

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

Session No:	Verifiers (pre-sampling):	Pre Date:	Pre Time:	Verifiers (post-sampling):	Post Date:	Post Time:
49	Maxwell, C., Strickland, J., Reed, D.	12/10/18	9:35	Strickland, J., Maxwell	12/14/18	11:14

QA/QC Check	Inst #	Probe #	Last Cal Date		PRE: Verification Value		POST: Verification Value		Acceptable Range	Comments/ Notes	QA?
Temperature	NIST 2	n/a	n/a	Std Val	NIST 21.7°C	NIST 21.6°C	NIST 22.4°C	NIST °C	± 0.6 °C of NIST	Compare to NIST Std value in tap water	
	1	3	n/a		21.5		22.2				
	1	2	n/a			21.4					
Salinity			3 months	Std Val	Tap water Salin Std 8/28/18 date 32.6 ppt	Tap water Salin Std 8/28/18 date 32.6 ppt	Tap water Salin Std 8/28/18 date 32.6 ppt	Tap water Salin Std 8/28/18 date 32.6 ppt	± 1 ppt	Tap water - compare pre & post values Salinity Std - compare to value on Salinity Std bottle	
	1	3	11/20/18		0.04	32.9	0.04	32.9			
	1	2	11/26/18		0.04	33.1					
Dissolved Oxygen			1 year	Std Val	100%	100%	100%	100%	± 5 %		
	1	1	4/2/18		98.4%		99.7				
	1	2	8/6/18		99.8%						
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	12/10/18		7.00	10.01	7.01	10.01			
	1	6	12/10/18		7.00	10.01					
Turbidity			3 months	Std Val	BLANK <0.1	LOW 1-10 6.27 <sub>NTU</sub>	BLANK <0.1	LOW 1-10 6.27 <sub>NTU</sub>	± 0.18 NTU Low 1-10	Compare to Gel LOW 1-10 Std Calibration value	
	3	n/a	11/26/18		0.04	6.28	0.06	6.30			
		n/a									

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



Team	R2RS	Samplers (Last Name, 1st Initial) MORGAN, T. FREEBORN, T. OAKMAN, B.	Meters and Probes ID		
Session	49		HQ40d: 1	2100Q: 3	
Date	12/11/2018		pH: 5	DO: 1	Salinity: 3

Location Name Sample ID	Streams Flowing (Y/N)	Time	Temp (°C)	Salinity (ppt)	Dissolved Oxygen		pH	Turbidity (NTU)			People (within 100 ft)		
					(mg/L)	(%)					water	beach	camp
Napili Bay RNS181211	N	0818	24.5	34.6	6.83	98.72	8.17	.91	.76	.74	0	3	0
Pohaku RPO181211	N	8:44	24.1	34.5	6.80	97.7	8.15	12.6	14.0	13.9	0	0	0
Kaanapali Sh RKS181211	-	9:04	23.9	27.1	7.21	98.9	8.23	9.18	8.18	8.77	0	0	0
Canoe Beach RCB181211		9:24	25.5	34.5	6.49	95.5	8.20	0.59	0.54	0.60	0	2	0
Wahikuli RWA181211		9:44	25.7	34.0	6.72	99.0	8.22	1.95	1.93	1.85	0	2	0

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

Use the back of the form if needed.

RNS Steady Rain, visibility of Molokai/point drainage waves shore break 3-5 ft

RPO Cloudy / rainbow / no rain / waves calm flat

RKS Rainbow / low cloud over land / no rain waves 1-2' sprinkles windy, sunny - big swells -

## TURBIDITY VERIFICATION

	Blank (must be <0.10)	Low	Med	High
Standard	0.04	6.27	56.2	605
Pre-sampling	0.07	6.30	56.9	605
Post-sampling	0.03	6.34	56.6	605

## CHAIN OF CUSTODY INFORMATION

	# of samples	Relinquished to	Contact
Sediment	0		C. Maxwell
Nutrients	5	LLHS	C. Maxwell
Bacteria	0		C. Maxwell

Signature (Team Lead):

Catherine Maxwell

Printed Name:

