

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

Session No:	Verifiers (pre-sampling):	Pre Date:	Pre Time:	Verifiers (post-sampling):	Post Date:	Post Time:
45	M Brown T. Stark	2/24/20	8:41	M. Brown T. Stark	2/28/20	10:15

QA/QC Check	Inst #	Probe #	Last Cal Date		PRE: Verification Value	POST: Verification Value	Acceptable Range	Comments/ Notes	QA?
Temperature	NIST	n/a	n/a	Std Val	NIST 22.7°C	NIST 22.5°C	NIST 23.7°C	NIST — °C	± 0.6 °C of NIST
	1	1	n/a		22.7		23.7		Compare to NIST Std value in tap water 2/24 lab temp: 23.2°C (pre)
	1	2	n/a		22.4		—		2/28 pre: 23.8°C post 23.9
Salinity			3 months	Std Val	Tap water 0.12	Salin Std date 33.1 ppt	Tap water 0.12	Salin Std date 33.1 ppt	± 1 ppt
	1	1	1/13/20		0.12	33.3	0.10	33.2	
	1	2	1/13/20		0.12	33.4	—	—	
Dissolved Oxygen			1 year	Std Val	100%	100%	100%	100%	± 5 %
	1	1	10/18/19		98%		97.4		
	1	2	10/18/19		102.2%		—		
pH			3 weeks	Std Val	pH 7.00	pH 10.00	pH 7.00	pH 10.00	± 0.1 pH of pH std value
	1	3	2/24/20		7.01	9.95	7.06	10.07	Compare to Manufacturer pH Std value on bottle
	1	4	2/24/20		7.03	10.00	—	—	
Turbidity			3 months	Std Val	BLANK <0.1 NTU	LOW 1-10 <0.1 NTU	BLANK <0.1 NTU	LOW 1-10 NTU	± 0.18 NTU Low 1-10
	1	n/a	12/9/19		0.05	6.78	0.04	6.77	Compare to Gel LOW 1-10 Std Calibration value std 6.79 59.9 610
	2	n/a	12/9/19		0.04	6.47	—	—	"

QA: * Are pre- and post within one week?

* Delay times are ok?

* Other equipment issues?

Team	Kamaole	Samplers (Last Name, 1st Initial)	GRAVES, S		HOWARD, D.		Meters and Probes ID		
Session	45		CYR, M				HQ40d: 1		2100Q: 1
Date	2/25/20		CYR, R.				pH: 3	DO: 1	Salinity: 1

Location Name Sample ID	Streams 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 NKN200225	N	8:01	24.3	33.4	7.75	92.4	8.19	1.83	1.91	2.06	Ø	6	Ø
Waipuilani Park KWP200225	N	8:23	22.8	32.0	6.55	90.9	8.10	22.6	24.6	25.1	Ø	Ø	Ø
Kihei South KKS200225	N	8:40	24.6	33.2	5.75	82.9	8.15	7.89	7.34	7.84	Ø	1	Ø
Kalama Park KKP200225	N	8:58	24.2	34.1	6.65	95.7	8.15	5.56	5.39	5.75	Ø	5	1
Cove Park KCP200225	N	9:12	24.9	31.2	6.24	89.2	8.11	5.99	4.99	5.76	+	0	0
Mai Poina Oe Iau NMP200225	N	9:35	24.9	33.1	6.31	91.4	8.13	3.84	2.85	2.38	Ø	8	Ø

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

Use the back of the form if needed.

+ dog or surf board in water

TURBIDITY VERIFICATION

	Blank (must be <0.10)	Low	Med	High
Standard	0.05	6.79	59.9	610
Pre-sampling	.05	6.93	60.2	611
Post-sampling	0.05	6.72	59.8	612

