

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

Session No:	Verifiers (pre-sampling):	Pre Date:	Pre Time:	Verifiers (post-sampling):	Post Date:	Post Time:
49	M Brown T. Stark	7/20/20	9:15 am	T. Stark J. Strickland	7/24/20	10:15 am

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 25.0 °C	NIST 24.4 °C	NIST 27.7 °C	NIST — °C	± 0.6 °C of NIST	Compare to NIST Std value in tap water
	1	1	n/a		25.0		27.6			
	1	2	n/a			24.3		—		
Salinity			3 months	Std Val	Tap water 0.13	Salin Std 1/13/20 date 35.0 ppt	Tap water 0.13	Salin Std 1/13/20 date 35.6 ppt	± 1 ppt	Tap water - compare pre & post values Salinity Std - compare to value on Salinity Std bottle
	1	1	5/4/20		0.16	35.2	0.16	35.0		
	1	2	6/29/20		0.16	35.3	—	—		
Dissolved Oxygen			1 year	Std Val	100%	100%	± 5 %			
	1	1	10/18/19		96.6	96.2				
	1	2	10/18/19		101.4	—				
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	3	7/20/20		6.95	10.02	7.06	10.04		
	1	4	7/20/20		7.06	10.03	—	—		
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	5/4/20		0.03	6.43	0.05	6.51	—	Std: 6.45
	1	n/a	5/4/20		0.03	6.75	0.04	6.75		Std 6.45 " 6.68

QA:

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

Team	Kamaole	Samplers (Last Name, 1st Initial) <i>M Cgr R Cgr S. Graves</i>	Meters and Probes ID		
Session	49		HQ40d: 1		2100Q: 1
Date	7/21/20		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 8-8.3 normal	Turbidity (NTU)			Entero	People (within 100 ft)		
					(mg/L)	(%) 85-105 normal					CFU	water	beach	camp
Kalepolepo North NKN200721	N	8:05	26.6	32.0	5.81	86.5	8.09	1.75	1.96	1.94	0	0	0	0
Waipuilani Park KWP200721	NA	8:30	25.8	32.1	6.07	89.3	8.07	15.4	15.8	17.0	0	0	2/1 dog	0
Kihei South KKS200721	NA	8:48	26.6	32.5	5.81	87.0	8.09	5.93	7.11	6.25	10	0	0	0
Kalama Park KKP200721	N	9:09	26.7	34.4	6.28	96.0	8.10	6.67	7.31	6.89	0	0	0	0
Cove Park KCP200721	N	9:25	27.0	31.0	6.37	95.2	8.09	5.23	6.52	6.96	10	20	0	0
Mai Poina Oe Iau NMP200721	NA	9:54	27.6	31.7	6.52	98.8	8.08	6.13	7.04	6.74	0	20	1/1 dog	0

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

34.3 KKP sal
KCP - lots of fishing rods (no fisherman) 10/1

TURBIDITY VERIFICATION				
	Blank (must be <0.10)	Low	Med	High
Standard	0.03	6.45	58.9	602
Pre-sampling	0.04	6.69	60.7	623
Post-sampling	0.04	6.74	60.9	622

CHAIN OF CUSTODY INFORMATION

Nutrients	2	NAS	M Brown
Bacteria			

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

Team	Kamaole	Samplers (Last Name, 1st Initial) <i>R. Cyr M. Cyr S. Graves</i>
Session	49	
Date	7/21/20	

Sample ID	Location Name	Sample taken?	Storm sample?	Time	Volume	Protocol Notes	Comments
Nutrients							
NKN200721-N-1	Kalepolepo North	<input checked="" type="checkbox"/>	<input type="checkbox"/>	8:05	125 ml	Washed, rinsed syringes; acid washed bottles; 0.2 um disposable filters	
KWP200721-N-1	Waipuilani Park	<input type="checkbox"/>	<input type="checkbox"/>		125 ml	Washed, rinsed syringes; acid washed bottles; 0.2 um disposable filters	
KKS200721-N-1	Kihei South	<input type="checkbox"/>	<input type="checkbox"/>		125 ml	Washed, rinsed syringes; acid washed bottles; 0.2 um disposable filters	
KKP200721-N-1	Kalama Park	<input type="checkbox"/>	<input type="checkbox"/>		125 ml	Washed, rinsed syringes; acid washed bottles; 0.2 um disposable filters	
KCP200721-N-1	Cove Park	<input checked="" type="checkbox"/>	<input type="checkbox"/>	9:25	125 ml	Washed, rinsed syringes; acid washed bottles; 0.2 um disposable filters	
NMP200721-N-1	Mai Poina Oe Iau	<input type="checkbox"/>	<input type="checkbox"/>		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		

