

Hui O Ka Wai Ola

FIELD EQUIPMENT VERIFICATION (PRE/POST A WEEKLY SAMPLING):

Session No:	Verifiers (pre-sampling):	Pre Date:	Pre Time:	Verifiers (post-sampling):	Post Date:	Post Time:
WM128 extfrs	Liz Yannell, Christiane Keyhani JESSICA ERWIN	10/12/23	10:00 AM	Liz Yannell, Christiane Keyhani J. Erwin	10/05/23	1:20 PM

QA/QC Check	Inst #	Probe #	Last Cal Date		PRE: Verification Value	POST: Verification Value	Acceptable Range	Comments/ Notes	QA?
Temperature	NIST 2	n/a	NIST Exp. Date	Std Val	NIST 30.1 °C	NIST 30.1 °C	NIST 30.1 °C	± 0.6 °C of NIST	Compare to NIST Std value in tap water
	4 8	6/28/24			30.0		30.0		
	3 7	6/28/24			30.0		30.0		
Salinity			3 months	Std Val	Tap water Salin Std 9/11/23 date 34.0 ppt	Tap water Salin Std 9/11/23 date 34.0 ppt	± 1 ppt	Tap water - compare pre & post values Salinity Std - compare to value on Salinity Std bottle	
	4 8	8/17/23			0.19	33.2	0.19	33.4	
	3 7	8/17/23			0.19	33.8	0.19	33.8	
Dissolved Oxygen			1 year	Std Val	100%	100%	± 5 %		
	4 4	07/17/23			104.0	105.3		Verified DO 2nd time for post = 105.1	
	3 3	07/17/23			102.0	100.0		Verified DO 2nd time for post = 100.0	
pH			3 weeks	Std Val	pH 7.00	pH 10.00	pH 7.00	± 0.1 pH of pH std value	Compare to Manufacturer pH Std value on bottle
	4 6	10/12/23			7.00	10.01	6.99	10.01	pH 7 + 10 exp 5/2024
	3 5	10/12/23			7.00	10.01	7.01	10.05	
Turbidity			3 months	Std Val	BLANK <0.1	LOW 1-10 6.31 NTU	BLANK <0.1	LOW 1-10 NTU	± 0.18 NTU Low 1-10
	2	n/a	8/7/23		0.07	6.36	0.05	6.36	Pre verification spare blank 0.08,
	5	n/a	8/7/23		0.05	6.49	0.05	6.52	pre verification spare blank 0.07, Post verification spare blank 0.05

- QA:
 * Are pre- and post within one week?
 * Delay times are ok?
 * Other equipment issues?

NMS Lab

Low std for ins#5 is 6.54
Low std for ins#2 is 6.31

0.05

Hui O Ke Kai - Sample Collection Data Sheet

Team	R2RS	Samplers (Last Name, 1st Initial)	<i>S. CK Bieser, S.; Floyd, M.; Keyhani, C.; Yannell, L.</i>	Meters and Probes ID			
Session	128			HQ2200: SM 4			
Date	10/03/2023			pH: SM 6	DO: SM 4	Salinity: SM 8	

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
Napili Bay RNS231003	N	8:22 am	26.3	35.1	6.81	101.3	8.05	0.65	0.96	0.80	0 0 0
Pohaku RPO231003	N	8:45 am	26.6	35.2	6.50	97.9	8.06	2.56	2.69	2.57	0 1 0
Kaanapali Shores RKS231003	N	9:13 am	26.6	35.2	6.39	96.6	8.04	1.81	1.81 ^{CK}	1.56	0 0 0
Kahekili Beach Two RKT231003	N	9:35 am	27.5	35.0	7.01	107.7	8.16	0.75	0.57	0.63	0 0 0
Canoe Beach RCB231003	N	10:03 am	27.7	35.5	6.82	105.0	8.14	2.47	2.83	2.86	0 0 0
Wahikuli RWA231003	N	10:22 am	27.8	35.2	6.82	104.9	8.17	1.83	1.86 ^{BB}	1.53	0 0 0

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

RNS - No wind. Clear water.

RPO - D.O. temp 26.5. There's a relief camp in the parking lot. Calm water / swell.