Catherine Maxwell

Team	R2RS	Samplers (Last Name, 1st Initial)	Morgan, T., Freiberg, T. Jarmakani, B.
Session	49		
Date	12/11/2018		

Sample ID	Location Name	Sample taken?	Storm sample?	Time	Volume	Protocol Notes	Comments
Nutrients							
RNS181211-N-1	Napili Bay	<input checked="" type="checkbox"/>	<input type="checkbox"/>	8:18	125 ml	Washed, rinsed syringes; acid washed bottles; 0.2 um disposable filters	
RPO181211-N-1	Pohaku	<input checked="" type="checkbox"/>	<input type="checkbox"/>	8:44	125 ml	Washed, rinsed syringes; acid washed bottles; 0.2 um disposable filters	
RKS181211-N-1	Kaanapali Sh	<input checked="" type="checkbox"/>	<input type="checkbox"/>	9:04	125 ml	Washed, rinsed syringes; acid washed bottles; 0.2 um disposable filters	
RCB181211-N-1	Canoe Beach	<input checked="" type="checkbox"/>	<input type="checkbox"/>	9:24	125 ml	Washed, rinsed syringes; acid washed bottles; 0.2 um disposable filters	
RWA181211-N-1	Wahikuli	<input checked="" type="checkbox"/>	<input type="checkbox"/>	9:44	125 ml	Washed, rinsed syringes; acid washed bottles; 0.2 um disposable filters	
Sediments							
RNS181211-S-1	Napili Bay	<input type="checkbox"/>	<input type="checkbox"/>		500 ml		
RPO181211-S-1	Pohaku	<input type="checkbox"/>	<input type="checkbox"/>		500 ml		
RKS181211-S-1	Kaanapali Sh	<input type="checkbox"/>	<input type="checkbox"/>		500 ml		
RCB181211-S-1	Canoe Beach	<input type="checkbox"/>	<input type="checkbox"/>		500 ml		
RWA181211-S-1	Wahikuli	<input type="checkbox"/>	<input type="checkbox"/>		500 ml		

Signature (Team Lead):

Catherine Maxwell

Printed Name:

Catherine Maxwell



Team	Polanui	Samplers (Last Name, 1st Initial)	Bayley, R; Harris, K Strickland, J	Meters and Probes ID			
Session	49			HQ40d:	1	2100Q:	3
Date	12/12/2018			pH:	5	DO:	1

Location Name Sample ID	Streams Flowing (Y/N)	Time	Temp (°C)	Salinity (ppt)	Dissolved Oxygen		pH	Turbidity (NTU)			People (within 100 ft)		
					(mg/L)	(%)					water	beach	camp
505 Front St PFF181212	Y	8:15	25.0	34.7	5.64	82.7	8.10	2.32	1.77	2.25	5	0	0
Lindsey Hale PLH181212	N	8:33	24.6	<del>34.3</del> 34.3	6.00	86.9	8.09	8.25	7.78	8.01	3	0	0
Lahaina Town PLT181212	N	8:50	25.3	34.3	5.82	85.5	8.06	7.99	7.65	7.93	0	0	0
Olowalu Pier OSF181212	N	9:20	24.1	34.9	6.52	94.2	8.14	1.21	1.47	1.27	0	0	0

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

## TURBIDITY VERIFICATION

	Blank (must be <0.10)	Low	Med	High
Standard	0.03	6.27	56.2	605
Pre-sampling	0.06	6.32	57.0	605
Post-sampling	0.04	6.32	56.8	605

## CHAIN OF CUSTODY INFORMATION

	# of samples	Relinquished to	Contact
Sediment			
Nutrients	4	LHS	J. Strickland
Bacteria			

Signature (Team Lead):

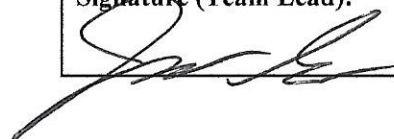
Printed Name:

James Strickland

Team	Polanui	Samplers (Last Name, 1st Initial) Bayley, R; HARRIS, K Strickland, J
Session	49	
Date	12/12/2018	

