

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



Session No:	Verifiers (pre-sampling):	Pre Date:	Pre Time:	Verifiers (post-sampling):	Post Date:	Post Time:
89	Y. St-Louis, M. Sharpe	11/14/22	9:35	Y. St-Louis, M. Sharpe	11/17/22	10:00

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	
	1	3	6/28/2022		25.8		28.7				
	1	2	6/28/2022			25.3					
Salinity			3 months	Std Val	Tap water	Salin Std	Tap water	Salin Std	± 1 ppt	Tap water - compare pre & post values Salinity Std - compare to value on Salinity Std bottle	
	1	3	10/24/2022		0.19	33.2	0.19	33.1			
	1	2	10/24/2022		0.18	33.4					
Dissolved Oxygen			1 year	Std Val	100%		100%		± 5 %		
	1	1	12/16/2021		96.8		96.1				
	1	2	12/16/2021		96.3						
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	
	1	4	11/14/22		7.00	9.99				pH 10 Exp 3/2023	
	1	5	11/14/22		7.00	10.03	7.01	10.00		pH 7 Exp 3/2023	
										pH 4 Exp 12/2023	
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 Gilb LOW 1-10 Std Calibration value	
	2	n/a	11/14/22		0.05	6.75				Low: 6.73	
	3	n/a	11/14/22		0.07	6.92	0.05	6.89		Low: 6.91	

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

NMS Turbidity meters re-calibrated

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

Session No:	Verifiers (pre-sampling):	Pre Date:	Pre Time:	Verifiers (post-sampling):	Post Date:	Post Time:
89	Y-st-Louis, M. Sharpe	11/14/22	9:35	Y-st-Louis, M. Sharpe	11/17/22	10:00

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	
	1	3	6/28/2022		25.7 °C	25.2 °C	28.7 °C	— °C			
	1	2	6/28/2022		25.8	25.3	28.7	—			
Salinity			3 months	Std Val	Tap water	Salin Std	Tap water	Salin Std	± 1 ppt	Tap water - compare pre & post values Salinity Std - compare to value on Salinity Std bottle	
	1	3	10/24/2022		0.13	33.7 ppt	0.13	33.7 ppt			
	1	2	10/24/2022		0.19	33.2	0.19	33.1 ppt			
Dissolved Oxygen			1 year	Std Val	100%		100%		± 5 %		
	1	1	12/16/2021		96.8		96.1				
	1	2	12/16/2021		96.3		—				
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 in bottle	
	1	4	11/14/22		7.00	9.99	—	—			
	1	5	11/14/22		7.00	10.03	7.01	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	
	2	n/a	11/14/22		0.05	6.75	—	—		Low: 6.73	
	3	n/a	11/14/22		0.07	6.92	0.05	6.89		Low: 6.91	

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

NMS Turbidity meters re-calibrated

Team	Kamaole	Samplers (Last Name, 1st Initial)	K. McHugh H. Hecht S. Graves	Meters and Probes ID		
Session	89			HQ40d: 1	2100Q: 3	
Date	11/15/2022			pH: 5	DO: 1	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
Kalepolepo North NKN221115	N	7:52	24.8	34.1	6.27	91.7	8.15	3.25	3.51 ^{5.4}	3.99	1	18	0
Waipuilani Park KWP221115	N	8:13	24.0	33.3	6.18	89.0	8.12	8.58	8.57	8.39	0	0	1
Kihei South KKS221115	N	8:30	23.9	33.7	6.09	87.5	8.13	5.84	6.10	5.13	4	7	0
Kalama Park KKP221115	N	8:48	25.2	34.7	6.26	92.8	8.14	13.3	13.0	12.8	2	0	0

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

NKN: High tide, windy, & tiny waves. 2 canoes just got out of water and are on the beach.

*Turbidity ± 4 3.51 @ NKN

KWP: high tide, some small waves, wind

KKS: small waves, windy, a few people swimming

KKP: 2 on beach moved into water

Sites with potential for freshwater flow: All

TURBIDITY VERIFICATION

	Blank (must be <0.10)	Low (0.1-1.0)	Med (1-100)	High (100-1000)
Standard	0.07	6.91	60.1	608
Pre-sampling	0.11	6.88	60.2	609
Post-sampling	0.09	6.97	60.1	609

CHAIN OF CUSTODY INFORMATION

	# of samples	Relinquished to	Contact
Sediment	-	- NMS	-
Nutrients	4	<i>[Signature]</i>	ym
Bacteria	-	-	-

Signature (Team Lead):

[Signature]

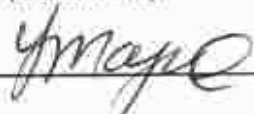
Printed Name:

Ylenia St-Louis

Team	Kamaole	Samplers (Last Name, 1st Initial)	K. Mchugh H. Hecht S. Graves
Session	89		
Date	11/15/2022		

Sample ID	Location Name	Sample taken?	Duplicate sample?	Time	Volume	Protocol Notes	Comments
Nutrients							
NKN221115-N-1	Kalepolepo North	<input checked="" type="checkbox"/>	<input type="checkbox"/>	7:52	125 ml	Washed, rinsed syringes; acid washed bottles; 0.2 um disposable filters	
KWP221115-N-1	Waipulani Park	<input checked="" type="checkbox"/>	<input type="checkbox"/>	8:13	125 ml	Washed, rinsed syringes; acid washed bottles; 0.2 um disposable filters	
KKS221115-N-1	Kihei South	<input checked="" type="checkbox"/>	<input type="checkbox"/>	8:30	125 ml	Washed, rinsed syringes; acid washed bottles; 0.2 um disposable filters	
KKP221115-N-1	Kaluma Park	<input checked="" type="checkbox"/>	<input type="checkbox"/>	8:48	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:
	Y. St-Louis

