

Hui O Ka Wai Ola

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

Session No:	Verifiers (pre-sampling):			Pre Date:	Pre Time:	Verifiers (post-sampling):			Post Date:	Post Time:	
121	E.JOHNSON, J. Erwin L.Yannell			5/1/23	2:00 PM	E.JOHNSON, L.YANNELL			5/1/23	1:15 PM	
QA/QC Check	Inst #	Probe #	Last Cal Date		PRE: Verification Value		POST: Verification Value		Acceptable Range	Comments/ Notes	QA?
Temperature	NIST	n/a	NIST Exp. Date	Std Val	NIST 32.0 °C	NIST 32.7 °C	NIST 29.8 °C	NIST °C	± 0.6 °C of NIST	Compare to NIST Std value in tap water DO PROBE #1 → using to measure temp in field DO PROBE #4	
	4	DO 1	8/17/23		31.6		29.8				
	4	DO 4	8/17/23		32.5						
Salinity		3 months		Std Val	Tap water _____ date ____ ppt	Salin Std ____ date ____ ppt	Tap water _____ date ____ ppt	Salin Std ____ date ____ ppt	± 1 ppt	Tap water - compare pre & post values Salinity Std - compare to value on Salinity Std bottle calibrated new refractometer with Distilled water Salinity probe = 0 ppt retired	
	Refractometer 5/1/23				015T = Opppt		015T = -2 ppt				
Dissolved Oxygen		1 year		Std Val	100%		100%		± 5 %	*using DO probe for temp in field	
	3	1	2/01/23		100.3%		101.1%				
	4	4	8/15/22		101.1%						
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	
	3	7	5/01/23		7.00	10.01	7.04	10.01		pH Exp: 10.01 = 12/23 7.00 = 10/24 4.01 = 5/25	
	4	6	5/01/23		7.00	10.01	—	—			
Turbidity		3 months		Std Val	BLANK <0.1 NTU	LOW 1-10 NTU	BLANK <0.1 NTU	LOW 1-10 NTU	± 0.18 NTU Low 1-10	Compare to Gel LOW 1-10 Std Calibration value	
	1	n/a	5/01/23		0.06	5.34	0.06	536		Low Std: 5.34	
	4	n/a	4/10/23		0.05	6.08	—	—		Low Std: 6.06	

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

OLP Lab

Team	R2RS	Samplers (Last Name, 1st Initial)	flow, m Yanneli, L Bieser, S Friberg, T Kranberg, J RAMOS, S					Meters and Probes ID		
Session	121							HQ2200: 3	2100Q: 1	
Date	05/02/2023		pH: 7	DO: 1	Salinity: Refracto.					

Location Name Sample ID	Freshwater 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) 5.2-7.0 normal	(%) 85-105 normal			water	beach	camp
Napili Bay RNS230502	N	8:35	25.8	35.0	6.89	102.8	8.18	1.29	1.35	1.41	2
Pohaku RPO230502	N	9:06	25.9	34.0	7.04	105.2	8.19	3.80	4.21	4.24	0
Kaanapali Shores RKS230502	N	9:24	26.5	35.0	6.67	100.1	8.15	1.45	1.52	1.76	4
Kahekili Beach Two RKT230502	N	9:45	26.4	34.5	6.83	103.0	8.20	4.08	3.77	3.70	0
Canoe Beach RCB230502	N	10:15	26.5	35.0	6.71	101.4	8.20	4.50	4.97	5.30	0
Wahikuli RWA230502	N	10:40	26.4	35.0	6.67	100.6	8.20	3.72	4.03	3.86	0

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

RNS: Lowtide, 2-4' offshore break, surfing shorebreak.
Sunny, no wind → 4th Turbidity Read: 1.41

RPO: shorebreak, surfbreak out off reef, sunny
Turbidity 4th 4.77, 5th 4.24° took 2nd DO reading

RKS: recalibrating salinity/refractometer

RKT: 4 tu for turbidity 3.77

RCB: - strong shorebreak, lots of sand.
with Turb: 5.20

RWA: strong swell lots of sand in water

Sites with potential for freshwater flow: Kaanapali Shores, Canoe Beach

*Refractometer for Salinity
Temp taken from DO probe

- Verified Refractometer at the end of the day with
distilled water, it read -1 ppt

TURBIDITY VERIFICATION

	Blank (must be <0.10)	Low (+/- 0.18)	Med (+/- 1.80)	High (+/- 18)
Standard	0.06	5.34	57.1	636
Pre-sampling	0.06	5.28	55.8	633
Post-sampling	0.07	5.38	56.6	631

CHAIN OF CUSTODY INFORMATION

	# of samples	Relinquished to	Contact
Sediment	-	-	-
Nutrients	6	OLP	Liz Yanneli
Bacteria	-	-	-

Signature (Team Lead):

Liz Yanneli

Printed Name:

Liz Yanneli

Last updated April 2023

Team	R2RS	Samplers (Last Name, 1st Initial)	Floyd, M.	Yannell, L.
Session	121		Bieser, S.	Friedberg, T.
Date	05/02/2023		Kranberg, J.	Ramos, S.

