

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

Session No:	Verifiers (pre-sampling):	Pre Date:	Pre Time:	Verifiers (post-sampling):	Post Date:	Post Time:
57	Bruce Bunker, Cathy Maxwell	6/3/19	10:05am	CATHY MAXWELL, Bruce Bunker	06/07/19	11:00

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 21.9 °C	NIST 21.4 °C	NIST 24.3 °C	NIST °C	± 0.6 °C of NIST Compare to NIST Std value in tap water
	2	2	n/a		21.6		24.2		
	2	3	n/a			21.2			
Salinity			3 months	Std Val	Tap water	Salin Std 11/20/18 date 35.0 ppt	Tap water	Salin Std 11/20/18 date 35.0 ppt	± 1 ppt Tap water - compare pre & post values Salinity Std - compare to value on Salinity Std bottle
	2	2	3/11/19		0.05	35.0	0.04	34.9	Salinity standard Hach solution
	2	3	3/11/19		0.04	34.9			
Dissolved Oxygen			1 year	Std Val	100%	100%	100%	± 5 %	
	2	2	8/6/18		100%	100.8%			
	2	1	5/13/19		103.2%				
pH			3 weeks	Std Val	pH 7.00	pH 10.00	pH 7.00	pH 10.00	± 0.1 pH of pH std value Compare to Manufacturer pH Std value on bottle
	2	6	6/3/19		7.00	10.01	7.07	10.08	
	2	5	6/3/19		7.00	10.01			
Turbidity			3 months	Std Val	BLANK <0.1	LOW 1-10 5.80 NTU	BLANK <0.1	LOW 1-10 5.80 NTU	± 0.18 NTU Low 1-10 Compare to Gel LOW 1-10 Std Calibration value
	NBBF	n/a	4/5/19		0.04	5.84	0.05	5.87	
		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, MAXWELL, C.								Meters and Probes ID		
Session	57										HQ40d: 2	2100Q: NBBF	
Date	6/4/19		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 RNS190604	—	8:21	25.5	33.4	6.76	99.5	8.16	1.49	2.36	1.41	1	2	0
Pohaku RPO190604	N	9:01	25.9	33.1	6.55	96.9	8.23	0.84	0.95	1.30	2	4	0
Kaanapali Sh RKS190604	—	9:23	26.0	35.4	6.99	105.0	8.21	1.34	1.19	1.33	1	2	0
Canoe Beach RCB190604	—	9:50	27.7	34.0	7.05	108.0	8.29	2.59	3.25	2.65	1	3	0
Wahikuli RWA190604	—	10:09	27.5	35.0	6.66	102.3	8.26	1.60	0.47	0.67	0	2	0

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

Use the back of the form if needed.

RNS - very light rain &amp; cloudy - no waves

RPO - no waves - no rain

RKS - no waves

RCB - 2 of the 3 people on the beach - fishermen  
no waves- pH probe - initial #s due to being in  
air for ~ 30sec - let stabilize  
again in solution & reread after ~  
1 min back in Seawater

RWA - a few large particles in turbidity sample

## TURBIDITY VERIFICATION

	Blank (must be <0.10)	Low	Med	High
Standard	0.04	5.80	58.5	604
Pre-sampling	0.07	5.85	59.2	605
Post-sampling	0.05	5.85	59.6	604

## CHAIN OF CUSTODY INFORMATION

	# of samples	Relinquished to	Contact
Sediment	-	-	-
Nutrients	5	LLHS	C Maxwell
Bacteria	-	-	-

Signature (Team Lead):

Catherine Maxwell

Printed Name:

Catherine Maxwell

Team	R2RS	Samplers (Last Name, 1st Initial)	Freiberg, T, Maxwell, C			
Session	57					
Date	6/4/19					

