

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



Session No:	Verifiers (pre-sampling):	Pre Date:	Pre Time:	Verifiers (post-sampling):	Post Date:	Post Time:
53	C. Maxwell, J. Strickland	3/11/19	9:45am	J. Strickland, C. Maxwell	3/15/19	11:15am

QA/QC Check	Inst #	Probe #	Last Cal Date		PRE: Verification Value		POST: Verification Value		Acceptable Range	Comments/ Notes	QA?
Temperature	<u>NIST</u> 2	n/a	n/a	Std Val	<u>NIST</u> 21.6 °C	<u>NIST</u> 21.4 °C	<u>NIST</u> 22.5 °C	<u>NIST</u> °C	± 0.6 °C of NIST	Compare to NIST Std value in tap water	
	1	3	n/a		21.3		22.3				
	1	2	n/a			21.3					
Salinity			<u>3 months</u>	Std Val	<u>Tap water</u>	<u>Salin Std</u> 1/26/18 date 35.0 ppt	<u>Tap water</u>	<u>Salin Std</u> 1/11/19 date 33.1 ppt	± 1 ppt	Tap water - compare pre & post values Salinity Std - compare to value on Salinity Std bottle	
	1	3	3/11/19		0.03	34.9	0.03	34.2			
	1	2	3/11/19		0.03	35.0					
Dissolved Oxygen			<u>1 year</u>	Std Val	100%		100%		± 5 %		
	1	1	4/2/18		99.1		100.3				
	1	2	8/6/18		99.0						
pH			<u>3 weeks</u>	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	3/11/19		7.00	10.01	7.04	10.06			
	1	6	3/11/19		7.00	10.01					
Turbidity			<u>3 months</u>	Std Val	<u>BLANK</u> <0.1	<u>LOW 1-10</u> 5.69 NTU	<u>BLANK</u> <0.1	<u>LOW 1-10</u> 6.60 NTU	± 0.18 NTU Low 1-10	Compare to Gel LOW 1-10 Std Calibration value	
	1	n/a	1/28/19		0.08	5.60	0.05	6.61			
	3	n/a	3/12/19				0.05	6.61			

QA: * Are pre- and post within one week? Tues 3/12/19 used 2100Q-1 (electrode connection issue end of day 3/12/19)
 * Delay times are ok?
 * Other equipment issues? Wed-Fri 3/13/19 - 3/15/19 used 2100Q-3

Team R2RS	Samplers (Last Name, 1st Initial) Maxwell, C Garfield, E Abromaitis, A	Meters and Probes ID		
Session 53		HQ40d: 1	2100Q: 1	
Date 3/12/19		pH: 5	DO: 1	Salinity: 3

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 RNS190312	N	8:01	22.8	35.9	6.94	98.8	8.16	1.00	0.93	1.21	0	6	0
Pohaku RPO190312	N	8:30	22.8	33.8	6.72	94.5	8.17	5.06	6.09	5.14	1	5	0
Kaanapali Sh RKS190312	—	9:05	22.9	34.9	6.99	99.1	8.17	5.16	6.05	4.83	0	0	0
Canoe Beach RCB190312	—	9:20	24.4	34.8	6.72	97.7	8.20	2.55	2.60	2.62	1	5+2	0
Wahikuli RWA190312	—	9:40	24.0	34.2	7.02	101.2	8.25	0.75	0.86	0.70	0	1	0

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

RNS- seems it had rained recently, slight
 sprinkles while running tests
 RPO- slight sprinkles & rain
 not much wave action except a little
 at RWA

TURBIDITY VERIFICATION

	Blank (must be <0.10)	Low	Med	High
Standard	0.08	5.69	58.6	627
Pre-sampling	0.10	5.67	58.8	625
Post-sampling	0.07	5.57	58.9	624

CHAIN OF CUSTODY INFORMATION

	# of samples	Relinquished to	Contact
Sediment	0	-	C Maxwell
Nutrients	5	LHS	C Maxwell
Bacteria	0	-	C Maxwell

Signature (Team Lead):

Catherine Maxwell

Printed Name:

Catherine Maxwell

Team	R2RS	Samplers (Last Name, 1st Initial)	Maxwell, C. Garfield, E. Abromaitis, A
Session	53		
Date	3/12/19		

Sample ID	Location Name	Sample taken?	Storm sample?	Time	Volume	Protocol Notes	Comments
Nutrients							
RNS190312-N-1	Napili Bay	<input checked="" type="checkbox"/>	<input type="checkbox"/>	8:01	125 ml	Washed, rinsed syringes; acid washed bottles; 0.2 um disposable filters	
RPO190312-N-1	Pohaku	<input checked="" type="checkbox"/>	<input type="checkbox"/>	8:30	125 ml	Washed, rinsed syringes; acid washed bottles; 0.2 um disposable filters	
RKS190312-N-1	Kaanapali Sh	<input checked="" type="checkbox"/>	<input type="checkbox"/>	9:05	125 ml	Washed, rinsed syringes; acid washed bottles; 0.2 um disposable filters	
RCB190312-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	
RWA190312-N-1	Wahikuli	<input checked="" type="checkbox"/>	<input type="checkbox"/>	9:40	125 ml	Washed, rinsed syringes; acid washed bottles; 0.2 um 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):	Printed Name:
Catherine Maxwell	Catherine Maxwell

