

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:
QA/QC Check	Inst #	Probe #	Last Cal Date		PRE: Verification Value	POST: Verification Value	Acceptable Range	Comments/ Notes		
Temperature	NIST 2	n/a	NIST Exp. Date	Std Val	NIST 24.0 °C	NIST 23.9 °C	NIST 30.0 °C	— °C	± 0.6 °C of NIST	Compare to NIST Std value in tap water
	3 7	6/28/23			23.9		29.7			
	3 8				23.9		—			
Salinity			3 months	Std Val	Tap water 0.13	Salin Std 11/27/23 date 34.4 ppt	Tap water 0.13	Salin Std 11/27/23 date 34.4 ppt	± 1 ppt	Tap water - compare pre & post values Salinity Std - compare to value on Salinity Std bottle
	3 7	11/6/23			0.18	34.1	0.18	34.0		Post reading 1 = 33.8, reading 2 = 33.1, reading 3-5 = 34.0
	3 8	11/6/23			0.18	34.0	—	—		
Dissolved Oxygen			1 year	Std Val	100%		100%		± 5 %	
	3 3	7/17/23			99.8		100.3			
	3 4	7/17/23			101.9					
pH			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
	3 6	12/18/23			7.00	10.01	—	—		Std 7.00 Expires 5/2024 Std 10.01 Expires 5/2024
	3 5	12/18/23			7.00	10.01	6.99	10.00		
Turbidity			3 months	Std Val	BLANK <0.1	LOW 1-10 NTU	BLANK <0.1	LOW 1-10 NTU	± 0.18 NTU Low 1-10	Compare to Gel LOW 1-10 Std Calibration value
	5	n/a	11/6/23		0.06	6.83	0.06	6.79		Pre-verification blank was reading high but fresh distilled water - might be fluff on glass Pre spare blank: 0.08, low std: 6.82 Pre spare blank: 0.05, low std: 6.60
	2	n/a	11/6/23		0.05	6.64	—	—		

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

NMS

Meter 3 struggled to turn on
a few times.

Team	Kama'ole	Samplers (Last Name, 1st Initial)	McHugh,K., Graves,S., C. Keyhani						Meters and Probes ID		
Session	SM 107								HQ2200: 3	2100Q: 5	
Date	12/19/2023								pH: 5	DO: 3	Salinity: 7

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
Kalepolepo North NKN231219	N	7:58	24.0	34.3	6.82	97.2 8.18	7.04 7.08 7.2	5.99	0	0	0
Waipu'ilani Park KWP231219	N	8:18	22.6	33.2	6.63	92.1 8.14	20.1 19.1	6.64	3	0	0
Kihei South KKS231219	N	8:34	23.1	34.1	6.56	92.4 8.20	7.75 7.45 7.5	6.23 6.66	4	0	0
Kalama Park KKP231219	N	8:52	24.1	35.4	6.70	96.6 8.15	4.24 4.62	3.92	0	0	1

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

NKN: Sailboat beached on reef ~50 ft away, ~~over~~ boat tilting disturbing water, ~~low~~ CK
moderate wind, sunny, rising tide
NKN 4th turbidity=7.080

5th turbidity=7.04

KWP: calm, mild breeze, lots of coral on sand, very cloudy water. 4th turbidity = 18.8
D.O. temp 22.4, ^{now} ~~now~~ within range.

KKS: calm, ~~over~~ no/light breeze, small waves(1ft), tide rising, cloudy water, 4th turbidity = 7.75

KKP: Rising tide, mild wind, paddle boarders farther out, honu close to sample spot, 1-2 ft shore break

TURBIDITY VERIFICATION & PROBE TEMPERATURES

	Blank (must be <0.10)	Low (+/- 0.18)	Med (+/- 1.80)	High (+/- 18)
Turbidity Standard	0.06	6.82	60.8	607
Field – Pre-sample	0.07	6.90	60.8	606
Lab – Post sample	0.06	6.83	60.9	607
Probes (+/- 0.2 °C)	Salinity	D.O.	pH	Notes
Verify Probe Temps	24.0	23.5	23.9	

CHAIN OF CUSTODY INFORMATION

	# of samples	Relinquished to	Contact
Nutrients	4	NMS	Christiane

Signature (Team Lead):

Christiane Keyhani Christiane Keyhani

Hui O Ka Wai Oce - Sample Collection Datasheet

Team	Kama'ole	Samplers (Last Name, 1st Initial)	Mc. Hugh, K.; Graves, S.; Keyhani, C			
Session	SM 107					
Date	12/19/2023					

