

Environment Testing

ANALYTICAL REPORT

PREPARED FOR

Attn: Terri Choy AECOM 1001 Bishop Street Honolulu, Hawaii 96813 Generated 12/31/2022 4:50:16 PM

JOB DESCRIPTION

Red Hill - AFFF Assessment Sampling

JOB NUMBER

580-120929-1

Eurofins Seattle 5755 8th Street East Tacoma WA 98424





Eurofins Seattle

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

M. Elaine Walker

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Authorized for release by Marie Walker, Senior Project Manager <u>M.Elaine.Walker@et.eurofinsus.com</u> (253)248-4972

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Job ID: 580-120929-1

Laboratory: Eurofins Seattle

Narrative

CASE NARRATIVE

Case Narrative

Client: AECOM Project: Red Hill - AFFF Assessment Sampling Report Number: 580-120929-1

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 12/07/2022; the samples arrived in good condition, properly preserved and on ice. The temperatures of the 2 coolers at receipt time were 1.1° C and 1.3° 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 ADIT6-DU04A-SON02MI-22DEC (580-120929-1), ADIT6-DU04B-SON02MI-22DEC (580-120929-2), ADIT6-IDW-SON02MI-22DEC (580-120929-3), ADIT6-IDW-SOFD02MI-22DEC (580-120929-4) and ADIT6-IDW-SOFT02MI-22DEC (580-120929-5) were analyzed for glycols in accordance with EPA SW-846 Method 8015C DAI. The samples were leached on 12/15/2022 and analyzed on 12/15/2022 and 12/16/2022.

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

PERCENT SOLIDS

Samples ADIT6-DU04A-SON02MI-22DEC (580-120929-1), ADIT6-DU04B-SON02MI-22DEC (580-120929-2), ADIT6-IDW-SON02MI-22DEC (580-120929-3), ADIT6-IDW-SOFD02MI-22DEC (580-120929-4) and ADIT6-IDW-SOFT02MI-22DEC (580-120929-5) were analyzed for percent solids in accordance with ASTM D2216. The samples were analyzed on 12/13/2022.

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

Definitions/Glossary

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

Job ID: 580-120929-1

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Qualifiers

GC Semi VOA

Qualifier	Qualifier Description
М	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.
¤	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

Job ID: 580-120929-1

Matrix: Solid

Lab Sample ID: 580-120929-1

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

Client Sample ID: ADIT6-DU04A-SON02MI-22DEC Date Collected: 12/03/22 13:00 Date Received: 12/07/22 09:45

General Chemistry Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture (EPA Moisture)	19.2		0.01	0.01	%			12/13/22 07:53	1
Percent Solids (EPA Moisture)	80.8		0.01	0.01	%			12/13/22 07:53	1

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Job ID: 580-120929-1

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

Client Sample ID: ADIT6-DU04A-SON02MI-22DEC Lab Sample ID: 580-120929-1 Date Collected: 12/03/22 13:00 Matrix: Solid Date Received: 12/07/22 09:45 Percent Solids: 80.8 Method: SW846 8015C GLY - Glycols- Direct Injection (GC/FID) - Soluble Analyte Result Qualifier LOQ DL Unit D Prepared Analyzed Dil Fac ☆ 2-(2-Butoxyethoxy)ethanol 1.9 UM 6.3 0.78 mg/Kg 12/15/22 22:09 1

Job ID: 580-120929-1

Matrix: Solid

Lab Sample ID: 580-120929-2

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

Client Sample ID: ADIT6-DU04B-SON02MI-22DEC Date Collected: 12/03/22 13:00 Date Received: 12/07/22 09:45

General Chemistry										
Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac	5
Percent Moisture (EPA Moisture)	17.3		0.01	0.01	%			12/13/22 07:53	1	
Percent Solids (EPA Moisture)	82.7		0.01	0.01	%			12/13/22 07:53	1	6

