

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

Session No: 93 Verifiers (pre-sampling): L. Yannell, M. Sharpe  
 Pre Date: 2/13/23 Pre Time: 9:35 am Verifiers (post-sampling): Y. St-Louis, M. Sharpe  
 Post Date: 02/16/2023 Post Time: 9:50

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 26.7 °C	NIST 26.7 °C	NIST 30.0 °C	NIST — °C	± 0.6 °C of NIST	Compare to NIST Std value in tap water	
1	3	06/2024			26.8		29.4 gm	30.0			
1	2				27.0		—	—			
Salinity		3 months		Std Val	Tap water 0.13	Salin Std 9/29/22 33.7 ppt	Tap water 0.13	Salin Std 9/29/22 33.7 ppt	± 1 ppt	Tap water - compare pre & post values Salinity Std - compare to value on Salinity Std bottle	
1	3	3	1/23/2023		0.14	33.4	33.011	33.3			
1	4	2	1/23/2023		0.11	31.7	—	—			* Verified value 3x = 31.7 ppt
Dissolved Oxygen		1 year		Std Val	100%		100%		± 5 %	Pre-verification values: 8.80 mg/L * New meter Temp 21.9 °C 8.96 mg/L * New meter	
1	3	1	1/3/23		98.8 %		99.2 %				
1	4	2	1/3/23		100.0 %		—				
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	
1	4	4	2/13/2023		7.02	10.01	—	—			> Exp 3/2023
1	3	5	2/13/2023		7.03	10.01	7.02	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	
Meter	5	n/a	2/13/23		0.05	6.89	0.05	6.95	6.89	Low: 6.89	
	2	n/a	2/13/23		0.05	6.77	—	—		Low: 6.79	

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

Lab: NMS

## Hawaii Statewide Sample Collection Database

Team	Kamaole	Samplers (Last Name, 1st Initial)	Hecht, H.	Yannell, L.				Meters and Probes ID		
Session	93		Graves, S.					HQ2200	2100Q: 5	
Date	02/14/2023		McHughes, K.					HQ40d: 13 5y	pH: 5	DO: 8.1 5y

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)	(%) 85-105 normal				water	beach	camp
Kalepolepo North NKN230214	N	8:05	22.8	32.1	7.99	92.1	8.12	15.3	15.2	15.8	0	2
Waipuilani Park KWP230214	N	8:31	22.3	33.0	8.09	92.7	8.12	18.6	17.4 15.6 5y	18.0	0	1
Kihei South KKS230214	N	8:47	22.6	33.0	7.61	87.7	8.13	12.7	13.3	14.0	0	2
Kalama Park KKP230214	N	9:10	23.1	33.9	7.75	90.0	8.13	3.01	3.28 3.40	3.06	0	0

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

Use the back of the form if needed.

NKN: flat but wind chop, windy, sediment  
 Waipuilani Park: shoreline, high tide  
 KWP - flat but Wind @ 10 mph, high tide, water looks brown at shore; particles in sample  
 Light rain in Kihei early this morning  
 4th turbidity reading = 15.8, 5th = 17.4  
 KKP - Brown water  
 KKP → Greenish water, windy, flat water  
 Very windy: 4th reading → 2.75  
 5th - 3.28

Sites with potential for freshwater flow: All

## TURBIDITY VERIFICATION

	Blank (must be <0.10)	Low (+/- 0.18)	Med (+/- 1.80)	High (+/- 18)
Standard	0.05	6.89	60.5	615
Pre-sampling	0.07	6.93	60.2	615
Post-sampling	0.05	6.97	60.4	614

## CHAIN OF CUSTODY INFORMATION

	# of samples	Relinquished to	Contact
Sediment	-	-	-
Nutrients	4	NMS	Yng
Bacteria	-	-	-

Signature (Team Lead):

*Liz Yannell*

Printed Name:

*Liz Yannell*

Team	Kamaole	Samplers (Last Name, 1st Initial)	Hecht. H		
Session	93		Graues. S	Yannell. L	
Date	02/14/2023		McHughes. K		

