

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

Hui O Ka Wai Ola

Session No:	Verifiers (pre-sampling):	Pre Date:	Pre Time:	Verifiers (post-sampling):	Post Date:	Post Time:
67	Banker, B, Maxwell, C	1/6/20	9:40am	BANKER, B., STOCKARD, J.	01/10/2020	11:00

QA/QC Check	Inst #	Probe #	Last Cal Date		PRE: Verification Value	POST: Verification Value	Acceptable Range	Comments/ Notes	QA?
Temperature	NIST 3	n/a	n/a	Std Val	NIST 22.1 °C	NIST 21.8 °C	NIST 21.1 °C	± 0.6 °C of NIST	Compare to NIST Std value in tap water
	2	2	n/a		21.5		20.9		
	2	3	n/a		21.8		—		
Salinity			3 months	Std Val	Tap water Salin Std 10/22/19 date 35.0 ppt	Tap water Salin Std 4-20-19 date 34.3 ppt	Salin Std 4-20-19 date 34.3 ppt	± 1 ppt	Tap water - compare pre & post values Salinity Std - compare to value on Salinity Std bottle
	2	2	1/6/20		0.04	34.9	0.04	34.2	used Hach std for pre verification LAB MADE STD FOR POST
	2	3	1/6/20		0.04	34.9	—	—	35.0 ppt
Dissolved Oxygen			1 year	Std Val	100%	100%	100%	± 5 %	
	2	2	4/5/19		96.5	97.8			
	2	1	5/13/19		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
	2	6	1/6/20		7.04	10.08	7.06	10.07	
	2	5	1/6/20		7.04	10.08	—	—	
Turbidity			3 months	Std Val	BLANK <0.1	LOW 1-10 5.72 NTU	BLANK <0.1	LOW 1-10 5.72 NTU	± 0.18 NTU Low 1-10
	NBSF	n/a	11/18/19		0.05	5.74	0.05	5.79	Compare to Gel LOW 1-10 Std Calibration value
		n/a							

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

\* Delay times are ok?

\* Other equipment issues?

Team	R2RS	Samplers (Last Name, 1st Initial)	FREIBERG, T						Meters and Probes ID			
Session	67		STRICKLAND, J									
Date	1/7/20								HQ40d:	2	2100Q:	NBBF
pH:	6	DO:	2	Salinity:	2							

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
Napili Bay RNS200107	NP	8:11	25.9	35.4	6.49	95.7	8.17	3.38	3.26	3.33	2	2	0
Pohaku RPO200107	NO	8:40	24.3	32.6	6.53	93.1	8.20	3.57	4.33	4.49	0	0	0
Kaanapali Sh RKS200107	NO	9:00	24.3	35.2	6.77	98.1	8.19	3.18	3.01	2.84	0	0	0
Canoe Beach RCB200107	NO	9:20	25.3	35.6	6.34	93.5	8.22	1.70	1.49	1.51	10	5	0
Wahikuli RWA200107	NO	9:39	25.2	34.3	6.53	95.5	8.24	.71	.76	.86	0	0	0

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

Use the back of the form if needed.

RPO - RAINING DURING SAMPLE COLLECTION  
USED LID on BUCKET,

## TURBIDITY VERIFICATION

	Blank (must be <0.10)	Low	Med	High
Standard	0.05	5.72	59.3	619
Pre-sampling	0.05	5.77	59.7	619
Post-sampling	0.05	5.77	59.8	619

## CHAIN OF CUSTODY INFORMATION

	# of samples	Relinquished to	Contact
Sediment	-	-	-
Nutrients	5	LHS	J. STRICKLAND
Bacteria	-	-	-

Signature (Team Lead):

Printed Name:

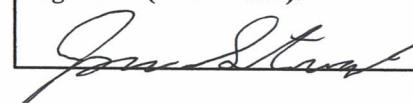
James Strickland

Team	R2RS	Samplers (Last Name, 1st Initial)	FREIBERG, T STRICKLAND, J			
Session	67					
Date	1/7/20					

Sample ID	Location Name	Sample taken?	Storm sample?	Time	Volume	Protocol Notes	Comments
<b>Nutrients</b>							
RNS200107-N-1	Napili Bay	<input checked="" type="checkbox"/>	<input type="checkbox"/>	8:11	125 ml	Washed, rinsed syringes; acid washed bottles; 0.2 um disposable filters	
RPO200107-N-1	Pohaku	<input checked="" type="checkbox"/>	<input type="checkbox"/>	8:40	125 ml	Washed, rinsed syringes; acid washed bottles; 0.2 um disposable filters	
RKS200107-N-1	Kaanapali Sh	<input checked="" type="checkbox"/>	<input type="checkbox"/>	9:00	125 ml	Washed, rinsed syringes; acid washed bottles; 0.2 um disposable filters	
RCB200107-N-1	Canoe Beach	<input checked="" type="checkbox"/>	<input type="checkbox"/>	9:20	125 ml	Washed, rinsed syringes; acid washed bottles; 0.2 um disposable filters	
RWA200107-N-1	Wahikuli	<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	