Sample ID	Location Name	Sample taken?	Storm sample?	Time	Volume	Protocol Notes	Comments
Nutrients							
PFF181212-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	
PLH181212-N-1	Lindsey Hale	<input checked="" type="checkbox"/>	<input type="checkbox"/>	8:33	125 ml	Washed, rinsed syringes; acid washed bottles; 0.2 um disposable filters	
PLT181212-N-1	Lahaina Town	<input checked="" type="checkbox"/>	<input type="checkbox"/>	8:50	125 ml	Washed, rinsed syringes; acid washed bottles; 0.2 um disposable filters	
OSF181212-N-1	Olowalu Pier	<input checked="" type="checkbox"/>	<input type="checkbox"/>	9:20	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		
		<input type="checkbox"/>	<input type="checkbox"/>		500 ml		

Signature (Team Lead):



Printed Name:

James Strickland



Team	Olowalu	Samplers (Last Name, 1st Initial) <i>GAIFFOULL, M</i> <i>NOPONEN, R</i>	Meters and Probes ID		
Session	49		HQ40d: - 1	2100Q: - 3	
Date	12/13/2018		pH: 5	DO: 1	Salinity: 3

Location Name Sample ID	Streams Flowing (Y/N)	Time	Temp (°C)	Salinity (ppt)	Dissolved Oxygen		pH	Turbidity (NTU)			People (within 100 ft)		
					(mg/L)	(%)					water	beach	camp
Martin Hale OPM181213	N	0722	22.9	34.7	6.24	88.2	8.06	3.34	3.59	3.86	0	0	0
Camp Olowalu OCO181213	N	0741	22.8	34.7	6.37	90.0	8.10	1.1	1.18	1.11	0	3	0
Ukumehame OUB181213	N	0756	22.3	34.9	6.86	96.1	8.13	7.44	7.26	6.99	0	0	0
Papalaua Beach OPB181213	N	0815	23.3	34.8	6.84	97.4	8.17	9.63	10.5	9.96	0	0	0
Papalaua Pali OPP181213	N	0826	23.9	34.4	6.45	92.4	8.11	5.36	5.30	5.19	0	0	0

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

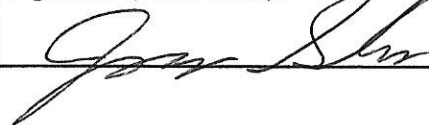
## TURBIDITY VERIFICATION

	Blank (must be <0.10)	Low	Med	High
Standard	0.04	6.27	56.2	605
Pre-sampling	.05	6.30	56.9	605
Post-sampling	0.05	6.34	56.8	605

## CHAIN OF CUSTODY INFORMATION

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

Signature (Team Lead):



Printed Name:

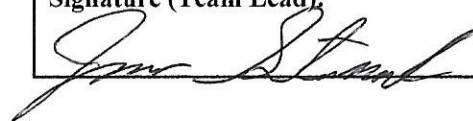
James Strickland

Team	Olowalu	Samplers (Last Name, 1st Initial) NOKOMEN, R CRIFFOUL, M
Session	49	
Date	12/13/2018	

Sample ID	Location Name	Sample taken?	Storm sample?	Time	Volume	Protocol Notes	Comments
Nutrients							
OPM181213-N-1	Martin Hale	<input checked="" type="checkbox"/>	<input type="checkbox"/>	7:22	125 ml	Washed, rinsed syringes; acid washed bottles; 0.2 um disposable filters	
OCO181213-N-1	Camp Olowalu	<input checked="" type="checkbox"/>	<input type="checkbox"/>	7:41	125 ml	Washed, rinsed syringes; acid washed bottles; 0.2 um disposable filters	
OUB181213-N-1	Ukumehame	<input checked="" type="checkbox"/>	<input type="checkbox"/>	7:56	125 ml	Washed, rinsed syringes; acid washed bottles; 0.2 um disposable filters	
OPB181213-N-1	Papalaua Beach	<input checked="" type="checkbox"/>	<input type="checkbox"/>	8:15	125 ml	Washed, rinsed syringes; acid washed bottles; 0.2 um disposable filters	
OPP181213-N-1	Papalaua Pali	<input checked="" type="checkbox"/>	<input type="checkbox"/>	8:26	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		
		<input type="checkbox"/>	<input type="checkbox"/>		500 ml		

