

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

South Maui

Session No:	Verifiers (pre-sampling):	Pre Date:	Pre Time:	Verifiers (post-sampling):	Post Date:	Post Time:
105	Y. St-Louis, C. Keyhani	11/6/2023	0900	C. Keyhani, L. Yannel	11/9/2023	11:30AM

QA/QC Check	Inst #	Probe #	Last Cal Date		PRE: Verification Value		POST: Verification Value		Acceptable Range	Comments/ Notes	QA?
Temperature	NIST	n/a	NIST Exp. Date	Std Val	NIST	NIST	NIST	NIST	± 0.6 °C of NIST	Compare to NIST Std value in tap water	
	2				25.9 °C	25.9 °C	27.2 °C	— °C			
	3	7	28 JUNE 2024		25.6		27.1				
	4	8	28 JUNE 2024			25.6		—			
Salinity			3 months	Std Val	Tap water	Salin Std 11/6/23 date	Tap water	Salin Std 11/6/23 date	± 1 ppt	Tap water - compare pre & post values Salinity Std - compare to value on Salinity Std bottle	
					0.13	33.5 ppt	0.13	33.5 ppt			
	3	7	6 NOV 2023		0.19	33.5	0.16	33.7			
	4	8	6 NOV 2023		0.19	33.6	—	—			
Dissolved Oxygen			1 year	Std Val	100%		100%		± 5 %		
					100.8 %		101.0 %				
	3	3	17 July 2023								
	4	4	17 July 2023		101.3 %		—				
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	
					7.00	10.01	7.02	10.02			
	3	5	6 NOV 2023		7.00	10.01	7.02	10.02			
	4	6	6 NOV 2023		7.00	10.01	—	—			
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	
					0.07	6.80	0.08	6.77	Low: 6.82	Pre-Verification Low 1st 6.78 2nd 6.77	
	5	n/a	11/6/2023		0.07	6.80	0.08	6.77	Low: 6.82		
	2	n/a	11/6/2023		0.07	6.60	—	—	Low: 6.60		

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

NMS Lab

Maui Kai Wai Ohia - Sample Collection Datasheet

Team	Kamaole	Samplers (Last Name, 1st Initial)	H. Hecht, C. Keyhani, L. Yarnell, K. James	Meters and Probes ID		
Session	105			HQ2200: 3		2100Q: 5
Date	11/7/2023			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 NKN231107	N	8:03	26.4	34.2	5.69	85.0	8.10	2.77	2.27	2.27	0	30	0
Waipuilani Park KWP231107	N	8:35	25.9	33.4	6.29	93.3	8.11	13.5	12.8	11.5	2	0	0
Kihei South KKS231107	N	9:00	26.5	33.8	6.44	96.4	8.11	5.58	5.56	5.56	2	3	0
Kalama Park KKP231107	N	9:30	26.5	34.7	6.57	99.2	8.14	13.1	12.4	13.2	1	1	0

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

NKN - Clean blank turb. vial - 6 canoes on beach -
No surf - Sunny - canoe left before sample
4th turbidity - Floater in sample
KWP - Small surf - low wind - sunny -
parking closed - park on sand - murky -
cloudy 4th turb, algae in ocean water
KKS - small surf, 3 paddle boards - sunny
light wind - algae in ocean water
KKP - calm, no wind, small surf - one
paddle boarder. Water looks a little
murky.
Post-Verification Blank: first reading 0.11.

TURBIDITY VERIFICATION & PROBE TEMPERATURES

	Blank (must be <0.10)	Low (+/- 0.18)	Med (+/- 1.80)	High (+/- 18)
Turbidity Standard	0.07	6.82	60.8	607
Field - Pre-sample	0.100.09	6.94	60.8	606
Lab - Post sample	0.08	6.87	60.8	606
Probes (+/- 0.2 °C)	Salinity	DO	pH	Pre-Notes
Verify Probe Temps	26.14	26.1	26.2	0.07

CHAIN OF CUSTODY INFORMATION

	# of samples	Relinquished to	Contact
Nutrients	4	NMS	Christiane
Signature (Team Lead):	Printed Name:		
Christiane Keyhani	Christiane Keyhani		

Sites with potential for freshwater flow: Check all sites

Hui O Ka Wai Ola - Sample Collection Worksheet

Team	Kamaole	Samplers (Last Name, 1st Initial)	H. Hecht, C. Keyhani, L. Yarnell, K. James
Session	105		
Date	11/07/2023		