Job ID: 580-120929-1

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

Client Sample ID: ADIT6-DU04B-SON02MI-22DEC Lab Sample ID: 580-120929-2 Date Collected: 12/03/22 13:00 Matrix: Solid Date Received: 12/07/22 09:45 Percent Solids: 82.7 Method: SW846 8015C GLY - Glycols- Direct Injection (GC/FID) - Soluble Analyte Result Qualifier LOQ DL Unit D Prepared Analyzed Dil Fac ☆ 2-(2-Butoxyethoxy)ethanol 1.8 U 6.0 0.75 mg/Kg 12/15/22 22:31 1

Job ID: 580-120929-1

Matrix: Solid

Lab Sample ID: 580-120929-3

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

Client Sample ID: ADIT6-IDW-SON02MI-22DEC Date Collected: 12/03/22 12:25 Date Received: 12/07/22 09:45

General Chemistry Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac	l
Percent Moisture (EPA Moisture)	15.8		0.01	0.01	%			12/13/22 07:53	1	
Percent Solids (EPA Moisture)	84.2		0.01	0.01	%			12/13/22 07:53	1	

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Job ID: 580-120929-1

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Dil Fac

1

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

Client Sample ID: ADIT6-IDW-SON02MI-22DEC Lab Sample ID: 580-120929-3 Date Collected: 12/03/22 12:25 Matrix: Solid Date Received: 12/07/22 09:45 Percent Solids: 84.2 Method: SW846 8015C GLY - Glycols- Direct Injection (GC/FID) - Soluble Analyte Result Qualifier LOQ DL Unit D Prepared Analyzed 1.7 UM 5.7 0.71 mg/Kg ☆ 2-(2-Butoxyethoxy)ethanol 12/15/22 22:54

Job ID: 580-120929-1

Matrix: Solid

Lab Sample ID: 580-120929-4

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

Client Sample ID: ADIT6-IDW-SOFD02MI-22DEC Date Collected: 12/03/22 12:25 Date Received: 12/07/22 09:45

General Chemistry Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture (EPA Moisture)	16.2		0.01	0.01	%			12/13/22 07:53	1
Percent Solids (EPA Moisture)	83.8		0.01	0.01	%			12/13/22 07:53	1

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Job ID: 580-120929-1

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

Lab Sample ID: 580-120929-4 Client Sample ID: ADIT6-IDW-SOFD02MI-22DEC Date Collected: 12/03/22 12:25 Matrix: Solid Date Received: 12/07/22 09:45 Percent Solids: 83.8 Method: SW846 8015C GLY - Glycols- Direct Injection (GC/FID) - Soluble Analyte Result Qualifier LOQ DL Unit D Prepared Analyzed Dil Fac ☆ 2-(2-Butoxyethoxy)ethanol 1.8 U 6.0 0.75 mg/Kg 12/15/22 23:17 1

Job ID: 580-120929-1

Matrix: Solid

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Lab Sample ID: 580-120929-5

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

Client Sample ID: ADIT6-IDW-SOFT02MI-22DEC Date Collected: 12/03/22 12:25 Date Received: 12/07/22 09:45

General Chemistry Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac	
Percent Moisture (EPA Moisture)	14.8		0.01	0.01	%			12/13/22 07:53	1	
Percent Solids (EPA Moisture)	85.2		0.01	0.01	%			12/13/22 07:53	1	

Job ID: 580-120929-1

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

Lab Sample ID: 580-120929-5 Client Sample ID: ADIT6-IDW-SOFT02MI-22DEC Date Collected: 12/03/22 12:25 Matrix: Solid Date Received: 12/07/22 09:45 Percent Solids: 85.2 Method: SW846 8015C GLY - Glycols- Direct Injection (GC/FID) - Soluble Analyte Result Qualifier LOQ DL Unit D Prepared Analyzed Dil Fac ☆ 2-(2-Butoxyethoxy)ethanol 1.6 U 5.5 0.68 mg/Kg 12/16/22 22:46 1