RKS - D.O. temp 26.6. Calm water. Sunny. Low Breeze. Took 4th turbidity reading.

RKT - 7.02 > DUPLICATE readings (DO)
107.8 (2nd D.O. reading) - 1st was out of range.

RCB - Clearer than usual. Breeze picking up.
0-1' shorebreak.

RWA - Wave action, 2' shore break. Took 4th turbidity reading

TURBIDITY VERIFICATION & PROBE TEMPERATURES

	Blank (must be <0.10)	Low (+/- 0.18)	Med (+/- 1.80)	High (+/- 18)
Turbidity Standard	0.07	6.31 ^{xy}	56.8	601
Field - Pre-sample	0.08	6.37	56.5	602
Lab - Post sample	0.05	6.36	56.6	601
Probes (+/- 0.2 °C)	Salinity	D.O.	pH	Notes
Verify Probe Temps	26.3	25.8	26.3	2nd DO at RPO

CHAIN OF CUSTODY INFORMATION

	# of samples	Relinquished to	Contact
Nutrients	6	NMS	Christiane

Signature (Team Lead):

Christiane Keyhani

Printed Name:

Christiane Keyhani

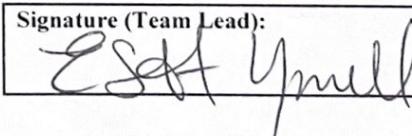
Sites with potential for freshwater flow: Ka'anapali Shores, Canoe Beach, Pohaku

Last updated April 1, 2023

Team	R2RS	Samplers (Last Name, 1st Initial)	Floyd, M.	Keyhani, C.
Session	128		Bieser, S.	
Date	10/03/2023		Yannell, L.	

Sample ID	Location Name	Sample taken?	Duplicate sample?	Time	Volume	Protocol Notes	Comments
Nutrients							
RNS231003-N-1	Napili Bay	<input checked="" type="checkbox"/>	<input type="checkbox"/>	8:22	125 ml	Washed, rinsed syringes; acid washed bottles; 0.2 um disposable filters	
RPO231003-N-1	Pohaku	<input checked="" type="checkbox"/>	<input type="checkbox"/>	8:45	125 ml	Washed, rinsed syringes; acid washed bottles; 0.2 um disposable filters	
RKS231003-N-1	Kaanapali Shores	<input checked="" type="checkbox"/>	<input type="checkbox"/>	9:13	125 ml	Washed, rinsed syringes; acid washed bottles; 0.2 um disposable filters	
RKT231003-N-1	Kahekili Beach Two	<input checked="" type="checkbox"/>	<input type="checkbox"/>	9:35	125 ml	Washed, rinsed syringes; acid washed bottles; 0.2 um disposable filters	
RCB231003-N-1	Canoe Beach	<input checked="" type="checkbox"/>	<input type="checkbox"/>	10:03	125 ml	Washed, rinsed syringes; acid washed bottles; 0.2 um disposable filters	
RWA231003-N-1	Wahikuli	<input checked="" type="checkbox"/>	<input type="checkbox"/>	10:22	125 ml	Washed, rinsed syringes; acid washed bottles; 0.2 um disposable filters	

Sediments					500 ml		
		<input type="checkbox"/>	<input type="checkbox"/>				
		<input type="checkbox"/>	<input type="checkbox"/>				
		<input type="checkbox"/>	<input type="checkbox"/>				
		<input type="checkbox"/>	<input type="checkbox"/>				

Signature (Team Lead):  Printed Name: Liz Yannell

Hui O Kauai Ola - Sample Collection Datasheet

Team	Polanui	Samplers (Last Name, 1st Initial)	Gund, M. Gund, K Sowa-Beach, K Keyhani, C.					Meters and Probes ID			
Session	128							HQ2200: SM 4		2100Q: SM 2	
Date	10/04/2023							pH: SM 6	DO: SM 4	Salinity: SM 8	

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	
Camp Olowalu OCO231004	N	9:10 am	28.0	35.5	6.54	101.2	8.00	4.37 7.99	4.64	4.47	Ø	Ø	Ø
Mile Marker 14 OMM231004	N	9:31 am	28.2	35.5	5.93	92.1	7.95	3.73	3.70	3.81	Ø	Ø	Ø
Ukumehame OUB231004	N	9:54 am	28.4	35.8	6.47	101.0	8.05	2.84 2.70 2.70 2.64	2.65 mag 2.70 2.83 2.64 xy	3	7	Ø	
Papalaua Pali OPP231004	N	10:14 am	28.5	35.6	6.80	106.3	8.10	3.68	3.49	3.81	Ø	2	Ø

