

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



Session No:	Verifiers (pre-sampling):	Pre Date:	Pre Time:	Verifiers (post-sampling):	Post Date:	Post Time:
48	T. Stark, J. Strickland	06/29/20	10:00	T. Stark, J. Strickland	07/3/20	10:00 am

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 33.0 °C	NIST 30.9 °C	NIST — °C	NIST 28.7 °C	± 0.6 °C of NIST	Compare to NIST Std value in tap water	
	2	1	n/a		32.8		—				
	2	2	n/a			30.5		28.5			
Salinity			3 months	Std Val	Tap water 0.13	Salin Std 2/3/20 date 33.1 ppt	Tap water 0.13	Salin Std 1/13/20 date 35.0 ppt	± 1 ppt	Tap water - compare pre & post values Salinity Std - compare to value on Salinity Std bottle	
	2	1	5/4/20		0.10	33.1	—	—			
	2	2	5/4/20		0.11	35.0	0.11	35.0		used salinity STD b/c ran out of lab med 1/13/20 ; 35.0 ppt. Also recalibrated	
Dissolved Oxygen			1 year	Std Val	100%		100%		± 5 %		
	2	1	10/18/19		95.1 %		—				
	2	2	10/18/19		100.5 %		99.4 %				
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	
	3/2	3	6/29/20		6.93	9.95	—	—			
	4/2	4	6/29/20		7.02	10.02	7.04	10.04			
Turbidity			3 months	Std Val	BLANK <0.1	LOW 1-10 NTU	BLANK <0.1	LOW 1-10 NTU	± 0.18 NTU Low 1-10	Compare to Gel LOW 1-10 Std Calibration value	
	2	n/a	5/4/20		0.04	6.47	0.05	6.46		STDs: L: 6.45	
	—	n/a	—		—	—	—	—			

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

Team	Kamaole	Samplers (Last Name, 1st Initial)	Strickland, J	Meters and Probes ID		
Session	48			HQ40d: 2		2100Q: 2
Date	6/30/20			pH: 4	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)			Entero	People (within 100 ft)		
					(mg/L)	(%) 85-105 normal					CFU	water	beach	camp
Kalepolepo North NKN200630	N	8:20	26.5	31.9	6.18	91.9	8.10	5.83	5.72	5.73	0	0	1	0
Waipuilani Park KWP200630	N	8:45	26.7	33.8	6.45	97.3	8.06	20.3	21.0	20.4	10	0	2	0
Kihei South KKS200630	N	9:25	27.5	34.1	6.49	99.5	8.10	13.4	14.1	13.7	0	0	1	0
Kalama Park KKP200630	N	9:45	27.5	34.2	6.76	103.6	8.17	9.37	11.3	10.6	0	3	1	0
Cove Park KCP200630	N	10:10	28.0	32.5	6.91	105.7	8.14	9.82	10.1	9.95	31	20	5	0
Mai Poina Oe Iau NMP200630	N	10:40	27.6	33.9	6.68	102.6	8.27	10.4	9.8	9.84	0	0	3	0

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

KKS - Water much clearer
20' from shore

KKP - 2 surfers coming to
shore next to sampling

All sites - no wind.

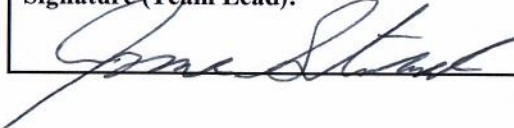
TURBIDITY VERIFICATION

	Blank (must be <0.10)	Low	Med	High
Standard	0.04	6.45	58.9	602
Pre-sampling	0.04	6.47	58.9	603
Post-sampling	0.04	6.46	59.2	601

CHAIN OF CUSTODY INFORMATION

	# of samples	Relinquished to	Contact
Sediment	-	-	-
Nutrients	6	NMS	J. Strickland
Bacteria	6	NMS	J. Strickland

Signature (Team Lead):



Printed Name:

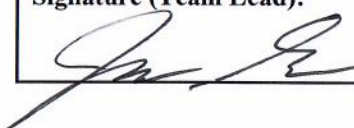
James Strickland

Team	Kamaole	Samplers (Last Name, 1st Initial)	Strickland, J
Session	48		
Date	6/30/20		

