrived in good condition, properly preserved and on ice. The temperature of the coolers at receipt was 5.4 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.

2-(2-Butoxyethoxy)ethanol

Samples AF-HDMW225303-WGN01LF-2310 (580-132501-1), AF-RHMW12A-WGN01LF-2310 (580-132501-2) and AF-RHMW12A-WGFD01LF-2310 (580-132501-3) were analyzed for 2-(2-Butoxyethoxy)ethanol in accordance with EPA SW-846 Method 8015B - DAI. The samples were analyzed on 10/12/2023.

The continuing calibration verification (CCV) associated with batch 680-802272 recovered outside acceptance criteria, low biased, for 2-(2-Butoxyethoxy)ethanol. A reporting limit (RL) standard was analyzed, and the target analytes were detected. Since the associated samples were non-detect for the analyte, the data has been qualified and reported.

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

Definitions/Glossary

Client: AECOM

Job ID: 580-132501-1

Project/Site: Red Hill - AFFF Assessment Sampling

Qualifiers

GC Semi VOA

Qualifier	Qualifier Description
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: 580-132501-1

Client Sample ID: AF-HDMW225303-WGN01LF-2310

Lab Sample ID: 580-132501-1

Date Collected: 10/03/23 10:10

Matrix: Water

Date Received: 10/06/23 12:40

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			10/12/23 16:27	1

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

Client Sample Results

Client: AECOM

Job ID: 580-132501-1

Project/Site: Red Hill - AFFF Assessment Sampling

Client Sample ID: AF-RHMW12A-WGN01LF-2310

Lab Sample ID: 580-132501-2

Date Collected: 10/03/23 12:40

Matrix: Water

Date Received: 10/06/23 12:40

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			10/12/23 16:50	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: 580-132501-1

Client Sample ID: AF-RHMW12A-WGFD01LF-2310

Lab Sample ID: 580-132501-3

Date Collected: 10/03/23 12:40

Matrix: Water

Date Received: 10/06/23 12:40

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			10/12/23 17:13	1

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

QC Sample Results

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

Job ID: 580-132501-1

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

Lab Sample ID: MB 680-802272/8
Matrix: Water
Analysis Batch: 802272

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			10/12/23 13:16	1

Lab Sample ID: LCS 680-802272/5
Matrix: Water
Analysis Batch: 802272

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	21.1		mg/L		106	50 - 150

Lab Sample ID: LCSD 680-802272/6
Matrix: Water
Analysis Batch: 802272

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	17.9		mg/L		89	50 - 150	17	50

Lab Sample ID: 580-132501-1 MS
Matrix: Water
Analysis Batch: 802272

Client Sample ID: AF-HDMW225303-WGN01LF-2310
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 Q	20.0	17.5		mg/L		88	50 - 150

Lab Sample ID: 580-132501-1 MSD
Matrix: Water
Analysis Batch: 802272

Client Sample ID: AF-HDMW225303-WGN01LF-2310
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 Q	20.0	18.4		mg/L		92	50 - 150	5	50

Lab Chronicle

Client: AECOM

Job ID: 580-132501-1

Project/Site: Red Hill - AFFF Assessment Sampling

Client Sample ID: AF-HDMW225303-WGN01LF-2310

Lab Sample ID: 580-132501-1

Date Collected: 10/03/23 10:10

Matrix: Water

Date Received: 10/06/23 12:40

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8015C GLY		1	802272	DBM	EET SAV	10/12/23 16:27

Client Sample ID: AF-RHMW12A-WGN01LF-2310

Lab Sample ID: 580-132501-2

Date Collected: 10/03/23 12:40

Matrix: Water

Date Received: 10/06/23 12:40

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8015C GLY		1	802272	DBM	EET SAV	10/12/23 16:50

Client Sample ID: AF-RHMW12A-WGFD01LF-2310

Lab Sample ID: 580-132501-3

Date Collected: 10/03/23 12:40

Matrix: Water

Date Received: 10/06/23 12:40

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8015C GLY		1	802272	DBM	EET SAV	10/12/23 17:13

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: 580-132501-1

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: 580-132501-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
580-132501-1	AF-HDMW225303-WGN01LF-2310	Water	10/03/23 10:10	10/06/23 12:40
580-132501-2	AF-RHMW12A-WGN01LF-2310	Water	10/03/23 12:40	10/06/23 12:40
580-132501-3	AF-RHMW12A-WGFD01LF-2310	Water	10/03/23 12:40	10/06/23 12:40