Sample ID	Location Name	Sample taken?	Storm sample?	Time	Volume	Protocol Notes	Comments
Nutrients							
RNS230502-N-1	Napili Bay	<input checked="" type="checkbox"/>	<input type="checkbox"/>	8:35	125 ml	Washed, rinsed syringes; acid washed bottles; 0.2 um disposable filters	
RPO230502-N-1	Pohaku	<input checked="" type="checkbox"/>	<input type="checkbox"/>	9:06	125 ml	Washed, rinsed syringes; acid washed bottles; 0.2 um disposable filters	
RKS230502-N-1	Kaanapali Sh	<input checked="" type="checkbox"/>	<input type="checkbox"/>	9:24	125 ml	Washed, rinsed syringes; acid washed bottles; 0.2 um disposable filters	
RKT230502-N-1	Kahekili Beach Two	<input checked="" type="checkbox"/>	<input type="checkbox"/>	9:45	125 ml	Washed, rinsed syringes; acid washed bottles; 0.2 um disposable filters	
RCB230502-N-1	Canoe Beach	<input checked="" type="checkbox"/>	<input type="checkbox"/>	10:15	125 ml	Washed, rinsed syringes; acid washed bottles; 0.2 um disposable filters	
RWA230502-N-1	Wahikuli	<input checked="" type="checkbox"/>	<input type="checkbox"/>	10:40	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):

Printed Name:

Liz Yannell

Team	Polanui	Samplers (Last Name, 1st Initial)	Gund, K Gonzalez, T Harris, K	Yannell, L Johnson, E	Meters and Probes ID			
Session	121				HQ2200: 3			
Date	05/03/2023				pH: 7	DO: 1	Salinity: Refracto.	

Location Name Sample ID	Freshwater 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) 5.2-7.0 normal	(%) 85-105 normal			water	beach	camp
505 Front St PFF230503	Y	8:22	25.3	35.0	6.63	98%	8.10 KH	4.55	4.70	4.79	Q
Lindsey Hale PLH230503	N	8:55	26.0	35.5	6.88	102.9	8.12	2.04	2.21	2.11	Q
Lahaina Town PLT230503	N	9:22	26.5	36.0	7.06	106.3	8.13	2.37 2.56 KH	2.28	2.16	1 1 Q
Camp Olowalu OCO230503	N	10:07	27.5	36.0	6.72	103.1	8.12	16.2 KH 17.7	16.9	17.1	Ø 2 Ø
Mile Marker 14 OMM230503	N	10:39	27.9	35.5	6.92	107.2	8.08	2.10	2.52	2.23	Ø 9 Ø
Ukumehame OUB230503	N	11:02	27.1	35	6.78	103.3	8.21	4.91	5.41	5.18 4.79	1 Ø Ø
Papalaua Pali OPP230503	Y	11:21	26.7	36	6.77	102.6	8.16	5.95 5.53	6.58	6.74	Ø 1 Ø KH Ø

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

Use the back of the form if needed.

*Refractometer for Salinity
Ø DO probe for Temperature
PFF - Low tide high surf, poss. 30 salinity
PLH - low tide, high surf
PLT - 2 swimming dogs exiting water as we enter.
Door closed while 1st turbidity was being taken; confirmed DO w/ second reading
OCO water was murky, 4th turbidity taken
OHP rotten/sewage smell while testing on
Sites with potential for freshwater flow: 505 Front St. road side

-verified Refractometer with distilled water at the end of the day, it read 0 ppt

TURBIDITY VERIFICATION

	Blank (must be <0.10)	Low (+/- 0.18)	Med (+/- 1.80)	High (+/- 18)
Standard	0.06	5.34	57.1	636
Pre-sampling	0.05	5.31	56.7	631
Post-sampling	0.08	5.27	56.2	629

CHAIN OF CUSTODY INFORMATION

	# of samples	Relinquished to	Contact
Nutrients	7	OLP	Liz Yannell

Signature (Team Lead):

Liz Yannell Printed Name: *Liz Yannell*

Last updated April 2023

- OMM - confirmed DO with 2nd reading
 - OLB lots of surfers; 1 leaving water at sampling; surf + shore breaks: 4th turbidity take
 - OPP ~~2nd~~ ^{4th} turbidity 4.58 5th 5.95
- * All sites sunny with breeze increasing. Saw 3 monk seals today
- Verified refractometer with distilled water at the end of the sample day and it was accurate with Ø ppt.

Team	Polanui	Samplers (Last Name, 1st Initial)	Gund, K.	Yannell, L.
Session	121		Gonzalez, T.	Johnson, E.
Date	05/03/2023		Harris, K.	

