

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

Session No:	Verifiers (pre-sampling):	Pre Date:	Pre Time:	Verifiers (post-sampling):	Post Date:	Post Time:
60	Banker, B, Maxwell, C	8/5/19	9:40am	BANKER B, MAXWELL C	8/9/19	10:45

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	3	n/a		22.3 °C	22.3 °C	24.5 °C	°C			
	1	2	n/a		22.1		24.2				
	1	2	n/a			22.2					
Salinity			3 months	Std Val	Tap water	Salin Std	Tap water	Salin Std	± 1 ppt	Tap water - compare pre & post values Salinity Std - compare to value on Salinity Std bottle	
	1	3	6/24/19		0.04	34.5 ppt	0.04	34.3 ppt			
	1	2	6/24/19		0.04	34.7					
Dissolved Oxygen			1 year	Std Val	100%		100%		± 5 %		
	1	5	8/5/19		103.3%		103.7%				
	1	2	8/5/19		99.7%						
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	5	8/5/19		7.02	10.04	7.05	10.07			
	1	6	8/5/19		7.02	10.04					
Turbidity			3 months	Std Val	BLANK <0.1	LOW 1-10	BLANK <0.1	LOW 1-10	± 0.18 NTU Low 1-10	Compare to Gel LOW 1-10 Std Calibration value	
	3	n/a	6/24/19		0.06	6.38	0.04	6.44			
		n/a									

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

LAB TEMP PRE 22.3 °C
POST 23.0 °C

Team	R2RS	Samplers (Last Name, 1st Initial)	FREIBERG, T, JARMAN, B; ABRAHAM, A		Meters and Probes ID			
Session	60				HQ40d:	1	2100Q:	3
Date	8/6/19				pH:	5	DO:	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
Napili Bay RNS190806	NA	8:15	27.4	35.6	6.60	102.0	8.13	5.47	4.96	5.67	0	4	NA
Pohaku RPO190806	NO	8:35	27.2	35.1	6.58	101.1	8.17	5.13	5.51	4.39	3	0	NA
Kaanapali Sh RKS190806	NA	8:55	27.0	35.8	6.53	100.4	8.11	5.73	5.91	5.94	6	8	NA
Canoe Beach RCB190806	NA	9:15	27.4	35.4	6.69	103.2	8.20	1.94	2.01	1.99	0	0	NA
Wahikuli RWA190806	NA	9:35	27.4	35.5	6.57	101.4	8.20	2.00	1.99	2.06	0	0	NA

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

RKS - WATER IN TURBIDITY HAD FLOATING BITS.
RPO BREEZY
RKS - Calm Cloudy

TURBIDITY VERIFICATION

	Blank (must be <0.10)	Low	Med	High
Standard	0.06	6.36	56.8	585
Pre-sampling	0.11	6.41	57.2	585
Post-sampling	0.04	6.45	56.7	584

CHAIN OF CUSTODY INFORMATION

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

Signature (Team Lead):

Catherine Maxwell

Printed Name:

Catherine Maxwell

Team	R2RS	Samplers (Last Name, 1st Initial)	Freiberg, T Jarmakani, B Abromeita, A
Session	60		
Date	8/6/19		

Sample ID	Location Name	Sample taken?	Storm sample?	Time	Volume	Protocol Notes	Comments
Nutrients							
RNS190806-N-1	Napili Bay	<input checked="" type="checkbox"/>	<input type="checkbox"/>	8:15	125 ml	Washed, rinsed syringes; acid washed bottles; 0.2 um disposable filters	
RPO190806-N-1	Pohaku	<input checked="" type="checkbox"/>	<input type="checkbox"/>	8:35	125 ml	Washed, rinsed syringes; acid washed bottles; 0.2 um disposable filters	
RKS190806-N-1	Kaanapali Sh	<input checked="" type="checkbox"/>	<input type="checkbox"/>	8:55	125 ml	Washed, rinsed syringes; acid washed bottles; 0.2 um disposable filters	
RCB190806-N-1	Canoe Beach	<input checked="" type="checkbox"/>	<input type="checkbox"/>	9:15	125 ml	Washed, rinsed syringes; acid washed bottles; 0.2 um disposable filters	
RWA190806-N-1	Wahikuli	<input checked="" type="checkbox"/>	<input type="checkbox"/>	9:35	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)	Bayly, R Harris, K Tyler, L	Meters and Probes ID			
Session	60			HQ40d:	1	2100Q:	3
Date	08/07/2019			pH:	5	DO:	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
505 Front St PFF190807	Y	8:15	28.1	35.7	6.42	100.2	8.10	2.21	2.43	1.83	10	25	1
Lindsey Hale PLH190807	N	8:50	28.2	35.9	6.42	100.5	8.07	9.71	9.46	9.23	0	4	0
Lahaina Town PLT190807	N	9:07	28.2	35.5	6.16	96.1	8.08 K.L.H.	28.1	27.5	26.2	0	1	0
Olowalu Pier OSF190807													

