

FIELD EQUIPMENT VERIFICATION PRE and POST at Weekly Sampling

Session No:	Verifiers (pre-sampling):	Pre Date:	Pre Time:	Verifiers (post-sampling):	Post Date:	Post Time:
SM 102 FR 1	M. Sharpe, L. Yannell	8/28/23	11:15 AM	m. sharpe, Y. St-Louis	08/31/2023	0930

QA Check	Inst #	Probe #	Last Cal Date		PRE: Verification Value		POST: Verification Value		Acceptable Range	Comments/ Notes	QA ?
Temperature	NIST		NIST Exp. Date	Std Val	NIST	NIST	NIST	NIST	± 0.6 °C of NIST	Compare to NIST Std value in tap water	
	2	8	6/28/24		32.3 °C	32.2 °C	31.1 °C	31.1 °C			
	4 32	7	6/28/24			32.2		31.0			
Salinity	Meter #	Probe #	3 months	Std Val	Tap water	Saline Std 8/7/23 date 33.7 ppt	Tap water	Saline Std 8/7/23 date 33.7 ppt	± 1 ppt	Tap water – compare pre & post Values Salinity Std – compare to value on Salinity Std bottle	
	3	7	8/7/23		0.13	34.0	0.18	34.2			
	4 24	8	8/7/23		0.17	33.5	0.18	33.7			
Dissolved Oxygen	Meter #	Probe #	1 year	Std Val	100%		100%		± 5 %		
	4	4	17 July 2023		102.2		103.6				
	3	3	17 July 2023		88		101.7			Probe reads low % Tested 2 x	
pH	Meter #	Probe #	3 weeks	Std Val	pH 7.00	pH 10.00	pH 7.00	pH 10.00	± 0.1 pH of pH std value	Compare to Manufacturer pH Std Value on bottle	
	4	6	08/28/23		7.00	10.01	7.00	10.00		probes #4 recalibrated	
	3	5	08/28/23		7.00	10.01	7.01	10.01		on 8/30/23 because they read low	
Turbidity	Meter #	Probe #	3 months	Std Val	blank <0.1	Low 1-10 NTU	blank <0.1	Low 1-10 NTU	+ 0.18 NTU Low 1-10	in field 2x. Just out of caution Compare to Gel LOW 1-10 Std Calibration Value	
	2		8/7/23		0.04	6.37	0.05	6.34	56.4	Low Std = 6.31 Spare Blank Pre = 0.05	
	5		8/7/23		0.06	6.53	0.06	6.43	58.3	Low Std = 6.54 Spare Blank Pre = 0.05	

NMS lab

Sample Collection Worksheet

Team	WM Fire Response	Samplers (Last Name, 1st Initial) Yanell, L Gund, M Gund, K Floyd, M Bieser, S.	Meters and Probes ID	
Session	1		HQ2200: SM 3	2100Q: SM 5
Date	08/29/2023		pH: SM 75 ^{mg}	DO: SM 3

Location Name Sample ID	Fresh water Flowing (Y/N)	Time (of collection)	Temp (°C) variable	Salinity (ppt) 30-35 normal	Dissolved Oxygen		pH 8-8.3 normal	Turbidity (NTU)			People (within 100 ft)		
					(mg/L) 5.2-7.0 normal	(%) 85-105 normal					water	beach	camp
Canoe Beach RCB230829	N	8:30 am	26.5 26.6 26.2 mg	35.3	6.77	101.7	8.15	3.21	3.34	5.09 mg 3.29	0	2	0
Wahikuli RWA230829	N	9:04 am	26.8	35.0	6.73	101.4	8.18	3.55	3.77	4.45 mg 3.79	0	0	0
Camp Olowalu OCO230829	N	9:45 am	27.0	36.0	6.58	100.1	8.05	11.4 12.8 mg	13.5	13.1	0	0	0
Mile Marker 14 OMM230829	N	10:04 am	27.2	35.9	6.42	97.9	8.04	3.24	7.74 2.92	3.05	0	0	0
									xy				

NOTES AND COMMENTS (trends, equipment problems, errors, concerns).
Use the back of the form if needed.