Team	Polanui	Samplers (Last Name, 1st Initial) <i>Maxwell, J</i> <i>Bayley, R</i> <i>Harris, R</i>	Meters and Probes ID				
Session	53		HQ40d:	1	2100Q:	3	
Date	3/13/19		pH:	5	DO:	1	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
505 Front St PFF190313	Y	8:14	23.4	35.1	6.26	89.7	8.11	1.85	2.53	2.63	4	18*	0
Lindsey Hale PLH190313	N	8:32	23.5	35.1	6.02	86.5	8.10	3.58	4.72	3.78	0	8	0
Lahaina Town PLT190313	—	8:49	24.2	35.0	6.02	87.4	8.09	7.21	7.11	7.09	3	3	0
Olowalu Pier OSF190313	—	9:19	23.8	35.6	6.61	95.6	8.11	7.15	6.91	6.20	0	0	0

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

** Approximate - not accurate count (PFF)
PFF stream path is ~30 ft north of the
normal path*

TURBIDITY VERIFICATION				
	Blank (must be <0.10)	Low	Med	High
Standard	0.03	6.60	57.1	575
Pre-sampling	0.04	6.56	57.1	575
Post-sampling	0.03	6.59	57.3	575

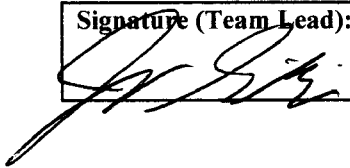
CHAIN OF CUSTODY INFORMATION			
	# of samples	Relinquished to	Contact
Sediment	-	-	-
Nutrients	5	LHS	J. Strickland
Bacteria	-	-	-

Signature (Team Lead): 	Printed Name: J. Strickland
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Team	Polanui	Samplers (Last Name, 1st Initial) MAXWELL, J Bayley, R Harris, K
Session	53	
Date	3/13/19	

Sample ID	Location Name	Sample taken?	Storm sample?	Time	Volume	Protocol Notes	Comments
Nutrients							
PFF190313-N-1	505 Front St	<input checked="" type="checkbox"/>	<input type="checkbox"/>	8:14	125 ml	Washed, rinsed syringes; acid washed bottles; 0.2 um disposable filters	
PLH190313-N-1	Lindsey Hale	<input checked="" type="checkbox"/>	<input type="checkbox"/>	8:30	125 ml	Washed, rinsed syringes; acid washed bottles; 0.2 um disposable filters	
PLT190313-N-1	Lahaina Town	<input checked="" type="checkbox"/>	<input type="checkbox"/>	8:49	125 ml	Washed, rinsed syringes; acid washed bottles; 0.2 um disposable filters	
OSF190313-N-1	Olowalu Pier	<input checked="" type="checkbox"/>	<input type="checkbox"/>	9:19	125 ml	Washed, rinsed syringes; acid washed bottles; 0.2 um disposable filters	

Sediment							
		<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
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Team	Olowalu	Samplers (Last Name, 1st Initial) NOFONEW, R STRICKLAND, J	Meters and Probes ID		
Session	53		HQ40d: 1	2100Q: -3	
Date	3/14/19		pH: 5	DO: 1	Salinity: 3

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 OPM190314	N/A	07:10	22.6	33.5	6.03	85.4	8.04	9.52	10.60	10.2	10	10	0
Camp Olowalu OCO190314		7:33	23.7	35.4	6.56	94.7	8.09	2.40	2.53	2.68	10	10	0
Ukumehame OUB190314		7:55	23.1	35.5	6.77	96.7	8.13	5.77	5.90	5.96	0	1	0
Papalaua Beach OPB190314		8:16	23.0	35.8	6.98	99.9	8.17	6.85	6.90	7.71	0	1	2
Papalaua Pali OPP190314		8:37	23.4	35.4	6.97	100.0	8.17	2.49	2.09	2.11	0	2	0

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

① TOOK 4TH TURBIDITY SAMPLE @ SITE 1
 SINCE 3RD TEST > 200% HIGHER

② SALINITY @ SITE 1 WAS > 35.0
 ON SECOND TEST.