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

OCO: super high tide, 4th turbidity taken
calm - no wind

OMM: divers on beach ready to go in
calm, glassy, second ph reading to confirm

OUB: parking lot full, people sitting on beach (same)
4th turbidity, 5th turbidity, light wave action
Used 2.70 NTU value

OPP: calm, normal, light wave action
2nd D.O. reading 106.2%

TURBIDITY VERIFICATION & PROBE TEMPERATURES

	Blank (must be <0.10)	Low (+/- 0.18)	Med (+/- 1.80)	High (+/- 18)
Turbidity Standard	0.07	6.31	56.8	601
Field – Pre-Sample	0.05	6.36	56.4	601
Lab – Post Sample	0.04	6.35	56.5	601
Probes (+/- 0.2 °C)	Salinity	D.O.	pH	Notes
Verify Probe Temps	28.0	27.7	27.9	
CHAIN OF CUSTODY	# of Samples	Relinquish to	Contact	
Nutrients	4	NMS	Christiane	

Signature (Team Lead):

Christiane Keyhani

Print:

Christiane Keyhani

Sites with potential for freshwater flow: Ukumehame

Hui O Kauai Ola - Sample Collection DataSheet

Team	Polanui	Samplers (Last Name, 1st Initial)	Gund, M.; Gund, K.; Sowa-Beach, K.; Keyhani, C.				
Session	128						
Date	10/04/2023						

Sample ID	Location Name	Sample taken?	Duplicate sample?	Time	Volume	Protocol Notes	Comments
Nutrients							
OCO231004-N-1	Camp Olowalu	<input checked="" type="checkbox"/>	<input type="checkbox"/>	9:10 am	125 ml	Washed, rinsed syringes; acid washed bottles; 0.2 um disposable filters	
OMM231004-N-1	Mile Marker 14	<input checked="" type="checkbox"/>	<input type="checkbox"/>	9:31 am	125 ml	Washed, rinsed syringes; acid washed bottles; 0.2 um disposable filters	
OUN231004-N-1	Ukumehame	<input checked="" type="checkbox"/>	<input type="checkbox"/>	9:54 am	125 ml	Washed, rinsed syringes; acid washed bottles; 0.2 um disposable filters	
OPP231004-N-1	Papalaaua Pali	<input checked="" type="checkbox"/>	<input type="checkbox"/>	10:14 am	125 ml	Washed, rinsed syringes; acid washed bottles; 0.2 um disposable filters	

Sediments						500 ml		
		<input type="checkbox"/>	<input type="checkbox"/>			500 ml		
		<input type="checkbox"/>	<input type="checkbox"/>			500 ml		
		<input type="checkbox"/>	<input type="checkbox"/>			500 ml		

Signature: Christiane Keyhani Print: Christiane Keyhani

Team	R2RN	Samplers (Last Name, 1st Initial)	<i>C. Hehemann</i> <i>J. Erwin</i> <i>C. Hurley</i>						Meters and Probes ID		
Session	128								HQ2200: SM 4	2100Q: SM 2	
Date	10/05/2023								pH: SM 6	DO: SM 4	Salinity: SM 8

Location Name Sample ID	Freshwater 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
Honolua Bay RHL231005	N	8:10	25.7	35.2	6.57	391.6	8.02	16.3	0	0	0
Onealoa Bay RON231005	N	8:45	26.9	35.8	6.90	105.4	8.10	1.18	1.08	1.23	3
Kapalua Bay RFS231005	N	9:13	27.3	35.7	6.93	106.0	8.08	1.79	1.83	1.76	7
Ka'opala Bay RKO231005	N	9:40	27.1	35.2	6.21	94.6	8.01	4.20	4.31	4.35	0
Kahana Village RKV231005	N	10:07	27.7	35.3	6.74	103.6	8.06	10.3	10.5	10.8	0

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

RHL - No water flowing, but murky. Small Swell
Calm.