Signature (Team Lead): <i>Mitchell Brown</i>	Printed Name: Mitchell Brown
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Team	Makena	Samplers (Last Name, 1st Initial)	Bob Souse, M. Sharpe, J Dunning	Meters and Probes ID		
Session	49			HQ40d: 1		2100Q: 1
Date	7/22/20			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 8-8.3 normal	Turbidity (NTU)			Entero	People (within 100 ft)		
					(mg/L)	(%) 85-105 normal					CFU	water	beach	camp
Makena Landing MML200722	N	8:05	26.6	33.8	6.27	94.2	8.11	3.55 4.9	7.46	7.15	10	0	0	0
S Maluaka Beach MMB200722	N	8:29	27.0	34.6	6.18	94.1	8.13	0.92	0.94	0.90	Q	0	0	0
Oneuli MON200722	N	8:50	27.3	34.6	6.05	92.4	8.09	1.16	0.90	0.92	Q	0	2	0
Ahihi Kinau North MAN200722	N	9:12	27.0	34.8	6.79	103.3	8.11	0.89	0.91	0.95	Q	0	0	0
Ahihi Kinau South MAS200722	N	9:37	26.9	34.3	6.41	97.2	8.11	1.08	0.91	0.96	Q	6	8	0

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

MML - took 4th turbidity - 7.49

TURBIDITY VERIFICATION

	Blank (must be <0.10)	Low	Med	High
Standard	0.04	6.68	60.6	623
Pre-sampling	0.05	6.78	60.4	623
Post-sampling	0.04	6.72	60.9	621

CHAIN OF CUSTODY INFORMATION

	# of samples	Relinquished to	Contact
Sediment	-	-	-
Nutrients	3	NMS	M. Brown
Bacteria			

Signature (Team Lead):

Printed Name:

Mitch Brown Mitch Brown

*Sites no longer sampled - Makena Landing & Oneuli

Sites with streams/outflows: Makena Landing

Team	Makena	Samplers (Last Name, 1st Initial)	B. Sousa M. Sharpe J. Dunning
Session	49		
Date	7/22/20		

Sample ID	Location Name	Sample taken?	Storm sample?	Time	Volume	Protocol Notes	Comments
Nutrients							
MML200722-N-1	Makena Landing	<input type="checkbox"/>	<input type="checkbox"/>		125 ml	Washed, rinsed syringes; acid washed bottles; 0.2 um disposable filters	
MMB200722-N-1	South Maluaka Beach	<input checked="" type="checkbox"/>	<input type="checkbox"/>	8:29	125 ml	Washed, rinsed syringes; acid washed bottles; 0.2 um disposable filters	
MON200722-N-1	Oneuli	<input type="checkbox"/>	<input type="checkbox"/>		125 ml	Washed, rinsed syringes; acid washed bottles; 0.2 um disposable filters	
MAN200722-N-1	Ahihi-Kinau North	<input checked="" type="checkbox"/>	<input type="checkbox"/>	9:12	125 ml	Washed, rinsed syringes; acid washed bottles; 0.2 um disposable filters	
MAS200722-N-1	Ahihi-Kinau South	<input checked="" type="checkbox"/>	<input type="checkbox"/>	9:37	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:
	Michael Brown

Team	North Kihei	Samplers (Last Name, 1st Initial)	Elo Bahu, Tiara Stark	Meters and Probes ID		
Session	49			HQ40d: 1		2100Q: 1
Date	7/23/20			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 8-8.3 normal	Turbidity (NTU)			Entero	People (within 100 ft)		
					(mg/L)	(%) 85-105 normal					CFU	water	beach	camp
Maalaea Harbor NMH200723	N	7:50	26.1	34.4	6.03	90.1	8.11	0.95	0.93	0.84	0	0	0	0
Maalaea Condos NMC200723	N	8:15	26.2	32.6	6.68	99.2	8.02	2.17	2.31	2.31	0	0	0	0
Haycraft Park NHP200723	N	8:35	26.4	34.4	6.41	96.5	8.10	2.01	1.80	2.01	0	8	7	7
Kealia Pond NKP200723	N	9:00	27.0	35.3	6.43	98.1	8.15	0.89	0.82	0.83	0	0	3	0
* Sugar Beach NSB200723	N	9:15	27.5	34.6	6.39	97.9	8.14	2.56	2.58	2.64	20	0	1	0
Kihei Canoe Club NKC200723	N	9:30	28.2	34.4	6.32	98.0	8.10	2.72 3.53	3.58	3.36	10	0	6	0

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

NMH - windy; some waves

NHP - 2 steep tents, 2 pop-ups, 5 fishing poles

NKP - 1 dog on beach

NSB - 1 dog on beach; did not collect for nutrients; temperature rising since this morning

NKC - 2 dogs on beach; water looks brown

*Sites paused for sampling - Sugar Beach

Sites with streams/outflows: Kealia Pond

TURBIDITY VERIFICATION

	Blank (must be <0.10)	Low	Med	High
Standard	0.04	6.68	60.6	623
Pre-sampling	0.07	6.68	60.7	624
Post-sampling	0.04	6.73	60.9	622