RCB: Water a bit brown, lifeguards on ATVs
Sand in samples, light breeze, 1-2 ft surf
4th turbidity taken
RWA: more churned up than normal, 1-2 ft surf
4th turbidity taken
OCO: slight brown water, 1' surf; 4th turbidity taken
OMM: calm, clear, 4th turb. 2.92

RCB: Read the temperatures at first site 2x
and they seemed to stabilize then
1st temp read = DO: 26.2 SAL: 26.6 PH: 26.5

TURBIDITY VERIFICATION & PROBE TEMPERATURES

	Blank (must be <0.10)	Low (+/- 0.18)	Med (+/- 1.80)	High (+/- 18)
Turbidity Standard	0.06	6.54	58.4	605
Field - Pre-sample	0.05	6.51	58.7	606
Lab - Post sample	0.05	6.59	58.3	605
Probes (+/- 0.2 °C)	D.O	Salinity	pH	Notes
Verify Probe Temps	26.3	26.5	26.5	1st DO Temp Read = 26.2

CHAIN OF CUSTODY INFORMATION

	# of samples	Relinquished to	Contact
Nutrients	4	NMS	Liz Yannell

Signature (Team Lead):

Liz Yanell

Printed Name:

Liz Yannell

Sites with potential for freshwater flow: Canoe Beach

Last updated April 2023

Team	WM Fire Response	Samplers (Last Name, 1st Initial)	Yannell, L. Gund, M. Gund, K. Floyd, M. Bieser, S.
Session	1		
Date	08/29/2023		

Sample ID	Location Name	Sample taken?	Duplicate sample?	Time	Volume	Protocol Notes	Comments
Nutrients							
RCB230829-N-1	Canoe Beach	<input checked="" type="checkbox"/>	<input type="checkbox"/>	8:30	125 ml	Washed, rinsed syringes; acid washed bottles; 0.2 um disposable filters	
RWA230829-N-1	Wahikuli	<input checked="" type="checkbox"/>	<input type="checkbox"/>	9:04	125 ml	Washed, rinsed syringes; acid washed bottles; 0.2 um disposable filters	
OCO230829-N-1	Camp Olowalu	<input checked="" type="checkbox"/>	<input type="checkbox"/>	9:45	125 ml	Washed, rinsed syringes; acid washed bottles; 0.2 um disposable filters	
OMM230829-N-1	Mile Marker 14	<input checked="" type="checkbox"/>	<input type="checkbox"/>	10:04	125 ml	Washed, rinsed syringes; acid washed bottles; 0.2 um disposable filters	

Sediments							
ENT	For BWTF	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Taken at RCB, RWA, OCO, OMM			500 ml
VOC + SVOC	For UH Manta WREC	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Taken at RWA @ 9:04 am - Attempted to add 1,000 µl/lml to sample			500 ml
		<input type="checkbox"/>	<input type="checkbox"/>				500 ml
		<input type="checkbox"/>	<input type="checkbox"/>				500 ml

Signature (Team Lead):	Printed Name:
Liz Yannell	Liz Yannell

Water Sample Collection Data Sheet

Team	Lahaina Town Fire Response	Samplers (Last Name, 1st Initial) L. Yannell T. Callender R. Sparks (DAR)	Meters and Probes ID	
Session	1		HQ2200: SM 3	2100Q: SM 5
Date	08/30/2023		pH: SM 15 ⁴⁸	DO: SM 3 Salinity: SM 7

Location Name Sample ID	Fresh water Flowing (Y/N)	Time (of collection)	Temp (°C) variable	Salinity (ppt) 30-35 normal	Dissolved Oxygen		pH 8-8.3 normal	Turbidity (NTU)			People (within 100 ft)		
					(mg/L) 5.2-7.0 normal	(%) 85-105 normal					water	beach	camp
505 Front St PFF230830	N	10:40	29.4	36.1	7.22	115.7	8.10	1.77	2.16	1.75	0	0	0
Lindsey Hale PLH230830	N	11:45a	30.5	35.7	6.74	109.7	8.10	8.12	8.44	8.71	0	0	0
Lahaina Town PLT230830	N	12:25p	31.9	35.9	6.70	111.3	8.11	9.59	12.2	9.99	0	0	0
Mala Tavern (storm drain outfall)	N	7:34a	26.3	35.7	6.69	100.2	8.06	1.89	2.03	^{1.98} 2.43	0	0	0
Mala Ramp (Kahuna Stream)	Y	8:23a	25.8	24.2	7.10	99.4	8.20	5.28 ^{6.10}	8.26	7.17	0	0	0
Papalaua St. (storm drain)	N	9:08a	26.9	35.2	6.63	100.4	8.11	4.21	5.47	5.04	0	0	0
Lahaina Harbor 230830	N	9:50	29.3	35.7	5.82	92.0	8.07	1.71	2.38	1.43	0	0	0

LMT
LMR
LPS
LH

NOTES AND COMMENTS (trends, equipment problems, errors, concerns).