Sample ID	Location Name	Sample taken?	Storm sample?	Time	Volume	Protocol Notes	Comments
Nutrients							
NKN200630-N-1	Kalepolepo North	<input checked="" type="checkbox"/>	<input type="checkbox"/>	8:20	125 ml	Washed, rinsed syringes; acid washed bottles; 0.2 um disposable filters	
KWP200630-N-1	Waipuilani Park	<input checked="" type="checkbox"/>	<input type="checkbox"/>	8:45	125 ml	Washed, rinsed syringes; acid washed bottles; 0.2 um disposable filters	
KKS200630-N-1	Kihei South	<input checked="" type="checkbox"/>	<input type="checkbox"/>	9:25	125 ml	Washed, rinsed syringes; acid washed bottles; 0.2 um disposable filters	
KKP200630-N-1	Kalama Park	<input checked="" type="checkbox"/>	<input type="checkbox"/>	9:45	125 ml	Washed, rinsed syringes; acid washed bottles; 0.2 um disposable filters	
KCP200630-N-1	Cove Park	<input checked="" type="checkbox"/>	<input type="checkbox"/>	10:10	125 ml	Washed, rinsed syringes; acid washed bottles; 0.2 um disposable filters	
NMP200630-N-1	Mai Poina Oe Iau	<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		

Signature (Team Lead):



Printed Name:

James Strickland

Team	Makena	Samplers (Last Name, 1st Initial)	Strickland, J	Meters and Probes ID		
Session	48			HQ40d: 2		2100Q: 2
Date	7/01/20			pH: 4	DO:21	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)			Entero	People (within 100 ft)		
					(mg/L)	(%) 85-105 normal					CFU	water	beach	camp
Makena Landing MML200701	N	8:20	26.2	34.3	6.70	100.5	8.14	8.07	6.20	7.47	0	0	0	0
S Maluaka Beach MMB200701	N	8:55	27.2	33.9	6.69	101.8	8.12	1.36	1.24	1.34	0	0	0	0
Oneuli MON200701	N	9:25	27.5	34.1	6.99	107.3	8.15	1.34	1.73	1.66	0	0	0	0
Ahihi Kinau North MAN200701	N	9:55	26.9	35.0	7.18	109.6	8.15	1.67	1.47	1.75	0	0	0	0
Ahihi Kinau South MAS200701	N	10:30	27.5	35.1	6.69	103.3	8.14	1.13	1.21	1.01	0	1	2	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	6.45	58.9	602
Pre-sampling	0.05	6.47	58.7	603
Post-sampling	0.05	6.46	59.5	602

CHAIN OF CUSTODY INFORMATION

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

Signature (Team Lead):

Printed Name:

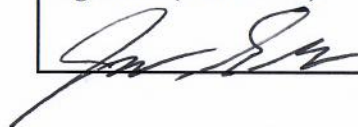

 James Strickland
Sites with streams/outflows: **Makena Landing**

Team	Makena	Samplers (Last Name, 1st Initial)	Strickland, J
Session	48		
Date	7/01/20		

Sample ID	Location Name	Sample taken?	Storm sample?	Time	Volume	Protocol Notes	Comments
Nutrients							
MML200701-N-1	Makena Landing	<input checked="" type="checkbox"/>	<input type="checkbox"/>	8:20	125 ml	Washed, rinsed syringes; acid washed bottles; 0.2 um disposable filters	
MMB200701-N-1	South Maluaka Beach	<input checked="" type="checkbox"/>	<input type="checkbox"/>	8:55	125 ml	Washed, rinsed syringes; acid washed bottles; 0.2 um disposable filters	
MON200701-N-1	Oneuli	<input checked="" type="checkbox"/>	<input type="checkbox"/>	9:25	125 ml	Washed, rinsed syringes; acid washed bottles; 0.2 um disposable filters	
MAN200701-N-1	Ahihi-Kinau North	<input checked="" type="checkbox"/>	<input type="checkbox"/>	9:55	125 ml	Washed, rinsed syringes; acid washed bottles; 0.2 um disposable filters	
MAS200701-N-1	Ahihi-Kinau South	<input checked="" type="checkbox"/>	<input type="checkbox"/>	10:30	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	North Kihei	Samplers (Last Name, 1st Initial)	J. Strickland T. Stark	Meters and Probes ID		
Session	48			HQ40d: 2	2100Q: 2	
Date	07/02/20			pH: 4	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)			CFU
					(mg/L)	(%) 85-105 normal					water	beach	camp	
Maalaea Harbor NMH200702	N	8:10	25.5	34.2	6.33	93.8	8.12	2.58	2.52	3.05	0	0	0	0
Maalaea Condos NMC200702	N	8:25	25.8	33.1	7.68	113.5	8.15	2.92	^{1.79} 3.09	1.79	0	0	0	146
Haycraft Park NHP200702	N	8:49	24.1	35.0	6.82	102.6	8.16	4.51	4.23	4.96	0	→	50	0
Kealia Pond NKP200702	N	9:05	24.2	35.2	6.72	101.4	8.17	^{1.79} 2.44	1.53	1.54	13	→	4	0
Sugar Beach NSB200702	N	9:25	24.7	34.9	6.71	101.8	8.10	3.23	3.56	3.98	0	2	0	0
Kihei Canoe Club NKC200702	N	9:45	24.7	34.7	6.69	102.6	8.15	14.6	14.7	13.9	3	5	0	200