CHAIN OF CUSTODY INFORMATION

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

Signature (Team Lead):

tiara

Printed Name:

Tiara Stark

Team	North Kihei	Samplers (Last Name, 1st Initial)	F. Bahr T. Stark
Session	49		
Date	07/23/2020		

Sample ID	Location Name	Sample taken?	Storm sample?	Time	Volume	Protocol Notes	Comments
Nutrients							
NMH200723-N-1	Maalaea Harbor	<input checked="" type="checkbox"/>	<input type="checkbox"/>	7:50	125 ml	Washed, rinsed syringes; acid washed bottles; 0.2 um disposable filters	
NMC200723-N-1	Maalaea Condos	<input checked="" type="checkbox"/>	<input type="checkbox"/>	8:15	125 ml	Washed, rinsed syringes; acid washed bottles; 0.2 um disposable filters	
NHP200723-N-1	Haycraft Park	<input checked="" type="checkbox"/>	<input type="checkbox"/>	8:35	125 ml	Washed, rinsed syringes; acid washed bottles; 0.2 um disposable filters	
NKP200723-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	
NSB200723-N-1	Sugar Beach	<input type="checkbox"/>	<input type="checkbox"/>		125 ml	Washed, rinsed syringes; acid washed bottles; 0.2 um disposable filters	Did not take b/c pausing sampling here
NKC200723-N-1	Kihei Canoe Club	<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:

Tiara Stark

Team	Wailea	Samplers (Last Name, 1st Initial)	Alfred Anne Tiara	Meters and Probes ID		
Session	49			HQ40d: 1	2100Q: 1	
Date	7/24/2020			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)			Entero	People (within 100 ft)		
					6-7 (mg/L) normal	(%) 85-105 normal					CFU	water	beach	camp
Kilohana Dr WKD200724	N	8:06	27.2	34.9	6.30	96.2	8.14	0.79	0.76	0.77		2	9	0
Keawakapu Beach WKB200724	N	8:25	27.2	35.0	6.33	96.8	8.14	0.77	0.87	0.87		0	2	0
Ulua Beach WUL200724	N	8:45	27.2	34.7	6.37	97.1	8.12	1.09	1.23	1.28		10	0	0
* Palauea WPL200724	N	9:01	27.6	34.9	6.39	98.0	8.15	0.70	0.73	0.74		2	3	0
* Poolenalena WPO200724	N	9:15	27.9	34.9	6.41	99.0	8.18	0.53	0.57	0.52		5	15	0

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

WKD - 1 dog on beach
WKB - 1 dog on beach; there was
"X X X X" across turbidity screen
WUL - SWP (x2), sub divers nearby
WPO - 4 tents; boogie boards
nearby; 3 fishing
pole out

*Sites paused for sampling - Palauea & Po'olenalena

* temp diff b/w salinity & DO probe = 0.3°C

TURBIDITY VERIFICATION

	Blank (must be <0.10)	Low	Med	High
Standard	0.04	6.68	60.6	623
Pre-sampling	0.04	6.75	60.8	623
Post-sampling	0.04	6.75	60.8	622

CHAIN OF CUSTODY INFORMATION

	# of samples	Relinquished to	Contact
Sediment	-	-	-
Nutrients	3	NMS	T. Stark
Bacteria	-	-	-

Signature (Team Lead):

Printed Name:

Alfred Anne Tiara Stark

Team	Wailea	Samplers (Last Name, 1st Initial) A. Wolf A. Allison T. Stark
Session	49	
Date	7/24/2020	

Sample ID	Location Name	Sample taken?	Storm sample?	Time	Volume	Protocol Notes	Comments
Nutrients							
WKD200724-N-1	Kilohana Dr	<input checked="" type="checkbox"/>	<input type="checkbox"/>	8:06	125 ml	Washed, rinsed syringes; acid washed bottles; 0.2 um disposable filters	
WKB200724-N-1	Keawakapu Beach	<input checked="" type="checkbox"/>	<input type="checkbox"/>	8:25	125 ml	Washed, rinsed syringes; acid washed bottles; 0.2 um disposable filters	
WUL200724-N-1	Ulua Beach	<input checked="" type="checkbox"/>	<input type="checkbox"/>	8:45	125 ml	Washed, rinsed syringes; acid washed bottles; 0.2 um disposable filters	
WPL200724-N-1	Palauca	<input type="checkbox"/>	<input type="checkbox"/>		125 ml	Washed, rinsed syringes; acid washed bottles; 0.2 um disposable filters	
WPO200724-N-1	Poolenalena	<input type="checkbox"/>	<input type="checkbox"/>		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): T. Stark	Printed Name: Tiara Stark
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