Sample ID	Location Name	Sample taken?	Duplicate sample?	Time	Volume	Protocol Notes	Comments
Nutrients							
NKN231219-N-1	Kalepolepo North	<input checked="" type="checkbox"/>	<input type="checkbox"/>	7:58	125 ml	Washed, rinsed syringes; acid washed bottles; 0.2 um disposable filters	
KWP231219-N-1	Waipu'ilani Park	<input checked="" type="checkbox"/>	<input type="checkbox"/>	8:18	125 ml	Washed, rinsed syringes; acid washed bottles; 0.2 um disposable filters	
KKS231219-N-1	Kīhei South	<input checked="" type="checkbox"/>	<input type="checkbox"/>	8:34	125 ml	Washed, rinsed syringes; acid washed bottles; 0.2 um disposable filters	
KKP231219-N-1	Kalama Park	<input checked="" type="checkbox"/>	<input type="checkbox"/>	8:52	125 ml	Washed, rinsed syringes; acid washed bottles; 0.2 um disposable filters	

		<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:

Christiane Keyhani: Christiane Keyhani

Hilo Kai Waia Ola - Sample Collection Datasheet

Team	Wailea-Mäkena	Samplers (Last Name, 1st Initial)	Sousa, B.	Yannell, L.	Meters and Probes ID		
Session	SM 107		Bentley, D.	HQ2200: 3			2100Q: 5
Date	12/20/2023		Crevier, D.	pH: 5	DO: 3	Salinity: 7	

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		
Cove Park KCP231220	N	8:16	24.9 25.0 ^{xy}	34.0	6.39	92.7	8.09	9.37 8.56 ^{xy}	9.11 9.37 ^{xy}	10	6	0	
Maluaka Beach MMB231220	N	8:55	24.9	35.9	6.70	98.3	8.17	1.58	1.41	0	2	0	
Āhihi Kīna'ū N. MAN231220	N	9:21	25.0	36.0	6.73	99.0	8.08	0.99 1.21 ^{xy}	1.00	1.03	0	4	0
Āhihi Kīna'ū S. MAS231220	N	9:40	24.9	36.0	6.63	97.5	8.11	1.05 1.26 ^{xy}	1.10	1.05	2	6	0

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

KCP - mostly cloudy, no wind; 4th turbidity = 15.7 + 5th turbidity = 15.7, 6th = 9.37
2nd temp read = Salinity = 24.9 DO = 24.6
Turbidity = 9.10; 8th = 9.11; 9th = 8.56; small
surf
MMB - small shorebreak; meter #3 struggling to turn on

MAN - a little swell coming in; grey clouds to the north, partly cloudy to the south, light onshore winds; 4th turbidity 0.99

MAS - breeze has picked up, some whitecaps and chopiness, tide high, very small shorebreak

4th turbidity = 1.37; 5th turbidity = 1.05

Sites with potential for freshwater flow: Cove Park

TURBIDITY VERIFICATION & PROBE TEMPERATURES

	Blank (must be <0.10)	Low (+/- 0.18)	Med (+/- 1.80)	High (+/- 18)
Turbidity Standard	0.06	6.82	60.8	607
Field - Pre-sample	0.07	6.94	60.7	606
Lab - Post sample	0.06	6.81	60.8	606
Probes (+/- 0.2°C)	Salinity	D.O.	pH	Notes
Verify Probe Temps	24.9 25.0 ^{xy}	24.6	24.7	

CHAIN OF CUSTODY INFORMATION

	# of samples	Relinquished to	Contact
Nutrients	4	NMS	Liz Yannell

Signature (Team Lead):

Printed Name:

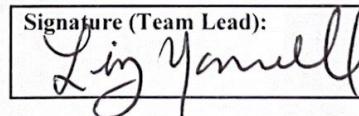
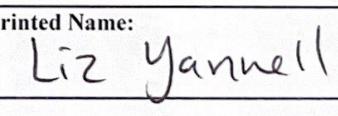
Liz Yannell

Hui O Ka Wai Ola - Sample Collection Data Sheet

Team	Wailea-Mäkena	Samplers (Last Name, 1st Initial)	Sousa, B.	Yannell, L.
Session	SM 107		Bentley, D.	
Date	12/20/2023		Crevier, D.	