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Chain of Custody Record

Client Information		Sampler: JV AA MG	Lab PM: Elaine Walker	Carrier Tracking No(s): FedEx	COC No: 2310AFEA04																																																									
Client Contact:		Phone: (332) 799-9951	E-Mail: M.Elaine.Walker@EurofinsET.com	State of Origin: Hawaii	Page: Page 1 of 1																																																									
Company: AECOM	PWSID:	Analysis Requested			Job #:																																																									
Address: 1001 Bishop St. Suite 1600	City: Honolulu	State: Hawaii	Zip: 96813	Phone: 808-954-4512 / 770-331-0794	Email: Watson Tanji (watson.tanji@aecom.com) / Mark Kromis (mark.kromis@aecom.com)																																																									
Project Name: CTO N6274223F0104	Site: RHSF	Due Date Requested: see subcontract	TAT Requested (days): Rush - 5 Day	Compliance Project: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	PO #:																																																									
Project #:	SSOW#:	Field Filled Sample (Yes or No)		Preservation Codes:																																																										
		Yes	No		A - HCL M - Hexane																																																									
					B - NaOH N - None																																																									
					C - Zn Acetate O - AsNaO2																																																									
					D - Nitric Acid P - Na2O4S																																																									
					E - NaHSO4 Q - Na2SO3																																																									
					F - MeOH R - Na2S2O3																																																									
					G - Amchlor S - H2SO4																																																									
					H - Ascorbic Acid T - TSP Dodecahydrate																																																									
					I - Ice U - Acetone																																																									
					J - DI Water V - MCAA																																																									
					K - EDTA W - pH 4-5																																																									
					L - EDA Z - other (specify)																																																									
Special Instructions/Note:					Other:																																																									
Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=organic, BT=Tissue, An=Air)	Field Filled Sample (Yes or No)	Matrix	Field Filled Sample (Yes or No)	Field Filled Sample (Yes or No)	Field Filled Sample (Yes or No)	Field Filled Sample (Yes or No)	Field Filled Sample (Yes or No)	Field Filled Sample (Yes or No)	Field Filled Sample (Yes or No)	Field Filled Sample (Yes or No)	Field Filled Sample (Yes or No)	Field Filled Sample (Yes or No)	Field Filled Sample (Yes or No)	Field Filled Sample (Yes or No)	Field Filled Sample (Yes or No)	Total Number of Containers	Special Instructions/Note:																																									
				Preservation Code:																																																										
AF-HDMW225303-WGN01LF-2310	10/3/23	1010	G	W	N	N	X															3																																								
 580-132501 Chain of Custody																																																														
Possible Hazard Identification <input checked="" type="checkbox"/> Non-Hazard <input type="checkbox"/> Flammable <input type="checkbox"/> Skin Irritant <input type="checkbox"/> Poison B <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)										Prelim data (Level 1or2)=see TAT above. DoD Stage 4 report standard TAT. AECOM EQulS EDD													Special Instructions/QC Requirements: DOD QSM project.																																							
Empty Kit Relinquished by: _____										Date: _____										Time: _____										Method of Shipment: Unred AWB: 97418366																																
Relinquished by: AUTE ABOHI										Date/Time: 10/13/23 1205										Company: AECOM										Received by: Simone Ray										Date/Time: 10/13/23 1205										Company: AECOM												
Relinquished by: SIMONE RAY										Date/Time: 10/13/23 1449										Company: AECOM										Received by: [Signature]										Date/Time: 10/16/23 1240										Company: _____												
Custody Seals Intact: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No										Custody Seal No.: _____										Cooler Temperature(s) °C and Other Remarks: 5.1/5.4																																										