Use the back of the form if needed.

Mala - Read DO 2x for temp; awful smell from garbage bins; immediate area next to sample site isn't burned but mauka is; 4th turbidity
Mala Ramp - Lots of ash in samples; stream flow is steady; light breeze; DO temp/sal temp is spot on
Papalaua - ash in storm drains - surrounded by burn areas
Harbor - burn all around area; lots of ash in sample.
- Each probe measures made after filtered bc of oil contamination

TURBIDITY VERIFICATION & PROBE TEMPERATURES

	Blank (must be <0.10)	Low (+/- 0.18)	Med (+/- 1.80)	High (+/- 18)
Turbidity Standard	0.06	6.54	58.4	605
Field - Pre-Sample	0.06	6.48	58.3	605
Lab - Post Sample	0.06	6.52	58.7	604
Probes (+/- 0.2 °C)	D.O	Salinity	pH	Notes
Verify Probe Temps	^{26.1} 26.0	26.3	26.2	SPARE Turbidity Post
CHAIN OF CUSTODY	# of Samples	Relinquish to	Contact	
Nutrients	7	NMS	Liz Yannell	
Signature (Team Lead):	Liz Yannell	Print:	Liz Yannell	

Sites with potential for freshwater flow: 505 Front St

for turbidity, using spare vial - 0.19; ^{0.05}~~0.05~~ (did not filter turbidity samples before testing)
blank spare reading in field. Read 0.05 NTU at post verification in lab.

More notes on back of sheet

Last updated April 2023

PFF - burned area all around ~~to~~^{LY} except for SOS front ~~so~~ white building (photo taken). Water looked surprisingly clear. Foul water pooling in SOS Front St. parking structure. VOC/SVOC sample collected from parking structure.

PLH - area so burned, it was difficult to find site. Water brown. Hard to filter nutrient sample. Broke ~~bottle~~^{LY} nutrient bottle.

PLT - ~~the~~^{LY} large metal debris in the water when sampling. Water brown.

ENT samples taken for Surfrider @ PFF, PLH, + PLT

Team	Lahaina Town Fire Response	Samplers (Last Name, 1st Initial)	L. Yannell T. Callender R. Sparks
Session	1		
Date	8/29/2023 8/30/23		

Sample ID	Location Name	Sample taken?	Duplicate sample?	Time	Volume	Protocol Notes	Comments
Nutrients							
PFF 230830-N-1	SOS Front St.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	10:40 am	125 ml	Washed, rinsed syringes; acid washed bottles; 0.2 um disposable filters	
PLH 230830-N-1	Lindsey Hale	<input checked="" type="checkbox"/>	<input type="checkbox"/>	11:45 am	125 ml	Washed, rinsed syringes; acid washed bottles; 0.2 um disposable filters	
PLT 230830-N-1	Lahaina Town	<input checked="" type="checkbox"/>	<input type="checkbox"/>	12:25 pm	125 ml	Washed, rinsed syringes; acid washed bottles; 0.2 um disposable filters	near Kaula Stream outlet
LMT 230830-N-1	Mala Tavern	<input checked="" type="checkbox"/>	<input type="checkbox"/>	7:34 am	125 ml	Washed, rinsed syringes; acid washed bottles; 0.2 um disposable filters	storm drain outfall
LMR 230830-N-1	Mala Ramp	<input checked="" type="checkbox"/>	<input type="checkbox"/>	8:23 am	125 ml	Washed, rinsed syringes; acid washed bottles; 0.2 um disposable filters	next to stream outlet: Kaula Stream
LPS 230830-N-1	Papalaua St	<input checked="" type="checkbox"/>	<input type="checkbox"/>	9:08 am	125 ml	Washed, rinsed syringes; acid washed bottles; 0.2 um disposable filters	storm drain outfall
LH 230830-N-1	Lahaina Harbor	<input checked="" type="checkbox"/>	<input type="checkbox"/>	9:50 am	125 ml	Washed, rinsed syringes; acid washed bottles; 0.2 um disposable filters	oil slick on surface of sample
		<input checked="" type="checkbox"/> LY	<input type="checkbox"/>		125 ml	Washed, rinsed syringes; acid washed bottles; 0.2 um disposable filters	