Sample ID	Location Name	Sample taken?	Storm sample?	Time	Volume	Protocol Notes	Comments
<b>Nutrients</b>							
RNS190604-N-1	Napili Bay	<input checked="" type="checkbox"/>	<input type="checkbox"/>	8:21	125 ml	Washed, rinsed syringes; acid washed bottles; 0.2 um disposable filters	
RPO190604-N-1	Pohaku	<input checked="" type="checkbox"/>	<input type="checkbox"/>	9:01	125 ml	Washed, rinsed syringes; acid washed bottles; 0.2 um disposable filters	
RKS190604-N-1	Kaanapali Sh	<input checked="" type="checkbox"/>	<input type="checkbox"/>	9:23	125 ml	Washed, rinsed syringes; acid washed bottles; 0.2 um disposable filters	
RCB190604-N-1	Canoe Beach	<input checked="" type="checkbox"/>	<input type="checkbox"/>	9:50	125 ml	Washed, rinsed syringes; acid washed bottles; 0.2 um disposable filters	
RWA190604-N-1	Wahikuli	<input checked="" type="checkbox"/>	<input type="checkbox"/>	10.09	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:

Catherine Maxwell

Team	Polanui	Samplers (Last Name, 1st Initial)	<i>Maxwell, J Bayly, R Harris, K</i>					Meters and Probes ID			
Session	57							HQ40d:	2	2100Q: NBBF	
Date	06/05/2019				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	(%) 85-105 normal	Turbidity (NTU)	People (within 100 ft)			
					(mg/L)	(%) 85-105 normal				water	beach	camp	
505 Front St PFF190605	Y	8:10	27.1	35.4	5.79	88.3	8.14	1.72	1.70	1.75	0	12	0
Lindsey Hale PLH190605	N	8:32	27.5	35.6	5.12	78.6	8.09	2.27	2.25	2.52	0	3	0
Lahaina Town PLT190605	—	8:48	27.5	35.8	6.14	94.5	8.14	2.35	2.05	2.65	0	0	0
Olowalu Pier OSF190605	—	9:25	28.0	36.0	6.14	95.6	8.14	6.95	5.46	5.42	0	2	0

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

Extreme low tide

DO NOT TAKE NUTRIENT SAMPLE FROM OLOWALU PIER THIS EVENT  
(Will Only Be Taken Quarterly)

#### TURBIDITY VERIFICATION

	Blank (must be <0.10)	Low	Med	High
Standard	0.05	5.80	58.5	604
Pre-sampling	0.08	5.85	59.3	605
Post-sampling JS	0.04	0.07	5.87	59.6

#### CHAIN OF CUSTODY INFORMATION

	# of samples	Relinquished to	Contact
Sediment	—	—	—
Nutrients	3	LLHS	B.BANKER
Bacteria	—	—	—

Signature (Team Lead):

*Bruce B.*

Printed Name:

*BRUCE H. BANKER*

Team	Polanui	Samplers (Last Name, 1st Initial)	<i>MAXWELL, J</i> <i>BAYLY, R</i> <i>HARRIS, K</i>			
Session	57					
Date	06/05/2019					

Sample ID	Location Name	Sample taken?	Storm sample?	Time	Volume	Protocol Notes	Comments
<b>Nutrients</b>							
PFF190605-N-1	505 Front St	<input checked="" type="checkbox"/>	<input type="checkbox"/>	08:10	125 ml	Washed, rinsed syringes; acid washed bottles; 0.2 um disposable filters	
PLH190605-N-1	Lindsey Hale	<input checked="" type="checkbox"/>	<input type="checkbox"/>	08:32	125 ml	Washed, rinsed syringes; acid washed bottles; 0.2 um disposable filters	
PLT190605-N-1	Lahaina Town	<input checked="" type="checkbox"/>	<input type="checkbox"/>	08:48	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. BANKER*

Team	Olowalu	Samplers (Last Name, 1st Initial)	RANIGUL, LINDSAY					Meters and Probes ID			
Session	57		NAPONEN, RICHARD					HQ40d:	2	2100Q:	NBBF
Date	06/06/2019		BANKER, BRUCE				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	(%) 85-105 normal	Turbidity (NTU)			People (within 100 ft)		
					(mg/L)	(%)			water	beach	camp	water	beach	camp
Martin Hale OPM190606	N	7:14	27.1	36.1	5.02	76.9	8.03	1.39	1.71	1.81	0	0	0	
Camp Olowalu OCO190606	N	7:30	27.4	36.1	5.96	91.6	8.13	1.51	1.58	1.67	0	9	0	
Ukumehame OUB190606	N	7:45	27.1	36.1	6.25	95.6	8.13	3.31	3.43	3.19	15	0	0	
Papalaua Beach OPB190606	N	0800	27.3	36.2	6.01	92.3	8.10	3.31	3.77	2.79	0	0	2	
Papulua Pali OPP190606	N	0813	27.3	36.0	6.16	94.5	8.15	2.69	3.03	3.17	0	1	0	

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

Use the back of the form if needed.