Sample ID	Location Name	Sample taken?	Duplicate sample?	Time	Volume	Protocol Notes	Comments
<b>Nutrients</b>							
NKN230214-N-1	Kalepolepo North	<input checked="" type="checkbox"/>	<input type="checkbox"/>	0805	125 ml	Washed, rinsed syringes; acid washed bottles; 0.2 um disposable filters	
KWP230214-N-1	Waipuilani Park	<input checked="" type="checkbox"/>	<input type="checkbox"/>	0831	125 ml	Washed, rinsed syringes; acid washed bottles; 0.2 um disposable filters	
KKS230214-N-1	Kihei South	<input type="checkbox"/>	<input type="checkbox"/>	0841	125 ml	Washed, rinsed syringes; acid washed bottles; 0.2 um disposable filters	
KKP230214-N-1	Kalama Park	<input checked="" type="checkbox"/>	<input type="checkbox"/>	0910	125 ml	Washed, rinsed syringes; acid washed bottles; 0.2 um disposable filters	

<b>Sediments</b>						
		<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:

Ylenia Mayen St-Louis

## Hawaii Marine Sample Collection Form

Team	Wailea-Makena	Samplers (Last Name, 1st Initial)	Crevier, D. Bentley, D. Yannell, L.				Sharpe, M. Sousa, B.			Meters and Probes ID HQ2200 HQ40d: 13 ey 2100Q: 5		
Session	93		pH: 5	DO: 8.1 ey	Salinity: 1							
Date	02/15/2023											

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)	(%) 85-105 normal				water	beach	camp
Cove Park KCP230215	Y	8:12am	23.4	32.5	7.49	87.7	8.05	2.92	2.83 4.23 2.41	0	4	0
S Maluaka Beach MMB230215	N	8:49	23.6	35.0	8.41	98.8	8.16	1.36	1.52 1.36	2	0	0
Ahihi Kinau North MAN230215	N	9:09	23.8	34.2	8.75	103.2	8.08	1.38	1.34 1.09	2	1	0
Ahihi Kinau South MAS230215	N	9:30	24.1	35.1	8.25	98.0	8.14	1.80	2.12 2.19 1.85	2	6	0

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

Cove Park - water in tunnel

MAN - clear skies, calm winds

Low tide

MAS - calm wind and waves

Sites with potential for freshwater flow: Cove Park

## TURBIDITY VERIFICATION

	Blank (must be <0.10)	Low (+/- 0.18)	Med (+/- 1.80)	High (+/- 18)
Standard	0.05	6.89	60.5	615
Pre-sampling	0.07	6.87	60.6	614
Post-sampling	0.06	6.89	60.9	617

## CHAIN OF CUSTODY INFORMATION

	# of samples	Relinquished to	Contact
Sediment	-	-	-
Nutrients	4	LHM NMS	Liz Yannell
Bacteria	-	-	-

Signature (Team Lead):

Liz Yannell

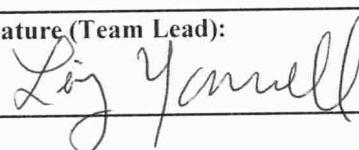
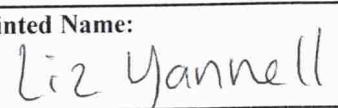
Printed Name:

Liz Yannell

Team	Wailea-Makena	Samplers (Last Name, 1st Initial)	Crevier, D.	Sharpe, M.
Session	93		Bentley, D.	Sousa, B
Date	02/15/2023		Yannell, L.	