QC Sample Results

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

Job ID: 580-120929-1

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

Lab Sample ID: MB 680-75	5329/1-A								Clie	ent San	nple ID: M		
Matrix: Solid											Prep T	ype: So	oluble
Analysis Batch: 755296													
		MB I											
Analyte	Re		Qualifier		LOQ		DL Unit		<u>D</u> P	repared	Analy		Dil Fac
2-(2-Butoxyethoxy)ethanol		1.5 l	U		4.9		0.61 mg/K	g			12/15/22	19:53	1
Lab Sample ID: LCS 680-75 Matrix: Solid	55329/2-A							Clie	ent Sa	mple ID	: Lab Cor Prep T		
Analysis Batch: 755296													
-				Spike		LCS	LCS				%Rec		
Analyte				Added		Result	Qualifier	Unit	D	%Rec	Limits		
2-(2-Butoxyethoxy)ethanol				19.2		19.1		mg/Kg		100	50 - 150		
Lab Sample ID: LCSD 680-	755329/3-A						c	lient S	ample	ID: Lat	o Control	Sample	e Dup
Matrix: Solid											Prep T	ype: So	oluble
Analysis Batch: 755296													
				Spike		LCSD	LCSD				%Rec		RPD
Analyte				Added		Result	Qualifier	Unit	D	%Rec	Limits	RPD	Limit
2-(2-Butoxyethoxy)ethanol				19.8		20.6		mg/Kg		104	50 - 150	7	50
Lab Sample ID: 580-120929	9-5 MS						Client	Sampl	e ID: A	ADIT6-II	DW-SOFT	02MI-2	2DEC
Matrix: Solid											Prep T	ype: So	oluble
Analysis Batch: 755296													
	Sample	Samp	ble	Spike		MS	MS				%Rec		
Analyte	Result	Quali	fier	Added		Result	Qualifier	Unit	D	%Rec	Limits		
2-(2-Butoxyethoxy)ethanol	1.6	UΜ		11.5		9.93		mg/Kg	¢	86	50 - 150		
Lab Sample ID: 580-120929	9-5 MSD						Client	Sampl	e ID: /	DIT6-II	DW-SOFT	02MI-2	2DFC
Matrix: Solid									•		Prep T		
												ype. ot	eiduid
Analysis Batch: 755296	0	•	. 1.	0			MOD					ype. Ot	
	Sample	•		Spike		-	MSD	11 14			%Rec		RPD
Analyte	Result	Quali		Spike Added		-	MSD Qualifier	Unit mg/Kg	D	%Rec 123		$\frac{\text{RPD}}{\frac{34}{34}}$	
Analyte 2-(2-Butoxyethoxy)ethanol	Result	•		Added		Result	Qualifier	mg/Kg	[‡]	123	%Rec Limits 50 - 150	RPD 34	RPD Limit
Analyte 2-(2-Butoxyethoxy)ethanol Lab Sample ID: 580-12092	Result	Quali		Added		Result	Qualifier	mg/Kg	[‡]	123	%Rec Limits 50 - 150	RPD 34 02MI-2	RPD Limit 50 2DEC
Analyte 2-(2-Butoxyethoxy)ethanol Lab Sample ID: 580-12092 Matrix: Solid	Result	Quali		Added		Result	Qualifier	mg/Kg	[‡]	123	%Rec Limits 50 - 150	RPD 34 02MI-2	RPD Limit 50 2DEC
Analyte 2-(2-Butoxyethoxy)ethanol Lab Sample ID: 580-12092	Result 1.6 9-5 DU	Quali U M	fier	Added		Result 14.0	Qualifier Client	mg/Kg	[‡]	123	%Rec Limits 50 - 150	RPD 34 02MI-2	RPD Limit 50 2DEC bluble
Analyte 2-(2-Butoxyethoxy)ethanol Lab Sample ID: 580-120929 Matrix: Solid Analysis Batch: 755296	Result 1.6 9-5 DU Sample	Quali U M	fier	Added		Result 14.0	Qualifier Client DU	mg/Kg	e ID: #	123	%Rec Limits 50 - 150	<u>RPD</u> 34 02MI-2 ype: Sc	RPD Limit 50 2DEC Duble RPD