CHAIN OF CUSTODY INFORMATION

	# of samples	Relinquished to	Contact
Sediment	-	-	-
Nutrients	6	NMS MBrown	
Bacteria	6	NMS APKo	

Sites with streams/outflows: Kalepolepo North, Kalama Park, Cove Park

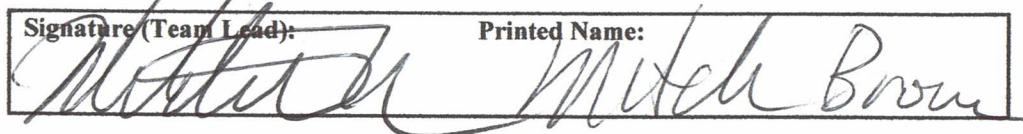
Metta L. S. Mitch Brown

Team	Kamaole	Samplers (Last Name, 1st Initial)	Graves S Howard D.			
Session	45		Ogr M			
Date	2/25/20		Cyr R			

Sample ID	Location Name	Sample taken?	Storm sample?	Time	Volume	Protocol Notes	Comments
Nutrients							
NKN200225-N-1	Kalepolepo North	<input checked="" type="checkbox"/>	<input type="checkbox"/>	8:01	125 ml	Washed, rinsed syringes; acid washed bottles; 0.2 um disposable filters	
KWP200225-N-1	Waipuilani Park	<input checked="" type="checkbox"/>	<input type="checkbox"/>	8:23	125 ml	Washed, rinsed syringes; acid washed bottles; 0.2 um disposable filters	
KKS200225-N-1	Kihei South	<input checked="" type="checkbox"/>	<input type="checkbox"/>	8:40	125 ml	Washed, rinsed syringes; acid washed bottles; 0.2 um disposable filters	
KKP200225-N-1	Kalama Park	<input checked="" type="checkbox"/>	<input type="checkbox"/>	8:58	125 ml	Washed, rinsed syringes; acid washed bottles; 0.2 um disposable filters	
KCP200225-N-1	Cove Park	<input checked="" type="checkbox"/>	<input type="checkbox"/>	9:12	125 ml	Washed, rinsed syringes; acid washed bottles; 0.2 um disposable filters	
NMP200225-N-1	Mai Poina Oe Iau	<input checked="" type="checkbox"/>	<input type="checkbox"/>	9:35	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	
		<input type="checkbox"/>	<input type="checkbox"/>		500 ml	

Signature (Team Lead):



Printed Name:

Team	Makena	Samplers (Last Name, 1st Initial)	J. Dunning, M. Sharpe, B. Sousa						Meters and Probes ID				
Session	45								HQ40d: 1		2100Q: 1		
Date	2/26/20								pH: 3	DO: 1	Salinity: 1		

Location Name Sample ID	Streams Flowing (Y/N)	Time (of collection)	Temp (°C) variable	Salinity (ppt) 30-35 normal	Dissolved Oxygen		pH 8.8-9.3 normal	Turbidity (NTU)			People (within 100 ft)		
					(mg/L)	(%) 85-105 normal					water	beach	camp
Makena Landing MML200226	N	8:00	24.2	34.7	6.74	97.3	8.16	1.38	1.21	1.18	Ø	Ø	Ø
S Maluaka Beach MMB200226	N	8:23	24.6	34.9	6.61	96.2	8.17	1.19	1.22	1.27	Ø	4	2
Oneuli MON200226	N	8:42	24.6	34.9	6.60	96.0	8.15	0.93	1.01	0.99	Ø	Ø	Ø
Ahihi Kinau North MAN200226	N	9:03	24.4	34.7	7.01	101.4	8.08	1.11	1.14	1.04	Ø	Ø	Ø
Ahihi Kinau South MAS200226	N	9:23	24.9	34.1	6.50	94.7	8.08	1.13	1.10	1.02	11	5	Ø

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

Use the back of the form if needed.

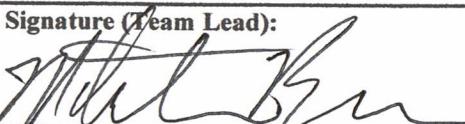
TURBIDITY VERIFICATION

	Blank (must be <0.10)	Low	Med	High
Standard	0.05	6.79	59.9	610
Pre-sampling	0.07	6.69	59.8	612
Post-sampling	0.05	6.70	60.2	611

CHAIN OF CUSTODY INFORMATION

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

Signature (Team Lead):

 Mitch Brown

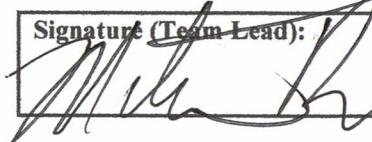
Printed Name:

