

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



Session No:	Verifiers (pre-sampling):	Pre Date:	Pre Time:	Verifiers (post-sampling):	Post Date:	Post Time:
41	M. Brown T. Stanek	11/18/19	8:30	M. Brown T. Stanek	11/22/19	11:15 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	NIST	NIST	NIST	± 0.6 °C of NIST	Compare to NIST Std value in tap water	
	1	1	n/a		26.3°C	26.0°C	26.5°C	— °C		11/18 pre 26.0°C	
	1	2	n/a		26.3	25.9	26.5	—		11/22 post 25.6°C	
										pre: 24.6°C	
										post: 25.3°C	
Salinity			3 months	Std Val	Tap water	Salin Std	Tap water	Salin Std	± 1 ppt	Tap water - compare pre & post values	
	1	1	9/23/19		0.13	33.2 ppt	0.13	33.2 ppt		Salinity Std - compare to value on	
	1	2	9/23/19		0.15	33.4	—	—		Salinity Std bottle	
Dissolved Oxygen			1 year	Std Val	100%		100%		± 5 %		
	1	1	10/14/19		100.3		97.6				
	1	2	10/18/19		104.4		—				
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	1	11/18/19		7.01	9.98	7.00	9.99			
	1	2	11/18/19		7.03	10.0	—	—			
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	n/a	9/2/19		0.04	6.62	0.05	6.59		gel Std 6.57	
	2	n/a	9/2/19		0.05	6.45	—	—		" 6.42	

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



Team	Kamaole	Samplers (Last Name, 1st Initial)	Quett Gertjes MARGIE Cyr Donna	Meters and Probes ID		
Session	41			HQ40d: 1	2100Q: 1	
Date	11/19/19			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 NKN191119	N	8:10	27.2	34.2	5.55	84.8	8.08	1.31	1.09	1.38	0	2	0
Waipuilani Park KWP191119	N	8:35	25.8	33.5	6.12	90.9	8.07	25.2	23.7	23.2	0	0	0
Kihei South KKS191119	N	8:57	26.0	33.5	6.38	95.4	8.09	10.50	12.70	12.3	3p1 day	5	0
Kalama Park KKP191119	N	9:20	25.1	33.8	6.29	94.1	8.09	10.40	10.40	10.5	9+	1	0
Cove Park KCP191119	N	9:40	27.5	34.4	5.86	90.0	8.10	3.96	4.44	3.31	3	3	0
Mai Poina Oe Iau NMP191119	N	10:05	24.7	34.2	6.42	99.1	8.11	6.07	5.41 4.40	6.99	1	2	0

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

Rain Night before, moderate to heavy 11/18/19

4th turb. read NMP = 5.41

\* Took 2nd Nutrient sample @ KWP  
+ Surfer/Paddleboarders  
no filter on 1st

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

## TURBIDITY VERIFICATION

	Blank (must be <0.10)	Low	Med	High
Standard	0.04	6.57	59.2	600
Pre-sampling	0.08	6.60	59.3	601
Post-sampling	0.03	6.57	59.5	599

## CHAIN OF CUSTODY INFORMATION

	# of samples	Relinquished to	Contact
Sediment	-	-	-
Nutrients	6	NMS	Jim Brown
Bacteria	6	NMS	Jim Brown

Michael K. Brown  
Mitch Brown  
Last updated September 2018

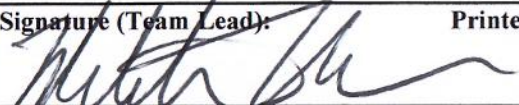


## Hui O Ka Wai Ola - Sample Collection Datasheet

Team	Kamaole	<b>Samplers (Last Name, 1st Initial)</b> <i>S. Graves</i> <i>M. Cyr</i> <i>D. Howard</i>
Session	41	
Date	11/19/19	

Sample ID	Location Name	Sample taken?	Storm sample?	Time	Volume	Protocol Notes	Comments
<b>Nutrients</b>							
NKN191119-N-1	Kalepolepo North	<input checked="" type="checkbox"/>	<input type="checkbox"/>	8:10	125 ml	Washed, rinsed syringes; acid washed bottles; 0.2 um disposable filters	
KWP191119-N-1	Waipuilani Park	<input checked="" type="checkbox"/>	<input type="checkbox"/>	8:35	125 ml	Washed, rinsed syringes; acid washed bottles; 0.2 um disposable filters	
KKS191119-N-1	Kihei South	<input checked="" type="checkbox"/>	<input type="checkbox"/>	8:57	125 ml	Washed, rinsed syringes; acid washed bottles; 0.2 um disposable filters	
KKP191119-N-1	Kalama Park	<input checked="" type="checkbox"/>	<input type="checkbox"/>	9:20	125 ml	Washed, rinsed syringes; acid washed bottles; 0.2 um disposable filters	
KCP191119-N-1	Cove Park	<input checked="" type="checkbox"/>	<input type="checkbox"/>	9:40	125 ml	Washed, rinsed syringes; acid washed bottles; 0.2 um disposable filters	
NMP191119-N-1	Mai Poina Oe Iau	<input checked="" type="checkbox"/>	<input type="checkbox"/>	10:05	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		
		<input type="checkbox"/>	<input type="checkbox"/>		500 ml		