Ver: 01/16/2019

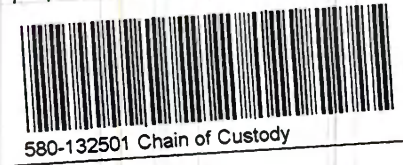


Chain of Custody Record

Client Information		Sampler: <u>Aure Asprli</u>	Lab PM: <u>Elaine Walker</u>	Carrier Tracking No(s): <u>FedEx</u>	COC No: <u>2310AFEAO5</u>					
Client Contact:		Phone: <u>(232)799-9957</u>	E-Mail: <u>M.Elaine.Walker@EurofinsET.com</u>	State of Origin: <u>Hawaii</u>	Page: <u>Page 1 of 1</u>					
Company: <u>AECOM</u>		PWSID:	Analysis Requested		Job #:					
Address: <u>1001 Bishop St. Suite 1600</u>		Due Date Requested: <u>see subcontract</u>	<i>Handwritten: 8015C_DAL_GL_D5f 2 (2-butoxyethoxy)-ethanol</i>		<i>Handwritten: 3</i>					
City: <u>Honolulu</u>		TAT Requested (days): <u>Rush - 5 Day</u>								
State, Zip: <u>Hawaii 96813</u>		Compliance Project: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No								
Phone: <u>808-954-4512 / 770-331-0794</u>		PO #:								
Email: <u>Watson Tanji (watson.tanji@aecom.com) / Mark Kromis (mark.kromis@aecom.com)</u>		WO #:								
Project Name: <u>CTO N6274223F0104</u>		Project #: <u>60697810</u>	<i>Handwritten: 3</i>		<i>Handwritten: 3</i>					
Site: <u>RHSF</u>		SSOW#:								
Sample Identification		Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=Water, S=solid, O=soils/sed, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Norm MS/MSD (Yes or No)	8015C_DAL_GL_D5f 2 (2-butoxyethoxy)-ethanol	Total Number of Containers	Special Instructions/Note:
				Preservation Code:		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
AF-RHMW12A-WGN01LF-2310		<u>10/1/23</u>	<u>1240</u>	<u>G</u>	<u>W</u>	<u>N</u>	<u>N</u>	<u>X</u>	<u>3</u>	
AF-RHMW12A-WGFD01LF-2310		<u>10/3/23</u>	<u>1240</u>	<u>G</u>	<u>W</u>	<u>N</u>	<u>N</u>	<u>X</u>	<u>3</u>	
		<i>Handwritten: 10/3/23</i>								
Possible Hazard Identification						Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)				
<input checked="" type="checkbox"/> Non-Hazard <input type="checkbox"/> Flammable <input type="checkbox"/> Skin Irritant <input type="checkbox"/> Poison B <input type="checkbox"/> Unknown <input type="checkbox"/> Radiological						<input type="checkbox"/> Return To Client <input checked="" type="checkbox"/> Disposal By Lab <input type="checkbox"/> Archive For _____ Months				
Deliverable Requested: I, II, III, IV, Other (specify)			Prelim data (Level 1or2)=see TAT above. DoD Stage 4 report standard TAT. AECOM EQuis EDD.			Special Instructions/QC Requirements: DOD QSM project.				
Empty Kit Relinquished by:		Date:	Time:	Method of Shipment:						
Relinquished by: <u>Aure Asprli</u>		Date/Time: <u>10/3/23 1440</u>	<u>AECOM</u>	Received by: <u>Eli Murtin</u>		Date/Time: <u>10/3/23 1440</u>	<u>AECOM</u>			
Relinquished by: <u>Eli Murtin</u>		Date/Time: <u>10/5/23 1445</u>	<u>AECOM</u>	Received by:		Date/Time:	Company			
Relinquished by:		Date/Time:	Company	Received by:		Date/Time: <u>10/6/23 1246</u>	Company			
Custody Seals Intact: <input checked="" type="checkbox"/>		Custody Seal No.:		Cooler Temperature (°C and Other Remarks: <u>5.1/5.4</u>						