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)

OLOWALU PIER NOT SAMPLED

TURBIDITY VERIFICATION

	Blank (must be <0.10)	Low	Med	High
Standard	0.04	6.36	56.8	585
Pre-sampling	0.06	6.48	57.5	584
Post-sampling	0.05	6.47	57.0	584

CHAIN OF CUSTODY INFORMATION

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

Signature (Team Lead):

BH.BANKER

Printed Name:

BRUCE H. BANKER

Team	Polanui	Samplers (Last Name, 1st Initial)	BAYLY, R. HARRIS, K. TYLER, L
Session	60		
Date	08/07/2019		

Sample ID	Location Name	Sample taken?	Storm sample?	Time	Volume	Protocol Notes	Comments
Nutrients							
PFF190807-N-1	505 Front St	<input checked="" type="checkbox"/>	<input type="checkbox"/>	8:15	125 ml	Washed, rinsed syringes; acid washed bottles; 0.2 um disposable filters	
PLH190807-N-1	Lindsey Hale	<input checked="" type="checkbox"/>	<input type="checkbox"/>	8:50	125 ml	Washed, rinsed syringes; acid washed bottles; 0.2 um disposable filters	
PLT190807-N-1	Lahaina Town	<input checked="" type="checkbox"/>	<input type="checkbox"/>	9:07	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 B

Printed Name:

BRUCE H. BANKER

Team	Olowalu	Samplers (Last Name, 1st Initial)	NOPONEN, R LANIER, L GUND, K	Meters and Probes ID			
Session	60			HQ40d:	1	2100Q:	3
Date	08/08/2019			pH:	5	DO:	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
Martin Hale OPM190808	N	7:19	27.5	36.2	5.62	86.9	8.03	1.81 LR 1.19	1.97	2.24	0	0	0
Camp Olowalu OCO190808	N	7:42	28.8	36.0	6.04	95.2	8.08	6.40	5.74	5.15	12	10	0
Ukumehame OUB190808	N	7:55	28.0	36.2	6.54	102.2	8.13	21.5	23.0	20.0	3	3	0
Papalaua Beach OPB190808	N	08:10	28.1	36.2	6.68	104.6	8.13	4.05	4.61	4.67	0	0	0
Papulua Pali OPP190808	N	08:20	28.1	36.0	6.66	104.1	8.15	4.51	4.23	4.66	0	1	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)

2100Q struggled to turn on during
pre-sample. We replaced the batteries.
Ⓢ FIRST 2 SITES - READ TEMP FROM
"DO" PROBE. LATER NOTED "DO" TEMP
(AT LATER SITES) RAN 0.2° HIGHER
THAN SALINITY PROBE.