Sediments — ENT samples							
8/30/23	10:40 am	<input checked="" type="checkbox"/>	<input type="checkbox"/>	PFF 230830	"SOS Front St"	500 ml	
8/30/23	11:45 am	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Lindsey PLH 230830	"Kaula Road"	500 ml	
8/30/23	12:25 am	<input checked="" type="checkbox"/>	<input type="checkbox"/>	PLT 230830	"Shark Pit"	500 ml	

Signature: L. Yannell Print: Liz Yannell

Team	Lahaina Town Fire Response	Samplers (Last Name, 1st Initial)	L. Yannell T. Callender R. Sparks
Session	1		
Date	8/30/2023		

filter sample included

Sample ID	Location Name	Sample taken?	Duplicate sample?	Time	Volume	Protocol Notes	Comments
Metal Samples							
Mala Tavern 230830	LMT230830-M-1	<input checked="" type="checkbox"/>	<input type="checkbox"/>	7:34 am	125 ml	Washed, rinsed syringes; acid washed bottles; 0.2 um disposable filters	Storm drain outfall
Mala Ramp 230830	LMR230830-M-1 LMR230830-M-2	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	8:23 am	125 ml	Washed, rinsed syringes; acid washed bottles; 0.2 um disposable filters	Next to Kahoma stream outlet.
Papalaua St. 230830	LPS230830-M-1 LPS230830-M-2	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	9:08 am	125 ml	Washed, rinsed syringes; acid washed bottles; 0.2 um disposable filters	Storm drain outfall
Lahaina Harbor 230830	LH230830-M-1 LH230830-M-2	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	9:50 am	125 ml	Washed, rinsed syringes; acid washed bottles; 0.2 um disposable filters	Oil slick on surface of sample
505 Front St 230830	PFF230830-M-1 PFF230830-M-2	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	10:40 am	125 ml	Washed, rinsed syringes; acid washed bottles; 0.2 um disposable filters	
Lindsey Hale 230830	PLH230830-M-1 PLH230830-M-2	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	11:45 am	125 ml	Washed, rinsed syringes; acid washed bottles; 0.2 um disposable filters	
Lahaina Town 230830	PLT230830-M-1	<input checked="" type="checkbox"/>	<input type="checkbox"/>	12:25 pm	125 ml	Washed, rinsed syringes; acid washed bottles; 0.2 um disposable filters	unfiltered sample. Near Kauaula Stream

VOC/SVOC Samples			Time		Date	
RWA230829-2	Wahikuli	<input checked="" type="checkbox"/>	225 ml HCl added to sample			
RWA230829-1	Wahikuli	<input checked="" type="checkbox"/>	<input type="checkbox"/>	~1 ml of HCl accidentally attempted to add to sample	40 ml	9:04 am 8/29/23
Papalaua 230830-1	Papalaua St	<input checked="" type="checkbox"/>	<input type="checkbox"/>		40 ml	9:08 am 8/30/23
Papalaua 230830-2	Papalaua St	<input checked="" type="checkbox"/>	<input type="checkbox"/>		40 ml	9:08 am 8/30/23
505 Front St Parking lot 230830-1	505 Front St Parking lot	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Bubble in sample	40 ml	10:40 am 8/30/23
505 Front St Parking lot 230830-2	" lot "	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Both samples taken from flooded parking structure @ 505 Front St.	40 ml	10:40 am 8/30/23

Lahaina Harbor 230830-1 ☒
 Lahaina Harbor 230830-2 ☒

stagnant water
 9:50 am 8/30/23
 9:50 am 8/30/23

Signature:

Liz Yannell

Print:

Liz Yannell

oil slick on top of water at sample site.