Sample ID	Location Name	Sample taken?	Duplicate sample?	Time	Volume	Protocol Notes	Comments
Nutrients							
PFF230503-N-1	505 Front St	<input checked="" type="checkbox"/>	<input type="checkbox"/>	8:22	125 ml	Washed, rinsed syringes; acid washed bottles; 0.2 um disposable filters	
PLH230503-N-1	Lindsey Hale	<input checked="" type="checkbox"/>	<input type="checkbox"/>	8:55	125 ml	Washed, rinsed syringes; acid washed bottles; 0.2 um disposable filters	
PLT230503-N-1	Lahaina Town	<input checked="" type="checkbox"/>	<input type="checkbox"/>	9:22	125 ml	Washed, rinsed syringes; acid washed bottles; 0.2 um disposable filters	
OCO230503-N-1	Camp Olowalu	<input checked="" type="checkbox"/>	<input type="checkbox"/>	10:07	125 ml	Washed, rinsed syringes; acid washed bottles; 0.2 um disposable filters	
OMM230503-N-1	Mile Marker 14	<input checked="" type="checkbox"/>	<input type="checkbox"/>	10:39	125 ml	Washed, rinsed syringes; acid washed bottles; 0.2 um disposable filters	
OUN230503-N-1	Ukumehame	<input checked="" type="checkbox"/>	<input type="checkbox"/>	11:02	125 ml	Washed, rinsed syringes; acid washed bottles; 0.2 um disposable filters	
OPP230503-N-1	Papalaua Pali	<input checked="" type="checkbox"/>	<input type="checkbox"/>	11:21	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):
*Liz Yannell*Printed Name:
Liz Yannell

Team	R2RN	Samplers (Last Name, 1st Initial)	Johnson, E Berg, C				Meters and Probes ID			
Session	121						HQ2200: 3			
Date	05/04/23		pH: 7	DO: 1		Salinity: Refracto.	2100Q: 1			

Location Name Sample ID	Freshwater 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) 5.2-7.0 normal	(%) 85-105 normal			water	beach	camp
Honolua Bay RHL230504	N	8:00	24.0	36	6.45	93.4	8.11	13.5 13.0 13.2 13.4	2	9	D
Onealoa Bay RON230504	N	8:46	24.8	37	6.88	101.1	8.19	0.64 0.66 0.67	0	8	0
Kapalua Bay RFS230504	N	9:07	25.6	35	6.75	100.4	8.14	3.48 4.40 3.87	11	32	0
Ka'opala Bay RKO230504	N	9:35	25.5	35	6.89	102.7	8.16 4.11 ch	8.14 8.90 8.96	3	0	0
Kahana Village RKV230504	N	9:57	26.2	35	7.97	119.5 119.3 118.9	8.28	2.72 3.77 3.17	2	0	0

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

RHL - small shore break

RON - super low tide

RON - Calibrated Refractometer Tried 3 Samples - All Read over 36

RFS - gusty - 4th reading turbidity

RKO - SHORE BREAK; HIGH SURF

RKV - high SURF - very low numbers for this site
 * water appears very clean for this site
 * 3rd reading too temp! - Bridge construction still on-going
 DO - unusual surf for area

* Super low tide all; SUNNY; LOW TIDE

* Refractometer

TURBIDITY VERIFICATION

	Blank (must be <0.10)	Low (+/- 0.18)	Med (+/- 1.80)	High (+/- 18)
Standard	0.06	5.34	57.1	636
Pre-sampling	0.05	5.35	57.5	635
Post-sampling	0.06	5.36	57.7	635

CHAIN OF CUSTODY INFORMATION

	# of samples	Relinquished to	Contact
Sediment	-	-	-
Nutrients	5	OLP	Liz Yannell
Bacteria	-	-	-

Signature (Team Lead):

Liz Yannell

Printed Name:

Liz Yannell

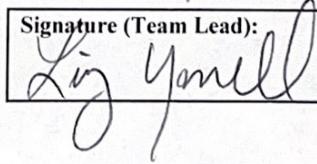
Sites with potential for freshwater flow: Honolua Bay, Kahana Village

* Temp taken from DO probe
 - Verified refractometer with distilled water at the end of the day, it read -2 ppt

Team	R2RN	Samplers (Last Name, 1st Initial)	Johnson, E.			
Session	I21		Berg, L.			
Date	05/04/23		Hehemann, C.			

Sample ID	Location Name	Sample taken?	Duplicate sample?	Time	Volume	Protocol Notes	Comments
Nutrients							
RHL230504-N-1	Honolua Bay	<input checked="" type="checkbox"/>	<input type="checkbox"/>	8:00	125 ml	Washed, rinsed syringes; acid washed bottles; 0.2 um disposable filters	
RON230504-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	
RFS230504-N-1	Kapalua Bay	<input checked="" type="checkbox"/>	<input type="checkbox"/>	9:07	125 ml	Washed, rinsed syringes; acid washed bottles; 0.2 um disposable filters	
RKO230504-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	
RKV230504-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						
		<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: 