Sample ID	Location Name	Sample taken?	Duplicate sample?	Time	Volume	Protocol Notes	Comments
Nutrients							
KCP231220-N-1	Cove Park	<input checked="" type="checkbox"/>	<input type="checkbox"/>	8:16	125 ml	Washed, rinsed syringes; acid washed bottles; 0.2 um disposable filters	
MMB231220-N-1	Maluaka Beach	<input checked="" type="checkbox"/>	<input type="checkbox"/>	8:55	125 ml	Washed, rinsed syringes; acid washed bottles; 0.2 um disposable filters	
MAN231220-N-1	‘Āhihi Kīna’u North	<input checked="" type="checkbox"/>	<input type="checkbox"/>	9:21	125 ml	Washed, rinsed syringes; acid washed bottles; 0.2 um disposable filters	
MAS231220-N-1	‘Āhihi Kīna’u South	<input checked="" type="checkbox"/>	<input type="checkbox"/>	9:40	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:  Liz Yannell

Hau'oli Kai Wai Ola - Sample Collection Datasheet

Team	North Kīhei	Samplers (Last Name, 1st Initial)	Helgeland, A Grad, D Keyhani, C. Yannell, L.						Meters and Probes ID				
Session	SM 107								HQ2200: 3		2100Q: 5		
Date	12/21/2023								pH: 5	DO: 3	Salinity: 7		
Location Name Sample ID	Freshwater Flowing (Y/N)	Time (of collection)	Temp (°C) variable	Salinity (ppt) 30-35 normal	Dissolved Oxygen (mg/L) 5.2-7.0 normal	pH 8-8.3 normal	Turbidity (NTU)	People (within 100 ft)					
Mā'alaea Harbor NMH231221	N	7:55	23.4	33.5 CK 35.3	6.37	90.9	8.13	1.24	1.02	1.16	0 boat	0	0
Mā'alaea Condos NMC231221	N	8:22	23.2	34.3	7.00	99.0	8.06	5.37 4.61 DG	3.83	7.20 3.15 DG	0	0	0
Haycraft Park NHP231221	N	8:45	23.7	35.6	6.73	96.6	8.12	5.28 6.80	4.94 5.90 CK	5.40	0	4	0
Keālia Pond NKP231221	N	9:14	23.8	36.1	6.94	100.0	8.19	1.41	1.47	1.65 2.11 CK	0	7	0
Kīhei Canoe Club NKC231221	N	9:37	24.4	35.5	6.65	97.1	8.15	7.65	6.75	6.75	0	3	0

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

AH

NMH - WINDY, BOAT DEPARTING NEARBY right next to sample site.
NMC - Some water in the culvert but not flowing; windy, calm ocean water, small waves out at break, algae in sample bucket
3 turbidity vial, 4th turbidity = 3.15 5th turbidity vial, 4th turbidity = 4.61
NHP - ~2' shorebreak; cloudy, windy, small floaters in turbidity vial 4th turbidity = 4.61
5th turbidity = 5.28 cloudy, calm. 4.94
NKP - getting windier. 4th turbidity = 1.65
NKC - 4th turbidity 8.02; brown water at shoreline, cloudy, breezy.

TURBIDITY VERIFICATION & PROBE TEMPERATURES

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Field - Pre-sample	0.06	6.90	60.6	606
Lab - Post sample	0.06	6.79	60.8	606
Probes (+/- 0.2 °C)	Salinity	D.O.	pH	Notes
Verify Probe Temps	23.4	23.2	23.3	

CHAIN OF CUSTODY INFORMATION

	# of samples	Relinquished to	Contact
Nutrients	5	NMS	Liz Yannell

Signature (Team Lead):

Liz Yannell

Printed Name:

Liz Yannell

Sites with potential for freshwater flow: Mā'alaea Harbor, Mā'alaea Condos, Keālia Pond, Kīhei Canoe Club

Team	North Kīhei	Samplers (Last Name, 1st Initial)	Helgeland, A. Keyhani, C.			
Session	SM 107		Grad, D. Yannell, L.			
Date	12/21/2023					

Sample ID	Location Name	Sample taken?	Duplicate sample?	Time	Volume	Protocol Notes	Comments
Nutrients							
NMH231221-N-1	Mā'alaea Harbor	<input checked="" type="checkbox"/>	<input type="checkbox"/>	7:55	125 ml	Washed, rinsed syringes; acid washed bottles; 0.2 um disposable filters	
NMC231221-N-1	Mā'alaea Condos	<input checked="" type="checkbox"/>	<input type="checkbox"/>	8:22	125 ml	Washed, rinsed syringes; acid washed bottles; 0.2 um disposable filters	
NHP231221-N-1	Haycraft Park	<input checked="" type="checkbox"/>	<input type="checkbox"/>	8:45	125 ml	Washed, rinsed syringes; acid washed bottles; 0.2 um disposable filters	
NKP231221-N-1	Keālia Pond	<input checked="" type="checkbox"/>	<input type="checkbox"/>	9:14	125 ml	Washed, rinsed syringes; acid washed bottles; 0.2 um disposable filters	
NKC231221-N-1	Kīhei Canoe Club	<input checked="" type="checkbox"/>	<input type="checkbox"/>	9:37	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:
Christiane Keyhani Christiane Keyhani