Analyte 2-(2-Butoxyethoxy)ethanol Lab Sample ID: 580-12092 Matrix: Solid	Result 1.6 9-5 DU Sample Result	Quali U M	fier	Added		Result 14.0 DU Result	Qualifier Client	mg/Kg	[‡]	123	%Rec Limits 50 - 150	RPD 34 02MI-2	RPD Limit 50 2DEC bluble
Analyte 2-(2-Butoxyethoxy)ethanol Lab Sample ID: 580-120929 Matrix: Solid Analysis Batch: 755296 Analyte 2-(2-Butoxyethoxy)ethanol	Result 1.6 9-5 DU Sample Result 1.6	Quali U M Samp Quali	fier	Added		Result 14.0 DU Result	Qualifier Client DU Qualifier U M	mg/Kg Sampl Unit mg/Kg	e ID: 4	123	%Rec Limits 50 - 150 DW-SOFT Prep Ty	<u>RPD</u> 34 02MI-2 ype: Sc <u>RPD</u> NC	RPD Limit 50 2DEC Dluble RPD Limit
Analyte 2-(2-Butoxyethoxy)ethanol Lab Sample ID: 580-120929 Matrix: Solid Analysis Batch: 755296 Analyte	Result 1.6 9-5 DU Sample Result 1.6	Quali U M Samp Quali	fier	Added		Result 14.0 DU Result	Qualifier Client DU Qualifier U M	mg/Kg Sampl Unit mg/Kg	e ID: 4	123	%Rec Limits 50 - 150	RPD 34 02MI-2: ype: So	RPD Limit 50 2DEC Dluble RPD Limit
Analyte 2-(2-Butoxyethoxy)ethanol Lab Sample ID: 580-120929 Matrix: Solid Analysis Batch: 755296 Analyte 2-(2-Butoxyethoxy)ethanol Lab Sample ID: 580-120929	Result 1.6 9-5 DU Sample Result 1.6 9-5 TRL	Quali U M Samp Quali U M	fier	Added		Result 14.0 DU Result 1.7	Qualifier Client DU Qualifier U M Client	mg/Kg Sampl Unit mg/Kg	e ID: 4	123	%Rec Limits 50 - 150 DW-SOFT Prep Ty	RPD 34 02MI-2: ype: So	RPD Limit 50 2DEC Dluble RPD Limit
Analyte 2-(2-Butoxyethoxy)ethanol Lab Sample ID: 580-120929 Matrix: Solid Analysis Batch: 755296 Analyte 2-(2-Butoxyethoxy)ethanol Lab Sample ID: 580-120929 Matrix: Solid Analysis Batch: 755296	Result 1.6 9-5 DU Sample Result 1.6 9-5 TRL Sample	Quali U M Samp Quali U M Samp	fier	Added		Result 14.0 DU Result 1.7	Qualifier Client DU Qualifier U M Client	mg/Kg Sampl Unit mg/Kg Sampl	e ID: 4	123	%Rec Limits 50 - 150 DW-SOFT Prep Ty	RPD 34 02MI-2: ype: So RPD NC 02MI-2: ype: So	RPD Limit 50 2DEC Dluble RPD Limit 2DEC Dluble RSD
Analyte 2-(2-Butoxyethoxy)ethanol Lab Sample ID: 580-12092 Matrix: Solid Analysis Batch: 755296 Analyte 2-(2-Butoxyethoxy)ethanol Lab Sample ID: 580-12092 Matrix: Solid	Result 1.6 9-5 DU Sample Result 1.6 9-5 TRL Sample Result	Quali U M Samp Quali U M Samp	fier	Added		Result 14.0 DU Result 1.7 TRL Result	Qualifier Client DU Qualifier U M Client	mg/Kg Sampl Unit mg/Kg	e ID: 4	123	%Rec Limits 50 - 150 DW-SOFT Prep Ty	RPD 34 02MI-2: ype: So	RPD Limit 50 2DEC Dluble RPD Limit 2DEC Dluble