4m turbidity taken = 16.3

RON - 3-4 ft swell. Surfers in water

5m Turbidity taken = .097

4th turbidity taken = 1.18

RFS 1 ft swell 7pm water 2pm beach
Calm clear

RKO - Calm conditions. 4m turbidity taken = 4.20

RKV - Calm murky looking. 4m turbidity taken = 10.8

TURBIDITY VERIFICATION & PROBE TEMPERATURES

	Blank (must be < 0.10)	Low (+/- 0.18)	Med (+/- 1.80)	High (+/- 18)
Turbidity Standard	0.07	6.31	56.8	601
Field - Pre-sample	0.05	6.37	56.5	602
Lab - Post sample	0.05	6.36	56.9	604
Probes (+/- 0.2 °C)	Salinity	D.O.	pH	Notes
Verify Probe Temps	25.7	25.5	25.6	

CHAIN OF CUSTODY INFORMATION

	# of samples	Relinquished to	Contact
Nutrients	5	NMS	J. Erwin

Signature (Team Lead):

Jessica Gru

Printed Name:

Jessica Erwin

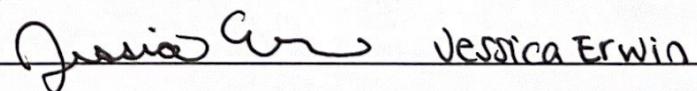
Hui O Kauai Ola - Sample Collection Datasheet

Team	R2RN	Samplers (Last Name, 1st Initial)				
Session	128					
Date	10/05/2023					

Sample ID	Location Name	Sample taken?	Duplicate sample?	Time	Volume	Protocol Notes	Comments
Nutrients							
RHL231005-N-1	Honolua Bay	<input checked="" type="checkbox"/>	<input type="checkbox"/>	8:10	125 ml	Washed, rinsed syringes; acid washed bottles; 0.2 um disposable filters	
RON231005-N-1	Oneloa Bay	<input checked="" type="checkbox"/>	<input type="checkbox"/>	8:45	125 ml	Washed, rinsed syringes; acid washed bottles; 0.2 um disposable filters	
RFS231005-N-1	Kapalua Bay	<input checked="" type="checkbox"/>	<input type="checkbox"/>	9:13	125 ml	Washed, rinsed syringes; acid washed bottles; 0.2 um disposable filters	
RKO231005-N-1	Ka'opala Bay	<input checked="" type="checkbox"/>	<input type="checkbox"/>	9:40	125 ml	Washed, rinsed syringes; acid washed bottles; 0.2 um disposable filters	
RKV231005-N-1	Kahana Village	<input checked="" type="checkbox"/>	<input type="checkbox"/>	10:07	125 ml	Washed, rinsed syringes; acid washed bottles; 0.2 um disposable filters	

Sediments						
		<input type="checkbox"/>	<input type="checkbox"/>		500 ml	
		<input type="checkbox"/>	<input type="checkbox"/>		500 ml	
		<input type="checkbox"/>	<input type="checkbox"/>		500 ml	
		<input type="checkbox"/>	<input type="checkbox"/>		500 ml	

Signature (Team Lead): Printed Name:


 Jessica Erwin

Han O Keo - Oia - Sample Collection Datasheet

Team	Lahaina Town Fire Response	Samplers (Last Name, 1st Initial)	Keyhani, C.; Yannell, L.; Kimmel, J.	Meters and Probes ID
Session	CX- 128			HQ2200: SM 3 2100Q: SM 5
Date	10/05/2023			pH: SM 5 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
Mala Tavern LMT231005	N	7:33 am	26.3	35.0	6.55	97.6	8.06	2.84	2.07 + 59 ⁴	2.17	Ø Ø Ø
Mala Ramp LMR231005	Y	8:02 am	26.6	35.5	6.11	92.2	8.09	4.70 5.74 ⁴	4.71	5.28	Ø Ø Ø
Papalaua St LPS231005	N	8:33	26.4	35.8	6.36	96.1	8.06	2.57	2.78	2.46	Ø Ø Ø
Lahaina Harbor LLH231005	N	9:02	27.6	35.8	5.78	89.1	8.13	0.96 1.20 ⁴	1.03 1.24 ⁴	1.06	Ø 4 (dock) Ø
505 Front St PFF231005	N	9:49	28.1	36.1	6.47	100.8	8.16	1.31 2.59 ⁴	1.25	1.61	Ø Ø Ø
Lindsey Hale PLH231005	N	10:41	28.3	35.8	6.30 6.03 ⁴	98.5	8.12	11.8	12.5 13.9 ⁴	11.9 13.9 ⁴	Ø Ø Ø
Lahaina Town PLT231005	N	11:06	28.6	35.2	5.81	91.0	8.07	47.7 38.5 ⁴	48.7 ⁴ 39.3	49.3	Ø Ø Ø

