

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


Session No:	Verifiers (pre-sampling):	Pre Date:	Pre Time:	Verifiers (post-sampling):	Post Date:	Post Time:
61	Banker, B, Maxwell, C.	08/26/2019	11:10	Banker, B, Maxwell, C.	08/30/19	10:45

QA/QC Check	Inst #	Probe #	Last Cal Date		PRE: Verification Value		POST: Verification Value		Acceptable Range	Comments/ Notes	QA?
Temperature	NIST Z	n/a	n/a	Std Val	NIST 23.6 °C	NIST 23.2 °C	NIST 23.9 °C 20.5 °C	NIST °C	± 0.6 °C of NIST	Compare to NIST Std value in tap water	
	Z	Z	n/a		23.4		23.7				
	Z	3	n/a			23.0					
Salinity			3 months	Std Val	Tap water	Salin Std 6/3/19 date 34.3 ppt	Tap water	Salin Std 6/3/19 date 34.3 ppt	± 1 ppt	Tap water - compare pre & post values Salinity Std - compare to value on Salinity Std bottle	
	Z	Z	6/24/19		0.05	34.6	0.04				
	Z	3	6/24/19		0.04	34.5	34.4				
Dissolved Oxygen			1 year	Std Val	100%		100%		± 5 %		
	Z	Z	8/5/19		98.8%		99.1%				
	Z	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	
	Z	6	8/26/19		7.06 <sub>cm</sub>	10.06	7.03	10.09			
	Z	5	8/26/19		7.03	10.05					
Turbidity			3 months	Std Val	BLANK <0.1	LOW 1-10 5.76 <sub>NTU</sub>	BLANK <0.1	LOW 1-10 5.76 <sub>NTU</sub>	± 0.18 NTU Low 1-10	Compare to Gel LOW 1-10 Std Calibration value	
	NBBF	n/a	7/5/19		0.05	5.72	0.06	5.76			
		n/a									

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



Team	R2RS	Samplers (Last Name, 1st Initial)	FISBERG, T. MAXWELL, C. ABROMATI, A	Meters and Probes ID		
Session	61			HQ40d: 2	2100Q: NBBF	
Date	8/27/19			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 RNS190827	N	8 <sup>14</sup>	28.0	34.3	6.41	99.2	8.15	3.51	3.48	3.62	5	13	0
Pohaku RPO190827	N	8 <sup>38</sup>	28.3	34.2	6.44	100.0	8.22	0.84	1.12	1.16	0	2	0
Kaanapali Sh RKS190827	—	8 <sup>58</sup>	28.3	36.0	5.84	91.5	8.13	1.87	2.16	1.95	2	4	0
Canoe Beach RCB190827	—	9 <sup>17</sup>	28.7	35.2	6.46	101.7	8.22	2.30	1.93	1.86	0	2	0
Wahikuli RWA190827	—	9:38	28.6	34.8	6.41	100.3	8.25	2.31	2.14	2.04	0	3	0

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

RNS - BLANK IS HIGH  
note: when 1<sup>st</sup> turned on TURBIDITY meter had to  
reset time/date info before  
operation  
RWA - one DOG.

## TURBIDITY VERIFICATION

	Blank (must be <0.10)	Low	Med	High
Standard	0.05	5.76	58.9	609
Pre-sampling	0.09	5.74	59.1	608
Post-sampling	0.06	5.81	59.4	607

## 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., Abromeitis, A
Session	61		
Date	8/27/19		

Sample ID	Location Name	Sample taken?	Storm sample?	Time	Volume	Protocol Notes	Comments
Nutrients							
RNS190827-N-1	Napili Bay	<input checked="" type="checkbox"/>	<input type="checkbox"/>	8 <sup>14</sup>	125 ml	Washed, rinsed syringes; acid washed bottles; 0.2 um disposable filters	
RPO190827-N-1	Pohaku	<input checked="" type="checkbox"/>	<input type="checkbox"/>	8 <sup>38</sup>	125 ml	Washed, rinsed syringes; acid washed bottles; 0.2 um disposable filters	
RKS190827-N-1	Kaanapali Sh	<input checked="" type="checkbox"/>	<input type="checkbox"/>	8 <sup>58</sup>	125 ml	Washed, rinsed syringes; acid washed bottles; 0.2 um disposable filters	
RCB190827-N-1	Canoe Beach	<input checked="" type="checkbox"/>	<input type="checkbox"/>	9 <sup>17</sup>	125 ml	Washed, rinsed syringes; acid washed bottles; 0.2 um disposable filters	
RWA190827-N-1	Wahikuli	<input checked="" type="checkbox"/>	<input type="checkbox"/>	9 <sup>38</sup>	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):