Chain of Custody Record

Client Information		Sampler: JV AA MG		Lab PM: Elaine Walker		Carrier Tracking No(s): FedEx		COC No: 2310AFEA04			
Client Contact:		Phone: (732) 799-9951		E-Mail: M.Elaine.Walker@EurofinsET.com		State of Origin: Hawaii		Page: Page 1 of 1			
Company: AECOM		PWSID:		Analysis Requested		Job #:					
Address: 1001 Bishop St. Suite 1600 City: Honolulu State, Zip: Hawaii 96813 Phone: 808-954-4512 / 770-331-0794 Email: Watson Tanji (watson.tanji@aecom.com) / Mark Kromis (mark.kromis@aecom.com)		Due Date Requested: see subcontract TAT Requested (days): Rush - 5 Day Compliance Project: <input type="checkbox"/> Yes <input type="checkbox"/> No PO #: WO #:		Field Filtered Sample (Yes or No) #019C_DAL_GL_D61 2-(2-butoxyethoxy)ethanol		Total Number of Containers		Preservation Codes:			
Project Name: CTO N6274223F0104		Project #: 60697810						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		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)	
Site: RHSF		SSOW#:						Other:			
Sample Identification		Sample Date						Sample Time		Sample Type (C=Comp, G=grab)	
						Preservation Code:		Special Instructions/Note:			
AF-HDMW225303-WGN01LF-2310		10/3/23		1010		G W		N N X			
								3			
Possible Hazard Identification		Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)									
<input checked="" type="checkbox"/> Non-Hazard <input type="checkbox"/> Flammable <input type="checkbox"/> Skin Irritant <input type="checkbox"/> Poison B <input type="checkbox"/> Unknown <input type="checkbox"/> Radiological		<input type="checkbox"/> Return To Client <input type="checkbox"/> Disposal By Lab <input type="checkbox"/> Archive For _____ Months									
Deliverable Requested: I, II, III, IV, Other (specify)		Prelim data (Level 1or2)=see TAT above. DoD Stage 4 report standard TAT. AECOM EQUIS EDD.		Special Instructions/QC Requirements: DOD QSM project.							
Empty Kit Relinquished by:		Date:		Time:		Method of Shipment: United AWB: 97418366					
Relinquished by: AVE ASPH		Date/Time: 10/3/23 1205		Company: AECOM		Received by: Simone Ray		Date/Time: 10/13/23 1205 Company: AECOM			
Relinquished by: SIMONE RAY		Date/Time: 10/3/23 1409		Company: AECOM		Received by: [Signature]		Date/Time: 10/6/23 1240 Company: [Blank]			
Custody Seals Intact: <input type="checkbox"/> Yes <input type="checkbox"/> No		Custody Seal No.:		Cooler Temperature(s) and Other Remarks: 2.1/5.4							



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11

Chain of Custody Record




Client Information		Sampler: <u>Aure Aspri</u>		Lab PM: Elaine Walker		Carrier Tracking No(s): FedEx		COC No: 2310AFE05																									
Client Contact:		Phone: <u>(732) 999-9951</u>		E-Mail: <u>M Elaine Walker@EurofinsET.com</u>		State of Origin: Hawaii		Page: Page 1 of 1																									
Company: AECOM		PWSID:		Analysis Requested <u>1</u>		Total Number of containers: <u>1</u>		<p>Preservation Codes:</p> <table border="0"> <tr> <td>A - HCL</td> <td>M - Hexane</td> </tr> <tr> <td>B - NaOH</td> <td>N - None</td> </tr> <tr> <td>C - Zn Acetate</td> <td>O - AsNaO2</td> </tr> <tr> <td>D - Nitric Acid</td> <td>P - Na2O4S</td> </tr> <tr> <td>E - NaHSO4</td> <td>Q - Na2S03</td> </tr> <tr> <td>F - MeOH</td> <td>R - Na2S2O3</td> </tr> <tr> <td>G - Amchlor</td> <td>S - H2SO4</td> </tr> <tr> <td>H - Ascorbic Acid</td> <td>T - TSP Dodecahydrate</td> </tr> <tr> <td>I - Ice</td> <td>U - Acetone</td> </tr> <tr> <td>J - DI Water</td> <td>V - MCAA</td> </tr> <tr> <td>K - EDTA</td> <td>W - pH 4-5</td> </tr> <tr> <td>L - EDA</td> <td>Z - other (specify)</td> </tr> </table> <p>Other:</p>		A - HCL	M - Hexane	B - NaOH	N - None	C - Zn Acetate	O - AsNaO2	D - Nitric Acid	P - Na2O4S	E - NaHSO4	Q - Na2S03	F - MeOH	R - Na2S2O3	G - Amchlor	S - H2SO4	H - Ascorbic Acid	T - TSP Dodecahydrate	I - Ice	U - Acetone	J - DI Water	V - MCAA	K - EDTA	W - pH 4-5	L - EDA	Z - other (specify)
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L - EDA	Z - other (specify)																																
Address: 1001 Bishop St. Suite 1600		Due Date Requested: see subcontract		Field Filtered Sample (Yes or No) 801SC_DAL_GL_DS7 2 (2-butoxyethoxy)-ethanol <u>Yes</u>																													
City: Honolulu		TAT Requested (days): <u>Rush - 5 Day</u>																															
State, Zip: Hawaii 96813		Compliance Project: <input type="checkbox"/> Yes <input type="checkbox"/> No																															
Phone: 808-954-4512 / 770-331-0794		PO #:																															
Email: Watson Tanji (watson.tanji@aecom.com) / Mark Kromis (mark.kromis@aecom.com)		WO #:																															
Project Name: CTO N6274223F0104		Project #: 60697810																															
Site: RHSF		SSOW#:																															
Sample Identification		Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=unstable, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)		Total Number of containers																									
						A																											
AF-RHMW12A-WGN01LF-2310		10/1/23	1240	G	W	N	N	X	3																								
AF-RHMW12A-WGFD01LF-2310		10/3/23	1240	G	W	N	N	X	3																								
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)		Prelim data (Level 1or2)=see TAT above. DoD Stage 4 report standard TAT. AECOM EQUIS EDD.		Special Instructions/QC Requirements: DOD QSM project.																													
Empty Kit Relinquished by:		Date:	Time:	Method of Shipment: <u>United Aspri 016-970-9200</u>																													
Relinquished by: <u>Aure Aspri</u>		Date/Time: <u>10/3/23 1440</u>	Company: AECOM	Received by: <u>Ell Martin</u>		Date/Time: <u>10/3/23 1440</u>	Company: <u>AECOM</u>																										
Relinquished by: <u>Ell Martin</u>		Date/Time: <u>10/15/23 1445</u>	Company: AECOM	Received by: <u>[Signature]</u>		Date/Time: <u>10/16/23 1240</u>	Company: AECOM																										
		Date/Time: <u>10/16/23 1240</u>	Company: AECOM			Date/Time: <u>10/16/23 1240</u>	Company: AECOM																										
Cooler Temperature (°C) and Other Remarks:				<u>5.1/5.4</u>																													