Sample ID	Location Name	Sample taken?	Duplicate sample?	Time	Volume	Protocol Notes	Comments
<b>Nutrients</b>							
KCP230215-N-1	Cove Park	<input checked="" type="checkbox"/>	<input type="checkbox"/>	8:12	125 ml	Washed, rinsed syringes; acid washed bottles; 0.2 um disposable filters	
MMB230215-N-1	S Maluaka Beach	<input checked="" type="checkbox"/>	<input type="checkbox"/>	8:49	125 ml	Washed, rinsed syringes; acid washed bottles; 0.2 um disposable filters	
MAN230215-N-1	Ahihi Kinau North	<input checked="" type="checkbox"/>	<input type="checkbox"/>	9:09	125 ml	Washed, rinsed syringes; acid washed bottles; 0.2 um disposable filters	
MAS230215-N-1	Ahihi Kinau South	<input checked="" type="checkbox"/>	<input type="checkbox"/>	9:30	125 ml	Washed, rinsed syringes; acid washed bottles; 0.2 um disposable filters	

<b>Sediments</b>						
		<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

Team	North Kihei	Samplers (Last Name, 1st Initial)	Attelgeland, A Wolf, C Keyhani						Meters and Probes ID		
Session	93		HQ2200 HQ40d: Y3			8g		2100Q: 5			
Date	02/16/2023					pH: 5	DO: 7.1	8g	Salinity: 1		

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)	(%) 85-105 normal				water	beach	camp
Maalaea Harbor NMH230216	N	7:48	23.9	34.7	7.91	93.3	8.14	1.04	602	0.94	0	0
Maalaea Condos NMC230216	N	8:13	23.8	33.2	7.80	92.0	8.00	0.66	0.69	0.75	0	2
Haycraft Park NHP230216	N	8:33	24.2	34.0	8.15	96.5	8.15	0.24	9.62	9.34	0	0
Kealia Pond NKP230216	N	9:00	24.2	35.2	8.36	99.2	8.17	1.56	2.12	1.84	0	2
Kihei Canoe Club NKC230216	N	9:23	24.7	34.3	8.02	96.1	8.12	7.5	24.6	21.2	0	0

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

Use the back of the form if needed.

overcast, No wind, calm waters at all sites.

NMC - sewage smell near site recent light rain. Early morning

NKC 14.2 Turb → 4th

Post-sampling standard reading → Low standard reading higher than 7.00 did 5 readings lowest was 6.95.

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

## TURBIDITY VERIFICATION

	Blank (must be <0.10)	Low (+/- 0.18)	Med (+/- 1.80)	High (+/- 18)
Standard	0.05	6.89	60.5	615
Pre-sampling	0.07	6.87	60.6	615
Post-sampling	0.05	6.95	60.5	615

## CHAIN OF CUSTODY INFORMATION

	# of samples	Relinquished to	Contact
Sediment	-	-	-
Nutrients	5	NMS	YMA
Bacteria	-	-	-

Signature (Team Lead):

Printed Name:

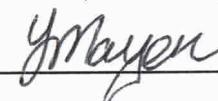
Ylenia Mayon St-Louis

Team	North Kihei	Samplers (Last Name, 1st Initial)	A. Helgeland			
Session	93		A. Wolf			
Date	02/16/2023		C. Keyhani			

Sample ID	Location Name	Sample taken?	Duplicate sample?	Time	Volume	Protocol Notes	Comments
<b>Nutrients</b>							
NMH230216-N-1	Maalaea Harbor	<input checked="" type="checkbox"/>	<input type="checkbox"/>		125 ml	Washed, rinsed syringes; acid washed bottles; 0.2 um disposable filters	
NMC230216-N-1	Maalaea Condos	<input checked="" type="checkbox"/>	<input type="checkbox"/>		125 ml	Washed, rinsed syringes; acid washed bottles; 0.2 um disposable filters	
NHP230216-N-1	Haycraft Park	<input checked="" type="checkbox"/>	<input type="checkbox"/>		125 ml	Washed, rinsed syringes; acid washed bottles; 0.2 um disposable filters	
NKP230216-N-1	Kealia Pond	<input checked="" type="checkbox"/>	<input type="checkbox"/>		125 ml	Washed, rinsed syringes; acid washed bottles; 0.2 um disposable filters	
NKC230216-N-1	Kihei Canoe Club	<input checked="" type="checkbox"/>	<input type="checkbox"/>		125 ml	Washed, rinsed syringes; acid washed bottles; 0.2 um disposable filters	

<b>Sediments</b>							
		<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:

Ylenia M St-Louis