,		- Assessment Sa							
Client Samp Date Collecter Date Received	d: 12/03/22 1		ON02MI-	22DEC			Lab	Sample ID:	580-120929- Matrix: Soli
_	Batch	Batch		Dilution	Batch			Prepared	
Prep Type	Type	Method	Run	Factor	Number	Analyst	Lab	or Analyzed	
Total/NA	Analysis	Moisture			754793		EET SAV	12/13/22 07:53	
Client Sam	ole ID: AD	T6-DU04A-S	ON02MI-	22DEC			Lab	Sample ID:	580-120929-
Date Collecte								Porc	Matrix: Soli ent Solids: 80.
									ent Jonus. 00.
	Batch	Batch	_	Dilution	Batch			Prepared	
Prep Type	Туре	Method	Run	Factor		Analyst	Lab	or Analyzed	
Soluble	Leach	DI Leach			755329		EET SAV	12/15/22 14:53	
Soluble	Analysis	8015C GLY		1	755296	JCK	EET SAV	12/15/22 22:09	
		T6-DU04B-S	ON02MI-	22DEC			Lab	Sample ID:	
Date Collecte									Matrix: Soli
-				Dilution	Batch			Bronerad	
D	Batch	Batch				A	1	Prepared	
Prep Type	Type	Method	Run	_ Factor _		Analyst		or Analyzed 12/13/22 07:53	
Total/NA	Analysis	Moisture		1	754793	WRB	EET SAV	12/13/22 07:55	
Client Sam	ole ID: AD	T6-DU04B-S	ON02MI-	22DEC			Lab	Sample ID:	580-120929-
Date Collecte	d: 12/03/22 1	3:00							Matrix: Soli
Date Received	d: 12/07/22 0	9:45						Perc	ent Solids: 82
-	Batch	Batch		Dilution	Batch			Prepared	
Prep Type	Туре	Method	Run	Factor	Number	Analyst	Lab	or Analyzed	
Soluble	Leach	DI Leach			755329		EET SAV	12/15/22 14:53	
Soluble	Analysis	8015C GLY		1	755296		EET SAV	12/15/22 22:31	
Client Sam	ole ID: AD	T6-IDW-SON	02MI-22[DEC			Lab	Sample ID:	580-120929-
Date Collecte									Matrix: Soli
Date Received	a: 12/07/22 0	9:45							
	Batch	Batch		Dilution	Batch			Prepared	
Prep Туре	Туре	Method	Run	Factor		Analyst	Lab	or Analyzed	
Total/NA	Analysis	Moisture		1	754793	WRB	EET SAV	12/13/22 07:53	
Client Sam	ole ID: AD	T6-IDW-SON	02MI-22I	DEC			Lab	Sample ID:	580-120929-
Date Collecte	d: 12/03/22 1	2:25							Matrix: Sol
Date Received	d: 12/07/22 0	9:45						Perc	ent Solids: 84
-	Batch	Batch		Dilution	Batch			Prepared	
Prep Туре	Туре	Method	Run	Factor	Number	Analyst	Lab	or Analyzed	
Soluble	Leach	DI Leach			755329	GEM	EET SAV	12/15/22 14:53	
Soluble	Analysis	8015C GLY		1	755296	JCK	EET SAV	12/15/22 22:54	
Client Sam	ole ID: AD	T6-IDW-SOF	D02MI-22	2DEC			Lab	Sample ID:	580-120929-
Date Collecte	d: 12/03/22 1	2:25						-	Matrix: Sol
Date Received									
-	Batch	Batch		Dilution	Batch			Prepared	
Prep Type	Туре	Method	Run	Factor	Number	Analyst	Lab	or Analyzed	