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

Chain of Custody Record



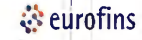
Client Information		Sampler: JV AA MG	Lab PM: Elaine Walker	Carrier Tracking No(s): FedEx	COC No: 2310AFEA04				
Client Contact:		Phone: (332) 799-9951	E-Mail: M.Elaine.Walker@EurofinsFT.com	State of Origin: Hawaii	Page: Page 1 of 1				
Company: AECOM		PWSID:	Analysis Requested		Job #:				
Address: 1001 Bishop St. Suite 1600		Due Date Requested: see subcontract	Field Filtered Sample (Yes or No) <input checked="" type="checkbox"/> Perform MS/MS (If Sample No) <input checked="" type="checkbox"/> 8016C_DAL_GL_DS_2-(2-butoxyethoxy)-ethanol 10/13/23 10/13/23	Total Number of Containers 3	Preservation Codes:				
City: Honolulu		TAT Requested (days): Rush - 5 Day			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 M - Hexano 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)	Other:			
State, Zip: Hawaii 96813		Compliance Project: <input type="checkbox"/> Yes <input type="checkbox"/> No							
Phone: 808-954-4512 / 770-331-0794		PO #:							
Email: Watson Tanji (watson.tanji@aecom.com) / Mark Kromis (mark.kromis@aecom.com)		WO #:							
Project Name: CTO N6274223F0104		Project #: 60697810							
Site: RHSF		SSOW#:							
Sample Identification	Sample Date	Sample Time			Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, AA=Air)	Field Filtered Sample (Yes or No)	Perform MS/MS (If Sample No)	8016C_DAL_GL_DS_2-(2-butoxyethoxy)-ethanol
AF-HDMW225303-WGN01LF-2310	10/3/23	1010	G	W	N	N	X	3	
<div style="text-align: center;">  580-132501 Chain of Custody </div>									
Possible Hazard Identification					Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)				
<input checked="" type="checkbox"/> Non-Hazard <input type="checkbox"/> Flammable <input type="checkbox"/> Skin Irritant <input type="checkbox"/> Poison B <input type="checkbox"/> Unknown <input type="checkbox"/> Radiological					<input type="checkbox"/> Return To Client <input type="checkbox"/> Disposal By Lab <input type="checkbox"/> Archive For _____ Months				
Deliverable Requested: I, II, III, IV, Other (specify)					Prelim data (Level 1or2)=see TAT above. DoD Stage 4 report standard TAT. AECOM EQulS EDD.				
Special Instructions/QC Requirements: DOD QSM project.									
Empty Kit Relinquished by:		Date:	Time:		Method of Shipment: United AWB: 97418366				
Relinquished by: Aure Agosti	Date/Time: 10/13/23 1205	Company: AECOM	Received by: Simone Ray	Date/Time: 10/13/23 1205	Company: AECOM				
Relinquished by: Simone Ray	Date/Time: 10/13/23 1249	Company: AECOM	Received by: [Signature]	Date/Time: 10/16/23 1240	Company:				
Custody Seals Intact: <input type="checkbox"/> Yes <input type="checkbox"/> No		Custody Seal No.:		Cooler Temperature(s) and Other Remarks: 5.1/5.4					