Sample ID	Location Name	Sample taken?	Duplicate sample?	Time	Volume	Protocol Notes	Comments
Nutrients							
NKN231107-N-1	Kalepolepo North	<input checked="" type="checkbox"/>	<input type="checkbox"/>	8:03	125 ml	Washed, rinsed syringes; acid washed bottles; 0.2 um disposable filters	
KWP231107-N-1	Waipuilani Park	<input checked="" type="checkbox"/>	<input type="checkbox"/>	8:35	125 ml	Washed, rinsed syringes; acid washed bottles; 0.2 um disposable filters	
KKS231107-N-1	Kihei South	<input checked="" type="checkbox"/>	<input type="checkbox"/>	9:00	125 ml	Washed, rinsed syringes; acid washed bottles; 0.2 um disposable filters	
KKP231107-N-1	Kalama Park	<input checked="" type="checkbox"/>	<input type="checkbox"/>	9:30	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

Hu Oka Wai Cha Sample Collection Datasheet

Team	Wailea/Makena	Samplers (Last Name, 1st Initial)	D. Crevier, J. Dunning, D. Bentley L. Yannell, C. Keyhani	Meters and Probes ID		
Session	105			HQ2200: 3		2100Q: 5
Date	11/8/2023			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
Cove Park KCP231108	N	8:03	26.3	32.9	6.08	89.5	8.09	4.73 5.95 3.87	4.03		0	0	3
S Maluaka Beach MMB231108	N	8:50	26.4	35.3	6.45	96.8	8.14	0.52	0.59	0.50	2	5	0
Ahihi Kinau North MAN231108	N	9:05	26.2	35.3	7.30	109.4	8.08	1.95	2.11	1.89 2.63 2.09	7	2	0
Ahihi Kinau South MAS231108	N	9:32	26.3	35.7	6.59	99.2	8.12	0.95	0.83	1.08 1.23 1.08	5	9	0

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

Pre-
Cove Park - 1st turbidity sample 0.33, Equipment
cleaned 2nd pre sample = 0.14 → using
spare in field
4th turbidity = 4.73
2nd temp values: DO = 25.9°C, Salinity same
Maluaka - calm water, clear skies, no wind
Ahihi N - 4th = 1.89 turbidity
Ahihi S - clear sky, low wind, incoming tide
medium 4th turbidity 1.08

TURBIDITY VERIFICATION & PROBE TEMPERATURES

	Blank (must be < 0.10)	Low (+/- 0.18)	Med (+/- 1.80)	High (+/- 18)
Standard blank	0.07			
Turbidity Standard	0.33	6.82	60.8	607
Field - Pre-sample	spare 0.09	6.77	60.8	607
Lab - Post sample	spare 0.06	6.82	60.9	606
Probes (+/- 0.2°C)	Salinity	DO	pH	
Verify Probe Temps	26.3	25.7	26.2	

CHAIN OF CUSTODY INFORMATION

	# of samples	Relinquished to	Contact
Nutrients	4	NMS	Liz Yannell

Signature (Team Lead):

Liz Yannell

Printed Name:

Liz Yannell

Turbidity Verification: Bought and use new brand of ~~10~~ distilled water and blank vials are now testing within range.

Sites with potential for freshwater flow: Cove Park

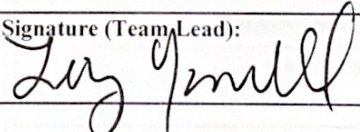
Last updated April 2023

Hui O Ka Wai Ola - Sample Collection Datasheet

Team	Wailea-Makena	Samplers (Last Name, 1st Initial)	D. Crevier, J. Dunning, D. Bentley, L. Yannett, C. Keyhani
Session	105		
Date	11/08/2023		