Lab Chronicle

Client: AECOM

Total/NA

Analysis

Moisture

1

754793 WRB

EET SAV

12/13/22 07:53

12/31/2022

Lab Chronicle

Client Sam	ple ID: ADI	T6-IDW-SOF	D02MI-22	2DEC			Lab	Sample ID:	580-120929-4
Date Collecte Date Receive								Perc	Matrix: Solid cent Solids: 83.8
_	Batch	Batch		Dilution	Batch			Prepared	
Prep Type	Туре	Method	Run	Factor	Number	Analyst	Lab	or Analyzed	
Soluble	Leach	DI Leach			755329	GEM	EET SAV	12/15/22 14:53	
Soluble	A			1	755296		EET SAV	12/15/22 23:17	
Soluble	Analysis	8015C GLY		I	755296	JCK	EET SAV	12/13/22 23.11	
_		T6-IDW-SOF	T02MI-22	2DEC	755290	JUK			580-120929-5
_	ple ID: ADI d: 12/03/22 1	T6-IDW-SOF 2:25	T02MI-22	2DEC	735296	JUK			580-120929-5 Matrix: Solid
– Client Sam Date Collecte	ple ID: ADI d: 12/03/22 1	T6-IDW-SOF 2:25	T02MI-22	2DEC Dilution	Batch				
– Client Sam Date Collecte	ple ID: ADI d: 12/03/22 1 d: 12/07/22 0	T6-IDW-SOF 2:25 9:45	T02MI-22		Batch	Analyst	Lab	Sample ID:	
– Client Sam Date Collecte Date Receive –	ple ID: ADI d: 12/03/22 1 d: 12/07/22 0 Batch	T6-IDW-SOF 2:25 9:45 Batch		Dilution	Batch	Analyst	Lab	Sample ID: Prepared	
Client Sam Date Collecte Date Receive Prep Type Total/NA	ple ID: ADI d: 12/03/22 1 d: 12/07/22 0 Batch Type Analysis	T6-IDW-SOF 2:25 9:45 Batch Method Moisture	Run	Dilution Factor 1	Batch Number	Analyst	Lab EET SAV	Prepared or Analyzed 12/13/22 07:53	Matrix: Solid
Client Sam Date Collecte Date Receive Prep Type Total/NA	ple ID: ADI d: 12/03/22 1 d: 12/07/22 0 Batch <u>Type</u> Analysis ple ID: ADI	T6-IDW-SOF 2:25 9:45 Batch Method Moisture T6-IDW-SOF	Run	Dilution Factor 1	Batch Number	Analyst	Lab EET SAV	Prepared or Analyzed 12/13/22 07:53	

	Batch	Batch		Dilution	Batch			Prepared
Prep Type	Туре	Method	Run	Factor	Number	Analyst	Lab	or Analyzed
Soluble	Leach	DI Leach			755329	GEM	EET SAV	12/15/22 14:53
Soluble	Analysis	8015C GLY		1	755535	JCK	EET SAV	12/16/22 22:46

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

Laboratory: Eurofins Savannah

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

Authority	rity Program		Identification Number	Expiration Date
ANAB		Dept. of Defense ELAP	L2463	09-22-24
The following analyte the agency does not o		eport, but the laboratory is n	ot certified by the governing authority.	This list may include analytes for which
Analysis Method	Prep Method	Matrix	Analyte	
8015C GLY		Solid	2-(2-Butoxyethoxy)ethanol	
Moisture		Solid	Percent Moisture	
Moisture		Solid	Percent Solids	

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

Job ID: 580-120929-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
580-120929-1	ADIT6-DU04A-SON02MI-22DEC	Solid	12/03/22 13:00	12/07/22 09:45
580-120929-2	ADIT6-DU04B-SON02MI-22DEC	Solid	12/03/22 13:00	12/07/22 09:45
580-120929-3	ADIT6-IDW-SON02MI-22DEC	Solid	12/03/22 12:25	12/07/22 09:45
580-120929-4	ADIT6-IDW-SOFD02MI-22DEC	Solid	12/03/22 12:25	12/07/22 09:45
580-120929-5	ADIT6-IDW-SOFT02MI-22DEC	Solid	12/03/22 12:25	12/07/22 09:45