<b>Signature (Team Lead):</b> 	<b>Printed Name:</b> Mitch Brown
--	-------------------------------------



Team	Makena	Samplers (Last Name, 1st Initial) <i>B. Sousa</i> <i>M. Sharpe</i> <i>J. Dunning</i>	Meters and Probes ID		
Session	41		HQ40d: 1	2100Q: 1	
Date	11/20/19		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
Makena Landing MML191120	—	7:50	27.3	34.7	6.31	96.3	8.09	1.80	1.96	2.56	3	1	0
S Maluaka Beach MMB191120	—	8:30	27.2	34.7	6.42	98.3	8.13	1.59	1.92	1.52	3	7	0
Oneuli MON191120	—	8:58	27.3	35.0	6.31	96.8	8.11	2.28	2.08	2.17	0	5	0
Ahihi Kinau North MAN191120	—	9:16	27.3	34.9	6.77	103.7	8.10	0.71	0.79	1.56	2	4	0
Ahihi Kinau South MAS191120	—	9:39	27.4	35.2	6.60	101.3	8.17	0.87	0.85	0.84	13	13	0

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

@MAN - Nach HD40 would not turn on. Had to remove batteries & re-insert to get to turn on 1/2 charge

## TURBIDITY VERIFICATION

	Blank (must be <0.10)	Low	Med	High
Standard	0.03	6.57	59.2	600
Pre-sampling	0.05	6.64	59.1	599
Post-sampling	0.04	6.58	59.4	599

## CHAIN OF CUSTODY INFORMATION

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

Signature (Team Lead):

Printed Name:

*Mitch Brown* Mitch Brown

Sites with streams/outflows: Makena Landing

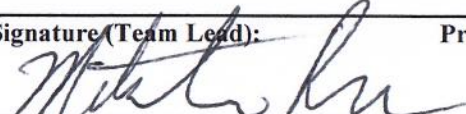
met Barry? - ECOS - taken nutrient samples for resort to determine if cause run-off (discussing?)  
@MAS



<b>Team</b>	Makena	<b>Samplers</b> (Last Name, 1st Initial)	B. Sousa M. Sharpe F. Sunning
<b>Session</b>	41		
<b>Date</b>	11/20/19		

Sample ID	Location Name	Sample taken?	Storm sample?	Time	Volume	Protocol Notes	Comments
<b>Nutrients</b>							
MML191120-N-1	Makena Landing	<input checked="" type="checkbox"/>	<input type="checkbox"/>	7:50	125 ml	Washed, rinsed syringes; acid washed bottles; 0.2 um disposable filters	
MMB191120-N-1	South Maluaka Beach	<input checked="" type="checkbox"/>	<input type="checkbox"/>	8:30	125 ml	Washed, rinsed syringes; acid washed bottles; 0.2 um disposable filters	
MON191120-N-1	Oneuli	<input checked="" type="checkbox"/>	<input type="checkbox"/>	8:58	125 ml	Washed, rinsed syringes; acid washed bottles; 0.2 um disposable filters	
MAN191120-N-1	Ahihi-Kinau North	<input checked="" type="checkbox"/>	<input type="checkbox"/>	9:16	125 ml	Washed, rinsed syringes; acid washed bottles; 0.2 um disposable filters	
MAS191120-N-1	Ahihi-Kinau South	<input checked="" type="checkbox"/>	<input type="checkbox"/>	9:39	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		
		<input type="checkbox"/>	<input type="checkbox"/>		500 ml		

Signature (Team Lead):	Printed Name:
	Mitch Brown



am North Kihei  
Session 41  
Date 11/21/19

Samplers  
(Last Name,  
1st Initial)

Piley, R Rybak, M  
Thurholm, K Rybak, D

Meters and Probes ID

HQ40d: 1

2100Q: 1

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 NMH191121	N	7:25	25.8	34.1	6.08	90.2	8.08	1.50	1.64	1.77	-0-	-0-	-0-
Maalaea Condos NMC191121	N	7:56	25.9	32.8	6.63	98.0	8.02	1.40	1.51	1.59	-0-	-0-	-0-
Haycraft Park NHP191121	N	8:12	26.2	34.5	6.38	96.1	8.10	2.46	2.90	2.68	0	3	1
Kealia Pond NKP191121	N	8:40	26.5	35.2	6.55	99.1	8.16	1.18	1.38	1.35	0	4	0
Sugar Beach NSB191121	N	9:08	27.1	34.8	6.49	99.1	8.15	2.41	2.59	2.61	12	8	0
Kihei Canoe Club NKC191121	N	9:25	27.8	34.6	7.79	99.1	8.14	2.97	2.69	4.50	1	12	0

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

NMH - Super Windy - Boat loading within 100 yds.  
NKP - super windy (calypso) accidentally wrote turbidity in pH box  
NSB - LOTS OF SWIMMERS - kids in water  
BOOGIE BOARDER + SUP babies, dog  
NKC - High particulates - visible in H<sub>2</sub>O.