TURBIDITY VERIFICATION

	Blank (must be <0.10)	Low	Med	High
Standard	0.03	6.60	57.1	575
Pre-sampling	0.08	6.57	56.9	576
Post-sampling	0.04	6.73	57.3	575

CHAIN OF CUSTODY INFORMATION

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

Signature (Team Lead):

Printed Name:

James Strickland James Strickland

Team	Olowalu	Samplers (Last Name, 1st Initial) NUPONEN, R STRICKLAND, J
Session	53	
Date	3/14/19	

Sample ID	Location Name	Sample taken?	Storm sample?	Time	Volume	Protocol Notes	Comments
Nutrients							
OPM190314-N-1	Martin Hale	<input type="checkbox"/>	<input type="checkbox"/>	7:10	125 ml	Washed, rinsed syringes; acid washed bottles; 0.2 um disposable filters	
OCO190314-N-1	Camp Olowalu	<input type="checkbox"/>	<input type="checkbox"/>	7:33	125 ml	Washed, rinsed syringes; acid washed bottles; 0.2 um disposable filters	
OUB190314-N-1	Ukumehame	<input type="checkbox"/>	<input type="checkbox"/>	7:55	125 ml	Washed, rinsed syringes; acid washed bottles; 0.2 um disposable filters	
OPB190314-N-1	Papalaua Beach	<input type="checkbox"/>	<input type="checkbox"/>	8:16	125 ml	Washed, rinsed syringes; acid washed bottles; 0.2 um disposable filters	
OPP190314-N-1	Papalaua Pali	<input type="checkbox"/>	<input type="checkbox"/>	8:37	125 ml	Washed, rinsed syringes; acid washed bottles; 0.2 um 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): 	Printed Name: James Strickland
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Team R2RN	Samplers (Last Name, 1st Initial) Maxwell, C Banker, B Hutchings, L.	Meters and Probes ID		
Session 53		HQ40d: 1	2100Q: 3	
Date 3/15/19		pH: 5	DO: 1	Salinity: 3

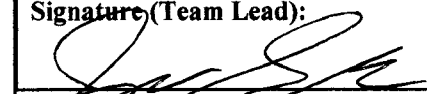
Location Name Sample ID	Streams Flowing (Y/N)	Time (of collection)	Temp (°C) variable	Salinity (ppt) 30-35 normal	Dissolved Oxygen		pH 8-8.3 normal	Turbidity (NTU)			People (within 100 ft)		
					(mg/L)	(%) 85-105 normal					water	beach	camp
Honolua Bay RHL190315	Y	7:50A	22.8	31.1	6.71	92.9	8.15	20.9	16.1	25.5	0	0	0
Oneloa Bay RON190315	—	8:50A	23.7	35.7	6.99	101.2	8.17	0.48	0.42	0.47	4	2	0
Kapalua Bay RFS190315	—	9:26A	24.4	33.8	6.84	99.1	8.12	1.85	1.51	1.63	15	50	0
Ka'opala Bay RKO190315	N	9:50A	24.1	34.8	6.80	98.7	8.16	5.57	5.57	5.45	2	5	0
Kahana Village RKV190315	—	10:15A	24.5	34.5	7.06	102.9	8.19	8.65	8.71	8.67	2	8	0

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

RHL- PLANT DEBRIS - TURB SETTLED
 1 min 8.31

TURBIDITY VERIFICATION				
	Blank (must be <0.10)	Low	Med	High
Standard	0.04	6.60	57.1	575
Pre-sampling	0.05	6.57	57.0	575
Post-sampling	0.05	6.61	57.4	574

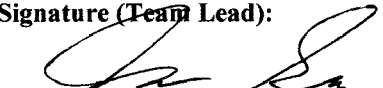
CHAIN OF CUSTODY INFORMATION			
	# of samples	Relinquished to	Contact
Sediment	-	-	-
Nutrients	5 + HSE	LAS	J Strickland
Bacteria	-	-	-

Signature (Team Lead):	Printed Name:
	James Strickland

Team	R2RN	Samplers (Last Name, 1st Initial) Marwell, C Barker, B Hutchings, L
Session	53	
Date	3/15/19	

Sample ID	Location Name	Sample taken?	Storm sample?	Time	Volume	Protocol Notes	Comments
Nutrients							
RHL190315-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	
RON190315-N-1	Oneloa Bay	<input checked="" type="checkbox"/>	<input type="checkbox"/>	8:50	125 ml	Washed, rinsed syringes; acid washed bottles; 0.2 um disposable filters	
RFS190315-N-1	Kapalua Bay	<input checked="" type="checkbox"/>	<input type="checkbox"/>	9:26	125 ml	Washed, rinsed syringes; acid washed bottles; 0.2 um disposable filters	
RKO190315-N-1	Ka'opala Bay	<input checked="" type="checkbox"/>	<input type="checkbox"/>	9:50	125 ml	Washed, rinsed syringes; acid washed bottles; 0.2 um disposable filters	
RKV190315-N-1	Kahana Village	<input checked="" type="checkbox"/>	<input type="checkbox"/>	10:15	125 ml	Washed, rinsed syringes; acid washed bottles; 0.2 um 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): 	Printed Name: James Strickland
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