Sites with streams/outflows: Makena Landing

Team	Makena	Samplers (Last Name, 1st Initial)	<i>Sousa B.</i> <i>Dunning J.</i> <i>Sharpe M</i>			
Session	45					
Date	2/26/20					

Sample ID	Location Name	Sample taken?	Storm sample?	Time	Volume	Protocol Notes	Comments
Nutrients							
MML200226-N-1	Makena Landing	<input checked="" type="checkbox"/>	<input type="checkbox"/>	8:00	125 ml	Washed, rinsed syringes; acid washed bottles; 0.2 um disposable filters	
MMB200226-N-1	South Maluaka Beach	<input checked="" type="checkbox"/>	<input type="checkbox"/>	8:23	125 ml	Washed, rinsed syringes; acid washed bottles; 0.2 um disposable filters	
MON200226-N-1	Oneuli	<input checked="" type="checkbox"/>	<input type="checkbox"/>	8:42	125 ml	Washed, rinsed syringes; acid washed bottles; 0.2 um disposable filters	
MAN200226-N-1	Ahihi-Kinau North	<input checked="" type="checkbox"/>	<input type="checkbox"/>	9:03	125 ml	Washed, rinsed syringes; acid washed bottles; 0.2 um disposable filters	
MAS200226-N-1	Ahihi-Kinau South	<input checked="" type="checkbox"/>	<input type="checkbox"/>	9:23	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	
		<input type="checkbox"/>	<input type="checkbox"/>		500 ml	

Signature (Team Lead):  Printed Name: **Mitch Brown**

Team	North Kihei	Samplers (Last Name, 1st Initial)	Bahr, F. Thanholm, K. Riley, R.	Meters and Probes ID						
Session	45			HQ40d: 1						2100Q: 1
Date	2/27/2020			pH: 3	DO: 1			Salinity: 1		

Location Name Sample ID	Streams 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 NMH200227	N	7:20	22.3	34.1	6.42	89.8	8.14	1.00	1.11	1.29	0	0	0
Maalaea Condos NMC200227	N	7:50	22.3	33.2	6.72	93.4	8.09	1.56	1.67	1.46	0	1	0
Haycraft Park NHP200227	N	8:10	22.7	34.1	6.50	91.6	8.14	1.37	1.68	1.61	0	5	0
Kealia Pond NKP200227	N	8:35	22.8	34.7	6.81	96.4	8.18	.75	.81	.79	0	3	0
Sugar Beach NSB200227	N	9:10	22.8	34.5	6.79	95.9	8.19	1.40	2.09	1.78	0	10	0
Kihei Canoe Club NKC200227	N	9:26	24.1	34.0	6.71	96.6	8.12	.77	.91	1.01	0	3	0

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

Use the back of the form if needed.

* Tiara replaced batteries & spare glass bottle in case
 Replaced batteries @ Kealia (NKP)
~~in turbidity~~ meter for probes ... 1/2 full
 Broke turbidity bottle &
 used spare
 * windy!

Sites with streams/outflows: Kealia Pond

TURBIDITY VERIFICATION

	Blank (must be <0.10)	Low	Med	High
Standard	0.05	6.79	59.9	610
Pre-sampling	0.06	6.78	59.5	611
Post-sampling	0.05	6.71	59.8	612

CHAIN OF CUSTODY INFORMATION

	# of samples	Relinquished to	Contact
Sediment	-	-	-
Nutrients	6	NMS	T. Stark
Bacteria	6	NMS	T. Stark

Signature (Team Lead):

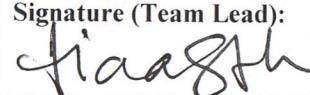
Printed Name:

Tiara Stark

Team	North Kihei	Samplers (Last Name, 1st Initial)	Bahr, F. Thunholm, K. Riley, R.			
Session	45					
Date	02/27/2020					