Sites with streams/outflows: Kealia Pond

TURBIDITY VERIFICATION

	Blank (must be <0.10)	Low	Med	High
Standard	0.04	6.57	59.2	600
Pre-sampling	0.05	6.64	58.8	601
Post-sampling	0.05	6.64	59.3	599

CHAIN OF CUSTODY INFORMATION

	# of samples	Relinquished to	Contact
Sediment	6	-	-
Nutrients	6	NM-5	T. Stark
Bacteria	6	NM-5	T. Stark

Signature (Team Lead):

*Tiara Stark*

Printed Name:

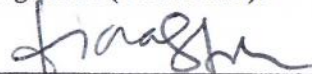
Tiara Stark



Team	North Kihei	Samplers (Last Name, 1st Initial)	Riley, R. Rybak, M. Thurholm, K. Rybak, D.
Session	41		
Date	11/21/19		

Sample ID	Location Name	Sample taken?	Storm sample?	Time	Volume	Protocol Notes	Comments
<b>Nutrients</b>							
NMH191121-N-1	Maalaea Harbor	<input checked="" type="checkbox"/>	<input type="checkbox"/>	7:25	125 ml	Washed, rinsed syringes; acid washed bottles; 0.2 um disposable filters	
NMC191121-N-1	Maalaea Condos	<input checked="" type="checkbox"/>	<input type="checkbox"/>	7:56	125 ml	Washed, rinsed syringes; acid washed bottles; 0.2 um disposable filters	
NHP1901121-N-1	Haycraft Park	<input checked="" type="checkbox"/>	<input type="checkbox"/>	8:12	125 ml	Washed, rinsed syringes; acid washed bottles; 0.2 um disposable filters	
NKP191121-N-1	Kealia Pond	<input checked="" type="checkbox"/>	<input type="checkbox"/>	8:40	125 ml	Washed, rinsed syringes; acid washed bottles; 0.2 um disposable filters	
NSB191121-N-1	Sugar Beach	<input checked="" type="checkbox"/>	<input type="checkbox"/>	9:08	125 ml	Washed, rinsed syringes; acid washed bottles; 0.2 um disposable filters	
NKC191121-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	

<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: Tiara Stark
---	------------------------------



Team	Wailea	Samplers (Last Name, 1st Initial)	Cone B Jarvis J	Allison A	Meters and Probes ID		
Session	41				HQ40d: 1		2100Q: 1
Date	11/22/19				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) 0.93			People (within 100 ft)		
					(mg/L)	(%) 85-105 normal					water	beach	camp
Kilohana Dr WKD191122	N	7:55	27.3	35	<del>6.49</del>	99.5	8.13	0.74	<del>1.12</del>	0.87	8	7	0
Keawakapu Beach WKB191122	N	8:30	27.2	34.8	6.5	99.4	8.13	<del>1.94</del>	<del>2.12</del>	<del>2.84</del>	4	10	0
Ulua Beach WUL191122	N	9:00	27.5	34.9	6.63	102.1	8.17	1.47	.96	1.22	12	8	0
Palaea WPL191122	N	9:21	27.5	<del>34.9</del>	6.50	<del>100.1</del>	8.14	5.39	5.12	5.59	1	9	0
Poolenalena WPO191122	N	9:50	27.8	35	6.47	100.3	8.17	0.60	0.50	0.51	5	22	0

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

WKB divers nearby  
WPL -

WKB particulate matter  
present - turbidity

rain early am

ulua - scrub & snorkelers in front  
of testing area

#### TURBIDITY VERIFICATION

	Blank (must be <0.10)	Low	Med	High
Standard	0.05	6.57	59.2	600
Pre-sampling	0.05	6.71	59.3	602
Post-sampling	0.05	6.59	59.4	599

#### CHAIN OF CUSTODY INFORMATION

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

Signature (Team Lead):

*[Signature]*

Printed Name:

Tiana Stark



<b>Team</b>	Wailea	<b>Samplers (Last Name, 1st Initial)</b>	Cone, B. Jarvis, J.	Allison, A.
<b>Session</b>	41			
<b>Date</b>	11/22/19			

Sample ID	Location Name	Sample taken?	Storm sample?	Time	Volume	Protocol Notes	Comments
<b>Nutrients</b>							
WKD191122-N-1	Kilohana Dr	<input checked="" type="checkbox"/>	<input type="checkbox"/>	7:55	125 ml	Washed, rinsed syringes; acid washed bottles; 0.2 um disposable filters	
WKB191122-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	
WUL191122-N-1	Ulua Beach	<input checked="" type="checkbox"/>	<input type="checkbox"/>	9:00	125 ml	Washed, rinsed syringes; acid washed bottles; 0.2 um disposable filters	
WPL191122-N-1	Palauea	<input checked="" type="checkbox"/>	<input type="checkbox"/>	9:27	125 ml	Washed, rinsed syringes; acid washed bottles; 0.2 um disposable filters	
WPO191122-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	

<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		
		<input type="checkbox"/>	<input type="checkbox"/>		500 ml		

<b>Signature (Team Lead):</b> Allison	<b>Printed Name:</b> Tiara Stark
--	-------------------------------------