

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

Session No:	Verifiers (pre-sampling):	Pre Date:	Pre Time:	Verifiers (post-sampling):	Post Date:	Post Time:
83	Y. Hayden St-Louis M. Sharpe	7/11/22	10:19	Sharpe, M., St. Louis, Y.	7/14/22	10:24

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 26.8 °C	NIST 26.6 °C	NIST — °C	NIST 32.4 °C	± 0.6 °C of NIST Compare to NIST Std value in tap water
1	2		10/16/22		26.8	—	—	—	
1	3		—		26.8	—	—	33.0	
Salinity			3 months	Std Val	Tap water 0.13	Salin Std 5/24 date 33.9 ppt	Tap water 0.13	Salin Std 5/24 date 33.9 ppt	± 1 ppt Tap water - compare pre & post values Salinity Std - compare to value on Salinity Std bottle
1	2		5/31/22		0.18	33.9	—	—	
1	3		5/31/22		0.19	33.6	0.19	33.0	Salinity standard exp made 5/24/22
Dissolved Oxygen			1 year	Std Val	100%	100%	—	—	
1	2		12/16/21		97.6	—	—	—	
1	1		12/16/21		97.9	96.2	—	—	
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		7/11/22		7.01	10.00	7.00	10.00	pH 4 exp 12/23 pH 7 exp 3/23 pH 10 5/23
1	5		7/11/22		7.02	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
1	1	n/a	4/21/22		0.08	6.36	—	—	low 6.34 Turbidity meter not turning on. use #2 on field
1	2	n/a	4/21/22		0.06	6.19	0.05	6.09	low: 6.19

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

NMS Turbidity meter #1 not turning on even after changing battery. It was cleaned out and after turned on. Just as precaution used #2 on field.

Team	Kamaole	Samplers (Last Name, 1st Initial)	GRAVES, Hecht, McHugh, Liz Yannell Y. St-Louis						Meters and Probes ID		
Session	83								HQ40d: 1	2100Q: 2	
Date	07/12/2022								pH: 5	DO: 1	Salinity: 3

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 NKN220712	N	7:57	25.3	32.7	6.23	91.3	8.13	4.47	4.68 ²⁴ 6.89	5.10	1
Waipuilani Park KWP220712	N	8:17	24.9	32.1	5.95	86.2	8.05	3.60	3.14 2.75	1	4
Kihei South KKS220712	N	8:33	26.0	33.1	5.78	85.7	8.07	3.54	3.81 3.66	0	0
Kalama Park KKP220712	N	8:52	26.3	34.7	6.51	99.5	8.15	8.44 8.03	9.79 9.54	0	8

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

Use the back of the form if needed.

NKN
597 high turbidity extra reading, canoe club
12 people coming in, Low tide, Light wind,
small swell. 4th turbidity read

KWP 3.42 turbidity extra read
KKP - lots of surfers, family on beach; descent swell

Sites with potential for freshwater flow: All

King tides predicted
for next few days

TURBIDITY VERIFICATION

	Blank (must be <0.10)	Low (+/- 0.18)	Med (+/- 1.80)	High (+/- 18)
Standard	0.06	6.19	54.0	602
Pre-sampling	0.07	6.18	54.1	598*
Post-sampling	0.06	6.22	54.3	601

CHAIN OF CUSTODY INFORMATION

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

Signature (Team Lead):

Liz Yannell

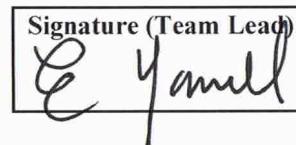
Printed Name:

Liz Yannell

Team	Kamaole	Samplers (Last Name, 1st Initial)	Graves, S.; McHugh, C.; Hecht, H. Yannell, L.; St. Louis, Y.			
Session	83					
Date	07/12/2022					

Sample ID	Location Name	Sample taken?	Duplicate sample?	Time	Volume	Protocol Notes	Comments
Nutrients							
NKN220712-N-1	Kalepolepo North	<input checked="" type="checkbox"/>	<input type="checkbox"/>	7:57	125 ml	Washed, rinsed syringes; acid washed bottles; 0.2 um disposable filters	
KWP220712-N-1	Waipuilani Park	<input checked="" type="checkbox"/>	<input type="checkbox"/>	8:17	125 ml	Washed, rinsed syringes; acid washed bottles; 0.2 um disposable filters	
KKS220712-N-1	Kihei South	<input checked="" type="checkbox"/>	<input type="checkbox"/>	8:33	125 ml	Washed, rinsed syringes; acid washed bottles; 0.2 um disposable filters	
KKP220712-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	

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

Team	Wailea-Makena	Samplers (Last Name, 1st Initial)	M. Sharpe, B. Sousa, D. Bentley L. Yannell					Meters and Probes ID			
Session	83					HQ40d: 1				2100Q: 2	
Date	07/13/2022					pH: 5	DO: 1		Salinity: 3		

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 KCP220713	N	8:25	26.4	32.7	6.63	98.8	8.11	4.51 5.17 4.25 NS	2	5	1
S Maluaka Beach MMB220713	N	9:01	26.7	34.8	6.43	92.7	8.13	2.58 2.82 NS +77	10	12	0
Ahihi Kinau North MAN220713	N	9:30	26.1	35.0	6.68	100.4	8.13	3.65 3.83 4.15 4.41 NS	0	0	0
Ahihi Kinau South MAS220713	N	10:00	26.2	34.9	6.59	99.2	8.17	4.40 4.45 5.76 5.48 NS	1	2	0

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

KCP: dog in water, fish camp on shore, extreme low tide
King tide moon 4th reading turb 5.17; sample
water looked cloudy