Team	Walea-Makana	Samplers (Last Name, 1st Initial)	Bob Sousa Marlo Martella Dean Bentley	Meters and Probes ID		
Session	89			HQ40d: 1		2100Q: 3
Date	11/16/2022			pH: 5	DO: 1	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
Cove Park KCP221116	N	8:01A	25.7	34.3	5.93	88.1	8.12	(5.19)mm 3.70 5.59 5.74	1	8	4
S Mafuaka Beach MMB221116	N	8:33A	25.8	35.4	6.48	97.1	8.17	0.79 0.75 0.75	2	11	0
Ahihi Kinau North MAN221116	N	8:56A	25.8	35.2	6.62	99.0	8.08	0.56 0.90 0.74	3	5	0
Ahihi Kinau South MAS221116	N	9:12A	25.9	35.4	6.12	91.8	8.17	0.59 0.60 0.67	6	28	0

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

TURBIDITY VERIFICATION

	Blank (must be <0.10)	Low (0.1-0.19)	Med (0.2-1.80)	High (1.9-18)
Standard	0.09	6.91	60.1	608
Pre-sampling	0.11	6.84	60.4	610
Post-sampling	0.09	6.86	60.5	608

CHAIN OF CUSTODY INFORMATION

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

Signature (Team Lead):



Printed Name:


Sharpe

Sites with potential for freshwater flow: Cove Park

Team	Wailea-Makena	Samplers (Last Name, 1st Initial)	Bob Sousa Dean Bentley Marco Martella
Session	89		
Date	11/16/2022		

Sample ID	Location Name	Sample taken?	Duplicate sample?	Time	Volume	Protocol Notes	Comments
Nutrients							
KCP221116-N-1	Cove Park	<input checked="" type="checkbox"/>	<input type="checkbox"/>	8:01	125 ml	Washed, rinsed syringes; acid washed bottles; 0.2 um disposable filters	
MMB221116-N-1	S Māhaka Beach	<input checked="" type="checkbox"/>	<input type="checkbox"/>	8:33	125 ml	Washed, rinsed syringes; acid washed bottles; 0.2 um disposable filters	
MAN221116-N-1	Ahihi Kinau North	<input checked="" type="checkbox"/>	<input type="checkbox"/>	8:56	125 ml	Washed, rinsed syringes; acid washed bottles; 0.2 um disposable filters	
MAS221116-N-1	Ahihi Kinau South	<input checked="" type="checkbox"/>	<input type="checkbox"/>	9:12	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: M. Sharpe
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Team	North Kihei	Samplers (Last Name, 1st Initial)	A. Wolf, & Bahr, A. H. Geland L. Yannell	Meters and Probes ID		
Session	89			HQ40d: 1	2100Q: 3	
Date	11/17/2022			pH: 5	DO: 1	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 NMH221117	N	7:45	25.4	34.8	5.85	86.7	8.12	1.74 1.61	1.84 1.82	1.66 1.50	0	0	0
Maalaea Condos NMC221117	N	8:19	25.5	34.0	6.60	97.5	8.03	3.11	3.05	2.96	0	0	0
Haycraft Park NHP221117	N	8:33	25.8	35.0	6.42	95.9	8.13	5.22	5.62 4.88	5.34	0	1	0
Kealia Pond NKP221117	N	8:55	26.3	35.5	6.54	98.7	8.18	1.33	4.21 4.06	1.26	0	0	0
Kihei Canoe Club NKC221117	N	9:14	26.2	35.1	6.49	97.9	8.17	4.15 3.83	3.83	4.15	0	6	0

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

did turbidity verification twice on the low sample with exact same results
*Issue with turbidity blank
Team forgot to read blank
Redid first turbidity points at Harbor
Blank would not read < 0.17 - did all troubleshooting
NMC - churned up with shorebreak algae in sample bucket
NHP 4th turb reading + NKP & NKE 6x

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	0.00	6.86	60.5	608
Pre-sampling	0.17*	7.09	60.2	610
Post-sampling	0.05	6.89	60.3	608

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)	A. Wolf L. Yannell F. Bahr A. Helgeland
Session	89		
Date	11/17/2022		

Sample ID	Location Name	Sample taken?	Duplicate sample?	Time	Volume	Protocol Notes	Comments
Nutrients							
NMH21117-N-1	Maulaea Harbor	<input checked="" type="checkbox"/>	<input type="checkbox"/>	7:45	125 ml	Washed, rinsed syringes; acid washed bottles; 0.2 um disposable filters	
NMC221117-N-1	Maulaea Coves	<input checked="" type="checkbox"/>	<input type="checkbox"/>	8:19	125 ml	Washed, rinsed syringes; acid washed bottles; 0.2 um disposable filters	
NHP221117-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	
NKP221117-N-1	Kealia Pond	<input checked="" type="checkbox"/>	<input type="checkbox"/>	8:55	125 ml	Washed, rinsed syringes; acid washed bottles; 0.2 um disposable filters	
NKC221117-N-1	Kihei Canoe Club	<input checked="" type="checkbox"/>	<input type="checkbox"/>	9:14	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:
<i>Y. Mayal</i>	Y. St-Louis