TURBIDITY VERIFICATION

	Blank (must be <0.10)	Low	Med	High
Standard	0.05	6.36 6.47	56.8 57.0	585 584
Pre-sampling	0.19	6.51	57.3	584
Post-sampling	0.04	6.50	57.1	584

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. Bon

Printed Name:

BRUCE H. BANKEN

Team	Olowalu	Samplers (Last Name, 1st Initial)	NOPOMEN, R. RANIERI, L GUND, K
Session	60		
Date	08/08/2019		

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. BANKER

Team	R2RN	Samplers (Last Name, 1st Initial) <i>Hutchings, L, Maxwell, C, Berg L</i> <i>on Hutchings</i>	Meters and Probes ID		
Session	60		HQ40d: <i>1</i>	2100Q: <i>3</i>	
Date	8/9/19		pH: <i>5</i>	DO: <i>1</i>	Salinity: <i>3</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 RHL190809	<i>N</i>	<i>7⁴⁹</i>	<i>26.4</i>	<i>35.3</i>	<i>5.21</i>	<i>CM 278.9</i>	<i>8.09</i>	<i>0.90</i>	<i>1.03</i>	<i>1.56</i>	<i>2</i>	<i>10</i>	<i>0</i>
Oneloa Bay RON190809	<i>-</i>	<i>8²⁶</i>	<i>27.2</i>	<i>35.9</i>	<i>6.86</i>	<i>105.8</i>	<i>8.15</i>	<i>0.71</i>	<i>0.64</i>	<i>0.64</i>	<i>2</i>	<i>6</i>	<i>0</i>
Kapalua Bay RFS190809	<i>-</i>	<i>8⁵⁰</i>	<i>27.6</i>	<i>35.2</i>	<i>6.39</i>	<i>98.7</i>	<i>8.13</i>	<i>1.72</i>	<i>1.47</i>	<i>1.92</i>	<i>13</i>	<i>6</i>	<i>0</i>
Ka'opala Bay RKO190809	<i>N</i>	<i>9¹⁵</i>	<i>27.9</i>	<i>35.1</i>	<i>6.00</i>	<i>93.1</i>	<i>8.12</i>	<i>7.39</i>	<i>7.63</i>	<i>7.44</i>	<i>0</i>	<i>0</i>	<i>0</i>
Kahana Village RKV190809	<i>-</i>	<i>9³⁴</i>	<i>27.8</i>	<i>35.9</i>	<i>5.55</i>	<i>86.4</i>	<i>8.12</i>	<i>6.51</i>	<i>6.92</i>	<i>6.40</i>	<i>2</i>	<i>0</i>	<i>0</i>

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

RHL - some floppy particles in sample
- sample area in shade from trees

TURBIDITY VERIFICATION

	Blank (must be <0.10)	Low	Med	High
Standard	<i>0.04</i>	<i>6.36</i>	<i>56.8</i>	<i>585</i>
Pre-sampling	<i>0.04</i>	<i>6.42</i>	<i>56.8</i>	<i>584</i>
Post-sampling	<i>0.04</i>	<i>6.44</i>	<i>57.2</i>	<i>584</i>

CHAIN OF CUSTODY INFORMATION

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

Signature (Team Lead):

Catherine Maxwell

Printed Name:

Catherine Maxwell

Team	R2RN	Samplers (Last Name, 1st Initial) <i>cm Hastings, L, Maxwell, C, Berg L</i> <i>Hutchings</i>
Session	60	
Date	8/9/19	

Sample ID	Location Name	Sample taken?	Storm sample?	Time	Volume	Protocol Notes	Comments
Nutrients							
RHL190809-N-1	Honolua Bay	<input checked="" type="checkbox"/>	<input type="checkbox"/>	9 ⁴⁹	125 ml	Washed, rinsed syringes; acid washed bottles; 0.2 um disposable filters	
RON190809-N-1	Oneloa Bay	<input checked="" type="checkbox"/>	<input type="checkbox"/>	8 ²⁶	125 ml	Washed, rinsed syringes; acid washed bottles; 0.2 um disposable filters	
RFS190809-N-1	Kapalua Bay	<input checked="" type="checkbox"/>	<input type="checkbox"/>	8 ⁵⁰	125 ml	Washed, rinsed syringes; acid washed bottles; 0.2 um disposable filters	
RKO190809-N-1	Ka'opala Bay	<input checked="" type="checkbox"/>	<input type="checkbox"/>	9 ¹⁵	125 ml	Washed, rinsed syringes; acid washed bottles; 0.2 um disposable filters	
RKV190809-N-1	Kahana Village	<input checked="" type="checkbox"/>	<input type="checkbox"/>	9 ³⁴	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