Signature (Team Lead):

Printed Name:



James Strickland



Team	R2RN	Samplers (Last Name, 1st Initial)	Hutchings, L Barker, B Maxwell, C Garfield, C	Meters and Probes ID			
Session	49			HQ40d:	1	2100Q:	3
Date	12/14/2018			pH:	5	DO:	1

Location Name Sample ID	Streams Flowing (Y/N)	Time	Temp (°C)	Salinity (ppt)	Dissolved Oxygen		pH	Turbidity (NTU)			People (within 100 ft)		
					(mg/L)	(%)					water	beach	camp
Honolua Bay RHL181214	Y	8:50A	23.6	33.8	6.49	92.5	8.12	62.4	68.3	72.4	0	0	0
Oneloa Bay RON181214	—	8:40A	23.9	34.7	6.89	99.4	8.19	0.75	0.72	0.77	2	8	0
Kapalua Bay RFS181214	—	9:05A	24.3	34.2	6.88	99.5	8.16	1.46	1.33	1.25	10	10	0
Ka'opala Bay RKO181214	—	9:35A	23.7	34.1	6.78	96.9	8.14	6.17	6.53	6.25	0	1	0
Kahana Village RKV181214	—	9:57	23.6	33.9	6.99	99.6	8.15	16.9	16.6	17.0 19.0 en	0	1	0

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

## TURBIDITY VERIFICATION

	Blank (must be <0.10)	Low	Med	High
Standard	0.05	6.27	56.2	605
Pre-sampling	0.06	6.30	56.6	606
Post-sampling	0.06	6.30	56.7	602

## CHAIN OF CUSTODY INFORMATION

	# of samples	Relinquished to	Contact
Sediment	0		C Maxwell
Nutrients	5	LLHS	C. Maxwell
Bacteria	0		C Maxwell

Signature (Team Lead):

Catherine Maxwell

Printed Name:

Catherine Maxwell



Team	R2RN	Samplers (Last Name, 1st Initial)	Hutchings, L. Ranker, B. Maxwell, C. Garfield, E.
Session	49		
Date	12/14/2018		

Sample ID	Location Name	Sample taken?	Storm sample?	Time	Volume	Protocol Notes	Comments
Nutrients							
RHL181214-N-1	Honolua Bay	<input checked="" type="checkbox"/>	<input type="checkbox"/>	7:50	125 ml	Washed, rinsed syringes; acid washed bottles; 0.2 um disposable filters	
RON181214-N-1	Oneloa Bay	<input checked="" type="checkbox"/>	<input type="checkbox"/>	8:40	125 ml	Washed, rinsed syringes; acid washed bottles; 0.2 um disposable filters	
RFS181214-N-1	Kapalua Bay	<input checked="" type="checkbox"/>	<input type="checkbox"/>	9:05	125 ml	Washed, rinsed syringes; acid washed bottles; 0.2 um disposable filters	
RKO181214-N-1	Ka'opala Bay	<input checked="" type="checkbox"/>	<input type="checkbox"/>	9:35	125 ml	Washed, rinsed syringes; acid washed bottles; 0.2 um disposable filters	
RKV181214-N-1	Kahana Village	<input checked="" type="checkbox"/>	<input type="checkbox"/>	9:57	125 ml	Washed, rinsed syringes; acid washed bottles; 0.2 um disposable filters	
Sediments							
RHL181214-S-1	Honolua Bay	<input type="checkbox"/>	<input type="checkbox"/>		500 ml		
RON181214-S-1	Oneloa Bay	<input type="checkbox"/>	<input type="checkbox"/>		500 ml		
RFS181214-S-1	Kapalua Bay	<input type="checkbox"/>	<input type="checkbox"/>		500 ml		
RKO181214-S-1	Ka'opala Bay	<input type="checkbox"/>	<input type="checkbox"/>		500 ml		
RKV181214-S-1	Kahana Village	<input type="checkbox"/>	<input type="checkbox"/>		500 ml		

Signature (Team Lead):

Printed Name:

Catherine Maxwell

Catherine Maxwell