Spare turbidity pre verification = 0.07 NTU

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

LMT - Turbidity particulates floating.
High tide @ 8:49 am at 2.2 ft.

LMR - Eagle rays! Brown water w/ sand and charred particles. No wind. No shade.

LPS - Light wave action. Water not clear.

LLH - Barge around cleaning harbor. Lots of coastguard removing boats

PFF - Using spare turbidity bottle for rest of day
Used GPS coordinates from site code page

PLT - Brown wtr. white flaky particulates.

TURBIDITY VERIFICATION & PROBE TEMPERATURES				
	Blank (must be <0.10)	Low (+/- 0.18)	Med (+/- 1.80)	High (+/- 18)
Turbidity Standard	0.05	6.54	58.4	605
Field - Pre-Sample	0.05	6.49	58.4	604
Lab - Post Sample	0.05	6.52	58.7	604
Probes (+/- 0.2 °C)	D.O	Salinity	pH	Notes
Verify Probe Temps	25.9	26.3	26.2	
CHAIN OF CUSTODY	# of Samples	Relinquish to	Contact	
Nutrients	7	NMS	Christiane	

Signature (Team Lead): Christiane K Print: Christiane

Sites with potential for freshwater flow: 505 Front St, Mala Ramp

PLT - crew shredding/clipping branches on Front st near site. Very brown water.
spare turbidity post verification = 0.05 NTU

Last update: August 2023

Hui O Kāna'ōla - Sample Collection Datasheet

Team	Lahaina Town Fire Response	Samplers (Last Name, 1st Initial)	Keyhani, C. Yannell, L. Kimmel, J.			
Session	28					
Date	10/05/2023					

Sample ID	Location Name	Sample taken?	Duplicate sample?	Time	Volume	Protocol Notes	Comments
Nutrients							
LMT231005-N-1	Mala Tavern	<input checked="" type="checkbox"/>	<input type="checkbox"/>	7:33am	125 ml	Washed, rinsed syringes; acid washed bottles; 0.2 um disposable filters	
LMR231005-N-1	Mala Ramp	<input checked="" type="checkbox"/>	<input type="checkbox"/>	8:02	125 ml	Washed, rinsed syringes; acid washed bottles; 0.2 um disposable filters	
LPS231005-N-1	Papalaua St.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	8:33	125 ml	Washed, rinsed syringes; acid washed bottles; 0.2 um disposable filters	
LLH231005-N-1	Lahaina Harbor	<input checked="" type="checkbox"/>	<input type="checkbox"/>	9:02	125 ml	Washed, rinsed syringes; acid washed bottles; 0.2 um disposable filters	
PFF231005-N-1	505 Front St	<input checked="" type="checkbox"/>	<input type="checkbox"/>	9:49	125 ml	Washed, rinsed syringes; acid washed bottles; 0.2 um disposable filters	
PLH231005-N-1	Lindsey Hale	<input checked="" type="checkbox"/>	<input type="checkbox"/>	10:41	125 ml	Washed, rinsed syringes; acid washed bottles; 0.2 um disposable filters	
PLT231005-N-1	Lahaina Town	<input checked="" type="checkbox"/>	<input type="checkbox"/>	11:00	125 ml	Washed, rinsed syringes; acid washed bottles; 0.2 um disposable filters	

Sediments					500 ml		
		<input type="checkbox"/>	<input type="checkbox"/>				
		<input type="checkbox"/>	<input type="checkbox"/>				
		<input type="checkbox"/>	<input type="checkbox"/>				

Signature: *Christiane Keyhani* Print: *Christiane Keyhani*