MMB: low tide, kynck off shore, sandy shore break
4th reading turb 2.58

MAN: low tide, off shore break, overcast
4th reading turb 4.15

MAS: extreme low tide, south swell, overcast
4th reading turb: 5.76

Sites with potential for freshwater flow: Cove Park

TURBIDITY VERIFICATION

	Blank (must be <0.10)	Low (+/- 0.18)	Med (+/- 1.80)	High (+/- 18)
Standard	0.06	6.22	54.3	601
Pre-sampling	0.07	6.26	53.4	602
Post-sampling	0.08	6.22	54.2	602

CHAIN OF CUSTODY INFORMATION

	# of samples	Relinquished to	Contact
Sediment	-	-	-
Nutrients	4	NMS	M.S
Bacteria	-	-	-

Signature (Team Lead):

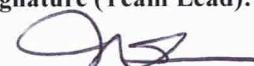
Printed Name:

Maile Sharpe

Team	Wailea-Makena	Samplers (Last Name, 1st Initial)	M. Sharpe, B. Sosa, D. Bently			
Session	83					
Date	07/13/2022					

Sample ID	Location Name	Sample taken?	Duplicate sample?	Time	Volume	Protocol Notes	Comments
Nutrients							
KCP220712-N-1	Cove Park	<input checked="" type="checkbox"/>	<input type="checkbox"/>	8:25	125 ml	Washed, rinsed syringes; acid washed bottles; 0.2 um disposable filters	
MMB220713-N-1	S Maluaka Beach	<input checked="" type="checkbox"/>	<input type="checkbox"/>	9:01	125 ml	Washed, rinsed syringes; acid washed bottles; 0.2 um disposable filters	
MAN220713-N-1	Ahihi Kinau North	<input checked="" type="checkbox"/>	<input type="checkbox"/>	9:30	125 ml	Washed, rinsed syringes; acid washed bottles; 0.2 um disposable filters	
MAS220713-N-1	Ahihi Kinau South	<input checked="" type="checkbox"/>	<input type="checkbox"/>	10:00	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:
	N. Sharpe

Team	North Kihei	Samplers (Last Name, 1st Initial)	Yannell, L, St-Louis, Y., Bahr, Flo.						Meters and Probes ID			
Session	83								HQ40d: 1		2100Q: 1	
Date	07/14/2022								pH: 5	DO: 1	Salinity: 3	

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 NMH220714	N	7:55	25.3	34.7	6.15	91.1	8.13	5.09	5.55	5.41	Ø	Ø	Ø
Maalaea Condos NMC220714	N	8:10	25.7	34.3	7.01	104.4	8.20	6.58	5.93	6.90	Ø	1	Ø
Haycraft Park NHP220714	N	8:33	25.6	34.9	6.71	100.0	8.16	12.6	12.1	10.8	Ø	11	Ø
Kealia Pond NKP220714	N	9:00	26.0	35.4	6.55	98.4	8.17	3.43	3.51	4.02	Ø	Ø	Ø
Kihei Canoe Club NKC220714	N	9:18	26.6	34.7 33.7 esp	6.59	99.6	8.11	28.5	33.1	31.7	Ø	+46	Ø

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

Use the back of the form if needed.

NMH - South swell; windy; snorkel boat loading
~10m away from sample site

NMC - high surf; high winds; stream flowing but
not reaching the sand or ocean at the moment
-stream may have connected last night

NHP - south swell w/ 3' shorebreak; water slightly
brown; surfers farther out; difficult to collect samples
4th turbidity=14.6; 5th turbidity=10.8 (again)

NKP - much smaller shorebreak than NHP; 4th turbidity=4.2

NKC - very brown ~4m out into the ocean; shorebreak
youth canoe teams on beach; 4th turbidity=37.3
King tide earlier this week 7/12-7/13

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

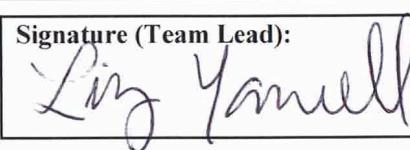
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Pre-sampling	0.07	6.13	54.0	602
Post-sampling	0.05	6.15 84	54.4	601

CHAIN OF CUSTODY INFORMATION

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

Signature (Team Lead):


 Liz Yannell

Printed Name:

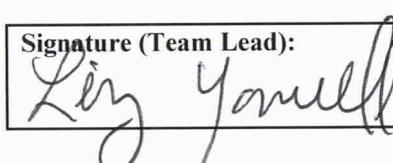
Liz Yannell

Team	North Kihei	Samplers (Last Name, 1st Initial)	Yannell, L., St Louis St , St-Louis, Y.			
Session	83		Bahr, F.			
Date	07/14/2022					

Sample ID	Location Name	Sample taken?	Duplicate sample?	Time	Volume	Protocol Notes	Comments
Nutrients							
NMH220714-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	
NMC220714-N-1	Maalaea Condos	<input checked="" type="checkbox"/>	<input type="checkbox"/>	8:16	125 ml	Washed, rinsed syringes; acid washed bottles; 0.2 um disposable filters	
NHP220714-N-1	Haycraft Park	<input checked="" type="checkbox"/>	<input type="checkbox"/>	8:33	125 ml	Washed, rinsed syringes; acid washed bottles; 0.2 um disposable filters	
NKP220714-N-1	Kealia Pond	<input checked="" type="checkbox"/>	<input type="checkbox"/>	9:00	125 ml	Washed, rinsed syringes; acid washed bottles; 0.2 um disposable filters	
NKC220714-N-1	Kihei Canoe Club	<input checked="" type="checkbox"/>	<input type="checkbox"/>	9:18	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