Sample ID	Location Name	Sample taken?	Duplicate sample?	Time	Volume	Protocol Notes	Comments
Nutrients							
KCP231108-N-1	Cove Park	<input checked="" type="checkbox"/>	<input type="checkbox"/>	8:03	125 ml	Washed, rinsed syringes; acid washed bottles; 0.2 um disposable filters	
MMB231108-N-1	S Maluaka Beach	<input checked="" type="checkbox"/>	<input type="checkbox"/>	8:50	125 ml	Washed, rinsed syringes; acid washed bottles; 0.2 um disposable filters	
MAN231108-N-1	Ahihi Kinau North	<input checked="" type="checkbox"/>	<input type="checkbox"/>	9:05	125 ml	Washed, rinsed syringes; acid washed bottles; 0.2 um disposable filters	
MAS231108-N-1	Ahihi Kinau South	<input checked="" type="checkbox"/>	<input type="checkbox"/>	9:32	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 Yannett
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Hua O Ka Wai Ola - Sample Collection Data Sheet

Team	North Kihei	Samplers (Last Name, 1st Initial)	Helgeland, A, Keyhani, C, Grad, D (observation)	Meters and Probes ID		
Session	105			HQ2200: 3		2100Q: 5
Date	11/9/2023			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
Maalaea Harbor NMH231109	N	7:55	25.9	35.1	6.21	92.4	8.13	CK 1.16 0.76	0.93	0.79	0	0	0
Maalaea Condos NMC231109	N	8:20	25.6	34.2	6.75	99.6	8.02	CK 3.48 3.77	3.74	4.02	0	0	0
Haycraft Park NHP231109	N	8:45	26.1	35.3	6.63	99.1	8.11	CK 3.42 3.94	2.66 3.79	4.03	0	2	0
Kealia Pond NKP231109	N	9:25	26.2	35.7	6.70	100.7	8.16	0.83 CK 1.41 0.81	0.80		3	1	0
Kihei Canoe Club NKC231109	N	9:50	27.4	35.1	6.50	99.3	8.13	5.63 CK 5.64 5.32	5.64	6.15	0	3	0

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

NMH - 4th turbidity, calm morning, no to light wind
NMC - standing water in drainage ditch, but not flowing, low tide. 4th turbidity.
NHP - 4th & 5th turbidity. No wind.
NKP - the pond is magenta colored due to an archaea (halobacteria). No to light wind. No swell.
NKC - Calm. Brown water 5ft distance out, then clear. more clear than usual. 4th turbidity.

TURBIDITY VERIFICATION & PROBE TEMPERATURES

	Blank (must be <0.10)	Low (+/- 0.18)	Med (+/- 1.80)	High (+/- 18)
Turbidity Standard	0.07	6.82	60.8	607
Field - Pre-sample	0.09	6.79	60.8	608
Lab - Post sample	0.08	6.77	60.8	606
Probes (+/- 0.2°C)	Salinity	DO	pH	Notes
Verify Probe Temps	25.9	25.6	25.8	

CHAIN OF CUSTODY INFORMATION

	# of samples	Relinquished to	Contact
Nutrients	5	NMS	Christiane

Signature Team Lead:

Christiane Keyhani

Printed Name:

Christiane Keyhani

Sites with potential for freshwater flow: Maalaea Harbor, Maalaea Condos,
Kealia Pond, Canoe Club

Turbidity field verification blank read high 2x 1st, 30.
After cleaning, 3rd read was within range. 3rd, 10.
3rd, 0.09

Hui O Ka Wai Ola - Sample Collection Datasheet

Team	North Kihei	Samplers (Last Name, 1st Initial)	Helgeland, A., Keyhani, C., Grad, D. (observation)
Session	105		
Date	11/09/2023		

Sample ID	Location Name	Sample taken?	Duplicate sample?	Time	Volume	Protocol Notes	Comments
Nutrients							
NMH231109-N-1	Maalaea Harbor	<input checked="" type="checkbox"/>	<input type="checkbox"/>	7:55	125 ml	Washed, rinsed syringes; acid washed bottles; 0.2 um disposable filters	
NMC231109-N-1	Maalaea Condos	<input checked="" type="checkbox"/>	<input type="checkbox"/>	8:20	125 ml	Washed, rinsed syringes; acid washed bottles; 0.2 um disposable filters	
NHP231109-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	
NKP231109-N-1	Kealia Pond	<input checked="" type="checkbox"/>	<input type="checkbox"/>	9:25	125 ml	Washed, rinsed syringes; acid washed bottles; 0.2 um disposable filters	
NKC231109-N-1	Kihei Canoe Club	<input checked="" type="checkbox"/>	<input type="checkbox"/>	9:50	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): Christine Keyhani	Printed Name: Christiane Keyhani
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