Sample ID	Location Name	Sample taken?	Storm sample?	Time	Volume	Protocol Notes	Comments
Nutrients							
NMH200227-N-1	Maalaea Harbor	<input checked="" type="checkbox"/>	<input type="checkbox"/>	7:20	125 ml	Washed, rinsed syringes; acid washed bottles; 0.2 um disposable filters	
NMC200227-N-1	Maalaea Condos	<input checked="" type="checkbox"/>	<input type="checkbox"/>	7:50	125 ml	Washed, rinsed syringes; acid washed bottles; 0.2 um disposable filters	
NHP200227-N-1	Haycraft Park	<input checked="" type="checkbox"/>	<input type="checkbox"/>	8:10	125 ml	Washed, rinsed syringes; acid washed bottles; 0.2 um disposable filters	
NKP200227-N-1	Kealia Pond	<input checked="" type="checkbox"/>	<input type="checkbox"/>	8:35	125 ml	Washed, rinsed syringes; acid washed bottles; 0.2 um disposable filters	
NSB200227-N-1	Sugar Beach	<input checked="" type="checkbox"/>	<input type="checkbox"/>	9:10	125 ml	Washed, rinsed syringes; acid washed bottles; 0.2 um disposable filters	
NKC200227-N-1	Kihei Canoe Club	<input checked="" type="checkbox"/>	<input type="checkbox"/>	9:25	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: 

Team	Wailea	Samplers (Last Name, 1st Initial)	Allison, A Farmer, T.						Meters and Probes ID				
Session	45								HQ40d: 1		2100Q: 1		
Date	2/28/2020								pH: 3	DO: 1	Salinity: 1		

Location Name Sample ID	Streams 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
Kilohana Dr WKD200228	N	8:03	23.	34.4	6.86	97.7	8.22	1.24	1.08	1.08	0
Keawakapu Beach WKB200228	N	8:30	23.3	34.6	6.81	97.4	8.20	1.00 1.24 1.08	1.48 1.08 1.08	1.60	2
Ulua Beach WUL200228	N	8:55	23.4	34.2	6.79	97.	8.18	1.52	1.91	1.78	12
Palauaea WPL200228	N	9:26	24.4	34.5	6.72	97.4	8.21	0.98	1.05	0.79	4
Poolenalena WPO200228	N	9:50	24.4	34.7	6.73	98.1	8.22	0.55	0.55	0.57	5
									10		0

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

Use the back of the form if needed.

WKB did not turbidity 1.35

Battery low on patch 40D

TURBIDITY VERIFICATION

	Blank (must be <0.10)	Low	Med	High
Standard	0.05	6.79	59.9	610
Pre-sampling	0.04	6.78	60.01	611
Post-sampling	0.04	6.77	60.01	611

CHAIN OF CUSTODY INFORMATION

	# of samples	Relinquished to	Contact
Sediment	-	-	-
Nutrients	5	NMS	T. Stark
Bacteria	-	-	-

Signature (Team Lead):

Printed Name:

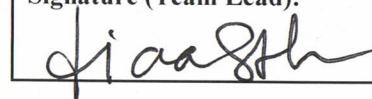
Tiara Stark

Team	Wailea	Samplers (Last Name, 1st Initial)	Allison, A.				
Session	45		Jarvie, J.				
Date	2/28/2020						

Sample ID	Location Name	Sample taken?	Storm sample?	Time	Volume	Protocol Notes	Comments
Nutrients							
WKD200228-N-1	Kilohana Dr	<input checked="" type="checkbox"/>	<input type="checkbox"/>	8:03	125 ml	Washed, rinsed syringes; acid washed bottles; 0.2 um disposable filters	
WKB200228-N-1	Keawakapu Beach	<input checked="" type="checkbox"/>	<input type="checkbox"/>	8:30	125 ml	Washed, rinsed syringes; acid washed bottles; 0.2 um disposable filters	
WUL200228-N-1	Ulua Beach	<input checked="" type="checkbox"/>	<input type="checkbox"/>	8:55	125 ml	Washed, rinsed syringes; acid washed bottles; 0.2 um disposable filters	
WPL2002028-N-1	Palauea	<input checked="" type="checkbox"/>	<input type="checkbox"/>	9:26	125 ml	Washed, rinsed syringes; acid washed bottles; 0.2 um disposable filters	
WPO200228-N-1	Poolenalena	<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		
		<input type="checkbox"/>	<input type="checkbox"/>		500 ml		

Signature (Team Lead):



Printed Name:

Tiara Stark