Catherine Maxwell

Printed Name:

Catherine Maxwell



Team	Polanui	Samplers (Last Name, 1st Initial)	Maxwell, J. Tyler, L. Bayly, R.	Meters and Probes ID		
Session	61			HQ40d: 2	2100Q: NBBF	
Date	08/28/2019			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	Turbidity (NTU)			People (within 100 ft)		
					(mg/L)	(%) 85-105 normal					water	beach	camp
505 Front St PFF190828	Y	8:10	28.7	35.7	5.25	82.7	8.06	1.52	1.63	1.76	0	6	0
Lindsey Hale PLH190828	N	8:40	28.9	36.0	5.39	85.3	8.06	2.76	2.70	2.59	9	3	0
Lahaina Town PLT190828	N/A	9:05	29.2	35.6	5.57	88.5	8.09	2.13	2.27	2.32	9	1	0
Olowalu Pier OSF190828	N/A	9:25	29.6	36.3	6.36 <del>3.36</del>	102.1	8.15	1.73	2.22	2.19	0	3	0

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

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

Light Stream Flow (PFF)

LOW D.O. READINGS OSF - RECHECKED  
METER LOG

#### TURBIDITY VERIFICATION

	Blank (must be <0.10)	Low	Med	High
Standard	0.06	5.76	58.9	609
Pre-sampling	0.06	5.78	59.0	608
Post-sampling	0.07	5.79	59.4	607

#### CHAIN OF CUSTODY INFORMATION

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

Signature (Team Lead):

PH.BANKER

Printed Name:

BRUCE H. BANKER

Team	Polanui	Samplers (Last Name, 1st Initial)	MAXWELL, J. TYLER, L. BAYLY, R.
Session	61		
Date	08/28/2019		

Sample ID	Location Name	Sample taken?	Storm sample?	Time	Volume	Protocol Notes	Comments
Nutrients							
PFF190828-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	
PLH190828-N-1	Lindsey Hale	<input checked="" type="checkbox"/>	<input type="checkbox"/>	08:40	125 ml	Washed, rinsed syringes; acid washed bottles; 0.2 um disposable filters	
PLT190828-N-1	Lahaina Town	<input checked="" type="checkbox"/>	<input type="checkbox"/>	09:05	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):

BKR

Printed Name:

BRUCE H. BANKEN



Team	Olowalu	Samplers (Last Name, 1st Initial)	NOPONEN, R GUND, K MILLER, T	Meters and Probes ID		
Session	61			HQ40d: 2	2100Q: NBBF	
Date	08/29/2019			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	Turbidity (NTU)			People (within 100 ft)		
					(mg/L)	(%) 85-105 normal					water	beach	camp
Martin Hale OPM190829	N	7:19	28.1	36.5	5.68	89.0	8.08	1.28	1.28	1.28	—	—	—
Camp Olowalu OCO190829	NA	7:37	28.2	36.3	6.03	94.4	8.08	6.29	7.65	7.14	6 <sup>8</sup>	6	0
Ukumehame OUB190829	NA	7:54	28.3	36.5	6.34	99.8	8.12 <sup>9</sup>	23.2	24.3	21.3	12	6	
Papalaua Beach OPB190829	NA	8:10	28.7	36.5	6.41	101.4	8.16	3.66	5.16	5.43	0	1	0
Papulua Pali OPP190829	NA	8:26	28.9	36.5	6.39	101.4	8.14	3.39	4.70	4.47	0	3	0

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

### DO NOT TAKE NUTRIENT SAMPLES THIS EVENT

(Will Only Be Taken Quarterly)

- FOLLOWED NET "TIP" PROCEDURE REPEATEDLY - FOR BLANK - STILL READ OUT OF RANGE BEST READING RECORDED.
- Camp Olowalu - OCO190829 4th reading 6.89 turbidity testing done on side of road with traffic going by, may have caused vibration of car ALSO, I may not have had arrow on jar lined up
- Papalaua Beach 5.12 4th reading, turbidity.