Ver: 01/16/2019

Eurofins FGS, Seattle

5755 8th Street East
Tacoma, WA 98424

Chain of Custody Record






Environment Testing
America

Client Information		Sampler: <i>Aure Aspri</i>		Lab PM: Elaine Walker		Carrier Tracking No(s): FedEx		COC No: 2310AFE05			
Client Contact:		Phone: <i>(232) 999-9951</i>		E-Mail: M.Elaine.Walker@EurofinsET.com		State of Origin: Hawaii		Page: Page 1 of 1			
Company: AECOM		PWSID:		Analysis Requested <div style="float: right; border-left: 1px solid black; padding-left: 5px;">Total Number of Containers</div>						Preservation Codes: A - HCL M - Hexane B - NaOH N - None C - Zn Acetate O - AsNaO2 D - Nitric Acid P - Na2O4S E - NaHSO4 Q - Na2SO3 F - MeOH R - Na2S2O3 G - Amchlor S - H2SO4 H - Ascorbic Acid T - TSP Dodecahydrate I - Ice U - Acetone J - DI Water V - MCAA K - EDTA W - pH 4-5 L - EDA Z - other (specify)	
Address: 1001 Bishop St. Suite 1600		Due Date Requested: see subcontract									
City: Honolulu		TAT Requested (days): Rush - 5 Day									
State, Zip: Hawaii 96813		Compliance Project: Δ Yes Δ No		Field Filtered Sample (Yes or No) 8015C_DAL_GL_DS 2-(2-butoxyethoxy)-ethanol		<i>See above</i> 					
Phone: 808-954-4512 / 770-331-0794		PO #:									
Email: Watson Tanji (watson.tanji@aecom.com) / Mark Kromis (mark.kromis@aecom.com)		WO #:		Special Instructions/Note:							
Project Name: CTO N6274223F0104		Project #: 60697810									
Site: RHSF		SSOW#:									
Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/ok, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Retention (ISM#)	Other (1-4)	Total Number of Containers	Special Instructions/Note:		
Preservation Code:					X	X	A				
AF-RHMW12A-WGN01LF-2310	10/13/23	1240	G	W	N	N	X	3			
AF-RHMW12A-WGFD01LF-2310	10/13/23	1240	G	W	N	N	X	3			
Paper 10/13/23											

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)				Prelim data (Level 1or2)=see TAT above. DoD Stage 4 report standard TAT. AECOM EQUIS EDD.					
Empty Kit Relinquished by:				Date:		Time:		Method of Shipment: <i>Uninsured Air Mail - 97013260</i>	
Relinquished by: <i>Aure Aspri</i>		Date/Time: <i>10/13/23 1240</i>		Company: AECOM		Received by: <i>Eli Murta</i>		Date/Time: <i>10/13/23 1440</i> Company: AECOM	
Relinquished by: <i>Eli Murta</i>		Date/Time: <i>10/15/23 1245</i>		Company: AECOM		Received by:		Date/Time: _____ Company: _____	
Relinquished by:		Date/Time:		Company:		Received by:		Date/Time: <i>10/16/23 1240</i> Company: _____	
Custody Seals Intact:		Custody Seal No.:		Cooler Temperature(s) °C and Other Remarks: <i>5.1/5.4</i>					