Marrix Marrix Nonconstruction Nonconstruction Non	Matson Taniy 7 Phone 509-554-087	Due Date Requested:	Address Totol Bishop St. Suite 1600 Tot Bishop St. Suite 1600 Tot Requested (days): Honolulu Honolulu Rush - ASAP	State. Zip: Hawali 96813	000e 008-954-4512	WO #	Watson Tanji (watson tanji waecom com)	Project Name: NL274223F0104 60697810		Sample Date Trype Sample Oate Time Gegrab	Presen	ADIT6-DU04A-SON02MI-22DEC 12-3-7-1300 507	ADIT6-DU04B-SON02MI-22DEC	ADIT6-IDW-SON02MI-22DEC P225	ADIT6-IDW-SOFD02MI-22DEC	ADIT6-IDW-SOFT02MI-22DEC						ant Polison B Unknown Prelim data (Level 1or2)	ation mmable Skin Irritant Pois I, III, IV, Other (specify)	ation Skin Imtant Pois	ant Pois
Sted	M.Elaine.W	00)					Matrix (W=water S=stold Oowwatefol BT=Tissue, AuAir) Field	tion Code:	_			_			66/9/01	0	-	_	uls EDD. Time:	Company	Company	AC CONT
By Lab Arch Arch Arch Arch Arch Arch Arch Arch	M. Elaine.Walker@EurofinsET.com Hawaii Analysis Requested	Analysis Requested	ιγεthoxγ) -	tory				2	GL.			×	×	×	×	×				mple Disposal (A fee may be assessed	Requirements	Meth	1	T	Received by
A HCL N. Nene B NACH CASS C Zr Acente B NACH N. Nene B NACH N. Nene D Nite Acid C Zr Acente B Nach N. Nene D Nite Acid E Nach N. Nene B Nach D Nach F Nach N. Service H Nach N. Service Nite For Nach Company Company	Page 1 of 1 Job #	Preservation Codes:	A - HCL B - NaOH C - Zh Acetate D - Nitic Acid	E - NaHSO4 F - MeOH	G - Amchior H - Ascorbic Acid		12.110	7	f co Other:					-	-	I LELD	potentiall			d if samples are retained longer that By Lab Archive For	project.		Date Time 22 1400	DaterTime	Date/Time

Eurofins FGS, Seattle 5755 8th Street East	01										🔅 eurof	ns
Tacoma, WA 98424	Chai	n of Custor	зу нес	cord								Environment Testin America
	Samplert .		Lab PM:					and the state	a Na(a)		IOOC No.	
Client Information	Mitch B	Phone 509-554-0878 Miles					F	arrier Trackin edEx			COC No: 22(2W)	EU-02
Client Contact. Watson Tanije	Phone 509-554							ate of Origin. awaii			Page: Page 1 of 1	
ompany AECOM		PWSID				Analysi	. Dogu	acted		• •	Job #	
iddress.	Due Date Requested:	I				Analysi	s nequ	esteu	1		Preservation	Codes:
1001 Bishop St. Suite 1600 Sity:	TAT Requested (days):			12							A - HCL	M - Hexane
tonolulu State, Zip:		h - ASAP		Ē							8 - NaOH C - Zn Acetale	N - None O - AsNaO2
tana: 202 tawaii 96813	Compliance Project:	res \ No		100					И		D - Nitric Acid E - NaHSO4	P - Na2O4S Q - Na2SO3
808-954-4512	PO #			P							F - MeOH G - Amchlor	R - Na2S2O3 S - H2SO4
mail Vatson Tanji (walson.tanji@aecom.com)	WC #		or No	y 2-(2-butosyethoxy)				\mathcal{M}			H - Ascorbic Aci	U - Acetone
roject Name.	Project #:			ž 😽			AV	×		20	J - DJ Water K - EDTA L - EDA	V - MCAA W - pH 4-5 Z - other (specify)
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Eurofins FGS, Seattle

12/31/2022

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Login Sample Receipt Checklist

Client: AECOM

Login Number: 120929 List Number: 1 Creator: Presley, Kim A

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

Job Number: 580-120929-1

List Source: Eurofins Seattle

Login Sample Receipt Checklist

Client: AECOM

Login Number: 120929 List Number: 2 Creator: Givens, Keshia

Question	Answer	Comment
Radioactivity wasn't checked or is = background as measured by a survey meter.</td <td>N/A</td> <td></td>	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?	N/A	
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	

Job Number: 580-120929-1

List Source: Eurofins Savannah

List Creation: 12/10/22 12:53 PM