All pre sampling tested a little high.  
Salinity testing higher than normal range.  
RAIN STARTED AT LAST SITE

**DO NOT TAKE NUTRIENT SAMPLES THIS EVENT**

(Will Only Be Taken Quarterly)

**TURBIDITY VERIFICATION**

	Blank (must be <0.10)	Low	Med	High
Standard	0.04	5.80	58.5	604
Pre-sampling	0.08	5.84	59.7	607
Post-sampling	0.05	5.86	59.9	605

**CHAIN OF CUSTODY INFORMATION**

	# of samples	Relinquished to	Contact
Sediment	0	N/A	N/A
Nutrients	0	N/A	N/A
Bacteria	0	N/A	N/A

Signature (Team Lead):

*BH.B*

Printed Name:

*BRUCE H. BANKER*

Team	Olowalu	Samplers (Last Name, 1st Initial)	RANIERI, L
Session	57		NOPONEN, R
Date	06/06/2019		BANKER, B

Sample ID	Location Name	Sample taken?	Storm sample?	Time	Volume	Protocol Notes	Comments
<b>Nutrients</b>							

<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): <i>BH-Ban</i>	Printed Name: BRUCE H. BANKER
---	----------------------------------

Team	R2RN	Samplers (Last Name, 1st Initial)	Hutchings, Lyn BANKER, BRUCE						Meters and Probes ID			
Session	57								HQ40d:	2	2100Q: NBBF	
Date	6/7/19		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 RHL190607	N	7:50A	25.7	35.3	6.05	90.2	9.18	1.68	0.6	1.42	1.63	4	8	0
Oneloa Bay RON190607	-	8:40A	26.1	36.1	6.88	104.0	8.26	0.46	0.32	0.32	0	2	0	
Kapalua Bay RFS190607	-	9:10A	26.4	32.0	6.61	98.1	8.15	1.95	0.91	0.92	2.5	50+	0	
Ka'opala Bay RKO190607	N	9:45A	26.9	35.5	6.11	93.2	8.17	3.27	2.86	3.09	0	4	0	
Kahana Village RKV190607	SITE CLOSED - DUNE RESTORATION													

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

Use the back of the form if needed.

N15F-RHL: 26.1 °C in ocean, 25.9 °C in sample  
AMBIENT 27.1 °C

RKV - SITE CLOSE - NO SAMPLES TAKEN

## TURBIDITY VERIFICATION

	Blank (must be <0.10)	Low	Med	High
Standard	0.05	5.80	58.5	604
Pre-sampling	0.07	5.87	59.4	606
Post-sampling	0.05	5.87	59.9	604

## CHAIN OF CUSTODY INFORMATION

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

Signature (Team Lead):

Printed Name:

Team	R2RN	Samplers (Last Name, 1st Initial)	HUTCHINGS, L BARKER, B			
Session	57					
Date	6/7/19					

Sample ID	Location Name	Sample taken?	Storm sample?	Time	Volume	Protocol Notes	Comments
<b>Nutrients</b>							
RHL190607-N-1	Honolua Bay	<input checked="" type="checkbox"/>	<input type="checkbox"/>	07:50	125 ml	Washed, rinsed syringes; acid washed bottles; 0.2 um disposable filters	
RON190607-N-1	Oneloa Bay	<input checked="" type="checkbox"/>	<input type="checkbox"/>	08:40	125 ml	Washed, rinsed syringes; acid washed bottles; 0.2 um disposable filters	
RFS190607-N-1	Kapalua Bay	<input checked="" type="checkbox"/>	<input type="checkbox"/>	09:10	125 ml	Washed, rinsed syringes; acid washed bottles; 0.2 um disposable filters	
RKO190607-N-1	Ka'opala Bay	<input checked="" type="checkbox"/>	<input type="checkbox"/>	09:45	125 ml	Washed, rinsed syringes; acid washed bottles; 0.2 um disposable filters	
RKV190607-N-1	Kahana Village	<input type="checkbox"/>	<input type="checkbox"/>	N/A	125 ml	Washed, rinsed syringes; acid washed bottles; 0.2 um disposable filters	NO SAMPLE TAKEN

<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