Chain of Custody Record

Client Information		Sampler: <u>Aure Asprli</u>	Lab PM: Elaine Walker	Carrier Tracking No(s): FedEx	COC No: 2310AFEA05																																								
Client Contact:	Phone: <u>(232)999-9951</u>	E-Mail: <u>M.Elaine.Walker@EurofinsET.com</u>	State of Origin: Hawaii	Page: Page 1 of 1																																									
Company: <u>AECOM</u>	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@aecom.com) / Mark Kromis (mark.kromis@aecom.com)</u>																																								
Project Name: <u>CTO N6274223F0104</u>		Project #: <u>60697810</u>	Due Date Requested: <u>see subcontract</u>		Analysis Requested																																								
Site: <u>RHSF</u>		SSOW#:	TAT Requested (days): <u>Rush - 5 Day</u>																																										
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			PO #:	A - HCL M - Hexane B - NaOH N - None C - Zn Acetate O - AsNaO2 D - Nitric Acid P - Na2O4S E - NaHSO4 Q - Na2SO3 F - MeOH R - Na2S2O3 G - Amchlor S - H2SO4 H - Ascorbic Acid T - TSP Dodecahydrate I - Ice U - Acetone J - DI Water V - MCAA K - EDTA W - pH 4-5 L - EDA Z - other (specify)																																									
<table border="1" style="width:100%; border-collapse: collapse;"> <thead> <tr> <th style="width:15%;">Sample Identification</th> <th style="width:10%;">Sample Date</th> <th style="width:10%;">Sample Time</th> <th style="width:10%;">Sample Type (C=comp, G=grab)</th> <th style="width:10%;">Matrix (W=water, S=solid, O=waste/solid, BT=Tissue, AA=Air)</th> <th style="width:5%;">Field Filtered Sample (Yes or No)</th> <th style="width:5%;">Total Number of Containers</th> <th style="width:35%;">Special Instructions/Note:</th> </tr> </thead> <tbody> <tr> <td></td> <td></td> <td></td> <td>Preservation Code:</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>AF-RHMW12A-WGN01LF-2310</td> <td>10/13/23</td> <td>1240</td> <td>G</td> <td>W</td> <td>N</td> <td>3</td> <td></td> </tr> <tr> <td>AF-RHMW12A-WGFD01LF-2310</td> <td>10/13/23</td> <td>1240</td> <td>G</td> <td>W</td> <td>N</td> <td>3</td> <td></td> </tr> <tr> <td colspan="8" style="text-align: center; height: 100px; vertical-align: middle;"> <div style="display: flex; justify-content: space-between;"> <div style="font-size: 2em; font-family: cursive;"> <u>Shane</u> <u>10/13/23</u> </div> <div style="font-size: 4em; font-family: cursive; opacity: 0.5;">  </div> </div> </td> </tr> </tbody> </table>						Sample Identification	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/solid, BT=Tissue, AA=Air)	Field Filtered Sample (Yes or No)	Total Number of Containers	Special Instructions/Note:				Preservation Code:					AF-RHMW12A-WGN01LF-2310	10/13/23	1240	G	W	N	3		AF-RHMW12A-WGFD01LF-2310	10/13/23	1240	G	W	N	3		<div style="display: flex; justify-content: space-between;"> <div style="font-size: 2em; font-family: cursive;"> <u>Shane</u> <u>10/13/23</u> </div> <div style="font-size: 4em; font-family: cursive; opacity: 0.5;">  </div> </div>							
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Empty Kit Relinquished by:			Date:	Time:	Method of Shipment: <u>United Parcel a/c = 97019366</u>																																								
Relinquished by: <u>Aure Asprli</u>		Date/Time: <u>10/13/23 1440</u>	Company: <u>AECOM</u>	Received by: <u>Ellie Martin</u>	Date/Time: <u>11/3/23 1440</u> Company: <u>AECOM</u>																																								
Relinquished by: <u>Ellie Martin</u>		Date/Time: <u>10/15/23 1445</u>	Company: <u>AECOM</u>	Received by:	Date/Time: Company:																																								
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Custody Seals Intact:		Custody Seal No.:		Cooler Temperature: °C and Other Remarks: <u>5.1/5.4</u>																																									

Login Sample Receipt Checklist

Client: AECOM

Job Number: 580-132501-1

Login Number: 132501

List Number: 1

Creator: Johnson, Corey M

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