Signature (Team Lead):



Printed Name:

James Strickland

Team	Polanui	Samplers (Last Name, 1st Initial)	Maxwell, J Harris, K						Meters and Probes ID				
Session	67								HQ40d:	2	2100Q: NBPF		
Date	01/08/2020		pH:	6	DO:	2	Salinity:	2					

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
505 Front St PFF200108	Y	8:20	24.8	34.0	5.69	82.8	8.09	3.19	3.59	2.76*	\$	13	\$
Lindsey Hale PLH200108	N	8:47	24.6	35.0	6.03	88.1	8.14	12.7	14.0	12.9	\$	\$	\$
Lahaina Town PLT200108	—	9:09	24.9	34.3	6.13	89.7	8.14	8.92	10.8	10.8	\$	4	2
Olowalu Pier OSF200108	—	9:47	23.7	35.4	6.80	98.0	8.17	1.38	1.46	1.70	\$	\$	\$

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

PFF stream flowing  
\*#4 turbidity 3.00  
PLT When asked how the weather  
was last night, campers said  
cold + a little rainy  
check KC1 ~ PLT probe

## TURBIDITY VERIFICATION

	Blank (must be <0.10)	Low	Med	High
Standard	0.05	5.72	59.3	619
Pre-sampling	0.06	5.74	59.8	619
Post-sampling	0.05	5.76	60.2	619

## CHAIN OF CUSTODY INFORMATION

	# of samples	Relinquished to	Contact
Sediment	-	-	-
Nutrients	4	LLHS	BH.BANKER
Bacteria	-	-	-

Signature (Team Lead):

*BH.Ban*

Printed Name:

BRUCE H. BANKER

Team	Polanui	Samplers (Last Name, 1st Initial)	<i>MAXWELL, J</i> <i>HARRIS, K</i>				
Session	67						
Date	01/08/2020						

Sample ID	Location Name	Sample taken?	Storm sample?	Time	Volume	Protocol Notes	Comments
<b>Nutrients</b>							
PFF200108-N-1	505 Front St	<input checked="" type="checkbox"/>	<input type="checkbox"/>	08:20	125 ml	Washed, rinsed syringes; acid washed bottles; 0.2 µm disposable filters	
PLH200108-N-1	Lindsey Hale	<input checked="" type="checkbox"/>	<input type="checkbox"/>	08:47	125 ml	Washed, rinsed syringes; acid washed bottles; 0.2 µm disposable filters	
PLT200108-N-1	Lahaina Town	<input checked="" type="checkbox"/>	<input type="checkbox"/>	09:09	125 ml	Washed, rinsed syringes; acid washed bottles; 0.2 µm disposable filters	
OSF200108-N-1	Olowalu Pier	<input checked="" type="checkbox"/>	<input type="checkbox"/>	09:47	125 ml	Washed, rinsed syringes; acid washed bottles; 0.2 µm 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):

*BHBo*

Printed Name:

*Bruce H. Blanck*

Team	Olowalu	Samplers (Last Name, 1st Initial)	GUND, K NOPENEN, R RANIERI, L						Meters and Probes ID				
Session	67								HQ40d:	2	2100Q: NBBF		
Date	01/09/2020								pH:	6	DO:	2	Salinity:

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
Martin Hale OPM200109	N	7:15	23.1	35.7	5.91	84.8	8.16	6.94	6.86	7.33	Ø	Ø	Ø
Camp Olowalu OCO200109	N	7:32	23.0	35.8	6.35	90.0	8.21	0.76	0.85	0.70	Ø	Ø	Ø
Ukumehame OUB200109	N	7:47	23.2	35.9	6.54	93.9	8.19	13.4	14.3	14.7	Ø	Ø	Ø
Papalaua Beach OPB200109	N	8:06	23.6	35.8	6.65	95.9	8.19	13.8	14.1	14.6	Ø	Ø	Ø
Papalaua Pali OPP200109	SLIGHT TRICKLE	8:21	23.8	35.7	6.59	95.3	8.16	16.2	16.3	16.5	Ø	Ø	Ø

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

Very Windy day, showers off and on

#### TURBIDITY VERIFICATION

	Blank (must be <0.10)	Low	Med	High
Standard	0.05	5.72	59.3	619
Pre-sampling	0.07	5.79	60.3	619
Post-sampling	0.06	5.77	60.0	619

#### CHAIN OF CUSTODY INFORMATION

	# of samples	Relinquished to	Contact
Sediment	0	N/A	N/A
Nutrients	5	LLHS	BH BANKER
Bacteria	0	N/A	N/A

Signature (Team Lead):

Printed Name:

BRUCE H. BANKER

Team	Olowalu	Samplers (Last Name, 1st Initial)	GUND,K NAPOKEN,R RAMIER,L			
Session	67					
Date	01/09/2020					

Sample ID	Location Name	Sample taken?	Storm sample?	Time	Volume	Protocol Notes	Comments
<b>Nutrients</b>							
OPM200109-N-1	Martin Hale	<input checked="" type="checkbox"/>	<input type="checkbox"/>	07:15	125 ml	Washed, rinsed syringes; acid washed bottles; 0.2 µm disposable filters	
OCO200109-N-1	Camp Olowalu	<input checked="" type="checkbox"/>	<input type="checkbox"/>	07:32	125 ml	Washed, rinsed syringes; acid washed bottles; 0.2 µm disposable filters	
OUN200109-N-1	Ukumehame	<input checked="" type="checkbox"/>	<input type="checkbox"/>	07:47	125 ml	Washed, rinsed syringes; acid washed bottles; 0.2 µm disposable filters	
OPB200109-N-1	Papalaua Beach	<input checked="" type="checkbox"/>	<input type="checkbox"/>	08:06	125 ml	Washed, rinsed syringes; acid washed bottles; 0.2 µm disposable filters	
OPP200109-N-1	Papalaua Pali	<input checked="" type="checkbox"/>	<input type="checkbox"/>	08:21	125 ml	Washed, rinsed syringes; acid washed bottles; 0.2 µm 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):

*BH-Bak*

Printed Name:

*Bruce H. Bakken*

Team	R2RN	Samplers (Last Name, 1st Initial)	Hutchings, L Miller, T Hehemann, C Stockland, J						Meters and Probes ID			
Session	67								HQ40d: 2		2100Q: NBBF	
Date	1/10/20								pH: 6	DO: 2	Salinity: 2	

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
Honolua Bay RHL200110	Y	8:00X	23.3	31.4	6.66	93.7	8.15	6.32	5.95	5.76	0	0	0
Oneoia Bay RON200110	N	8:29	23.3	31.4	6.66	93.7	8.22	6.32	5.95	5.76	0	0	0
Kapalua Bay RFS200110	X	8:55	23.9	34.9	6.45	93.3	8.13	1.46	1.45	1.92	2	3	0
Ka'opala Bay RKO200110	Y	9:25	24.2	35.0	6.41	93.1	8.14	8.54	8.29	8.89	0	0	0
Kahana Village RKV200110	N	9:45	23.6	33.2	6.77	96.5	8.16	11.1	13.4	14.9	0	0	0
RON200110	N	8:29	24.2	35.7	6.64	97.1	8.22	0.85	0.91	0.80	0	0	0

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

Use the back of the form if needed.

RAINING HARD AT RHL SO WE TOOK SAMPLES TO RON TO TEST. STARTED PUTTING RHL DATA IN RON ROW.  
 RFS: 4th reading 1.35 turbidity  
 RKV 4th turbidity: 10.2

## TURBIDITY VERIFICATION

	Blank (must be <0.10)	Low	Med	High
Standard	0.06	5.72	59.3	619
Pre-sampling	0.06	5.76	60.0	620
Post-sampling	0.05	5.79	59.8	621

## CHAIN OF CUSTODY INFORMATION

	# of samples	Relinquished to	Contact
Sediment	-	-	-
Nutrients	5	LLHS	BH.BAKER
Bacteria	-	-	-

Signature (Team Lead):

*BH.Baker*

Printed Name:

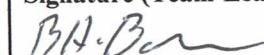
BRUCE H. BAKER

Team	R2RN	Samplers (Last Name, 1st Initial)	HUTCHINGS, L
Session	67		MILLER, T
Date	1/10/20		HEHMAN, C STRICKLAND, J

Sample ID	Location Name	Sample taken?	Storm sample?	Time	Volume	Protocol Notes	Comments
<b>Nutrients</b>							
RHL200110-N-1	Honolua Bay	<input checked="" type="checkbox"/>	<input type="checkbox"/>	08:00	125 ml	Washed, rinsed syringes; acid washed bottles; 0.2 um disposable filters	
RON200110-N-1	Oneloa Bay	<input checked="" type="checkbox"/>	<input type="checkbox"/>	08:29	125 ml	Washed, rinsed syringes; acid washed bottles; 0.2 um disposable filters	
RFS200110-N-1	Kapalua Bay	<input checked="" type="checkbox"/>	<input type="checkbox"/>	08:55	125 ml	Washed, rinsed syringes; acid washed bottles; 0.2 um disposable filters	
RKO200110-N-1	Ka'opala Bay	<input checked="" type="checkbox"/>	<input type="checkbox"/>	09:25	125 ml	Washed, rinsed syringes; acid washed bottles; 0.2 um disposable filters	
RKV200110-N-1	Kahana Village	<input checked="" type="checkbox"/>	<input type="checkbox"/>	09:45	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:

Bruce H. BARKER