### TURBIDITY VERIFICATION

	Blank (must be <0.10)	Low	Med	High
Standard	0.07	5.76	58.9	609
Pre-sampling	0.12	5.75	59.6	609
Post-sampling	0.05	5.78	59.2	608

### 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):



Printed Name:

BRUCE BANKEN

Team	Olowalu	Samplers (Last Name, 1st Initial)	NOYONEN, R GUND, K MILLER, T
Session	61		
Date	08/29/2019		

Sample ID	Location Name	Sample taken?	Storm sample?	Time	Volume	Protocol Notes	Comments
Nutrients							

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:

BRUCE H. BARKER



Team	R2RN	Samplers (Last Name, 1st Initial) <i>Hutchings, L</i> <i>Banker, B</i> <i>Hehemann, C</i>	Meters and Probes ID		
Session	61		HQ40d: <i>2</i>	2100Q: <i>NB3F</i>	
Date	8/30/19		pH: <i>6</i>	DO: <i>2</i>	Salinity: <i>2</i>

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 RHL190830	<i>N</i>	<i>7:45A</i>	<i>27.5</i>	<i>35.0</i>	<i>5.63</i>	<i>86.5</i>	<i>8.11</i>	<i>9.40</i>	<i>4.41</i>	<i>5.60</i>	<i>4</i>	<i>5</i>	<i>0</i>
Oneloa Bay RON190830	<i>/</i>	<i>8:30A</i>	<i>27.8</i>	<i>36.0</i>	<i>6.64</i>	<i>103.3</i>	<i>8.20</i>	<i>0.62</i>	<i>0.83</i>	<i>0.63</i>	<i>0</i>	<i>6</i>	<i>0</i>
Kapalua Bay RFS190830	<i>/</i>	<i>8:55A</i>	<i>27.8</i>	<i>32.3</i>	<i>6.16</i>	<i>93.7</i>	<i>8.08</i>	<i>1.69</i>	<i>1.99</i>	<i>1.14</i>	<i>13</i>	<i>15</i>	<i>0</i>
Ka'opala Bay RKO190830	<i>N</i>	<i>9:20A</i>	<i>28.2</i>	<i>35.3</i>	<i>6.13</i>	<i>95.6</i>	<i>8.14</i>	<i>6.23</i>	<i>6.38</i>	<i>6.45</i>	<i>0</i>	<i>1</i>	<i>0</i>
Kahana Village RKV190830	<i>/</i>	<i>9:45</i>	<i>28.2</i>	<i>35.4</i>	<i>5.74</i>	<i>89.3</i>	<i>8.16</i>	<i>11.5</i>	<i>9.72</i>	<i>11.1</i>	<i>0</i>	<i>0</i>	<i>0</i>
											<i>0</i>	<i>0</i>	<i>0</i>

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

*RHL - 4 BOATS*

*RKV - Run off at Nearby Kahana Reef where sea wall  
 repair work ongoing (red-flowing into ocean)*

#### TURBIDITY VERIFICATION

	Blank (must be <0.10)	Low	Med	High
Standard	<i>0.05</i>	<i>5.76</i>	<i>58.9</i>	<i>609</i>
Pre-sampling	<i>0.08</i>	<i>5.78</i>	<i>59.3</i>	<i>608</i>
Post-sampling	<i>0.06</i>	<i>5.78</i>	<i>59.7</i>	<i>608</i>

#### CHAIN OF CUSTODY INFORMATION

	# of samples	Relinquished to	Contact
Sediment	-	-	-
Nutrients	<i>5</i>	<i>LLHS</i>	<i>BH/BANKER</i>
Bacteria	-	-	-

Signature (Team Lead):

*BH-Banker*

Printed Name:

*BRUCE H. BANKER*



Team	R2RN	Samplers (Last Name, 1st Initial)	Banker, B, Hutchings, L, Heheman, C
Session	61		
Date	8/30/19		

Sample ID	Location Name	Sample taken?	Storm sample?	Time	Volume	Protocol Notes	Comments
Nutrients							
RHL190830-N-1	Honolua Bay	<input checked="" type="checkbox"/>	<input type="checkbox"/>	07:45	125 ml	Washed, rinsed syringes; acid washed bottles; 0.2 um disposable filters	
RON190830-N-1	Oneloa Bay	<input checked="" type="checkbox"/>	<input type="checkbox"/>	08:30	125 ml	Washed, rinsed syringes; acid washed bottles; 0.2 um disposable filters	
RFS190830-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	
RKO190830-N-1	Ka'opala Bay	<input checked="" type="checkbox"/>	<input type="checkbox"/>	09:20	125 ml	Washed, rinsed syringes; acid washed bottles; 0.2 um disposable filters	
RKV190830-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	

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):

BH Banker

Printed Name:

BRUCE H. BANKER