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

NMC: stuff visible floating in sample cell
- usually ~80 units full in now only ~15
units; see moai & ~~luna~~ ulua coming
in close; low tide

NHP- 9 TENTS

NKP- 4 TENTS

NKC - murky water

Sites with streams/outflows: Kealia Pond

TURBIDITY VERIFICATION

	Blank (must be <0.10)	Low	Med	High
Standard	0.05	6.45	58.9	602
Pre-sampling	0.06	6.47	59.0	600
Post-sampling	0.04	6.45	59.1	601

CHAIN OF CUSTODY INFORMATION

	# of samples	Relinquished to	Contact
Sediment	—	—	—
Nutrients	6	NMS	T. Stark
Bacteria	6	NMS	T. Stark

Signature (Team Lead):

T. Stark

Printed Name:

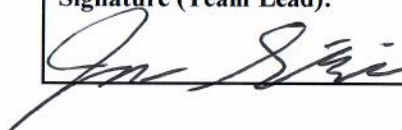
Tiara Stark

Team	North Kihei	Samplers (Last Name, 1st Initial)	Strickland, J Stork, T
Session	48		
Date	07/02/2020		

Sample ID	Location Name	Sample taken?	Storm sample?	Time	Volume	Protocol Notes	Comments
Nutrients							
NMH200702-N-1	Maalaea Harbor	<input checked="" type="checkbox"/>	<input type="checkbox"/>	8:10	125 ml	Washed, rinsed syringes; acid washed bottles; 0.2 um disposable filters	
NMC200702-N-1	Maalaea Condos	<input checked="" type="checkbox"/>	<input type="checkbox"/>	8:25	125 ml	Washed, rinsed syringes; acid washed bottles; 0.2 um disposable filters	
NHP200702-N-1	Haycraft Park	<input checked="" type="checkbox"/>	<input type="checkbox"/>	8:49	125 ml	Washed, rinsed syringes; acid washed bottles; 0.2 um disposable filters	
NKP200702-N-1	Kealia Pond	<input checked="" type="checkbox"/>	<input type="checkbox"/>	9:05	125 ml	Washed, rinsed syringes; acid washed bottles; 0.2 um disposable filters	
NSB200702-N-1	Sugar Beach	<input checked="" type="checkbox"/>	<input type="checkbox"/>	9:25	125 ml	Washed, rinsed syringes; acid washed bottles; 0.2 um disposable filters	
NKC200702-N-1	Kihei Canoe Club	<input checked="" type="checkbox"/>	<input type="checkbox"/>	9:45	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):



Printed Name:

James Strickland

Team	Wailea	Samplers (Last Name, 1st Initial)	T. Stark J. Strickland	Meters and Probes ID		
Session	48			HQ40d: 2		2100Q: 2
Date	07/03/20			pH: 4	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
Kilohana Dr WKD200703	N	8:10	26.5	34.9	6.71	101.4	8.14	1.98	1.79	1.62 2.28	4	11	0
Keawakapu Beach WKB200703	N	8:30	27.0	34.9	6.70	102.2	8.14	0.68	0.67	0.63	0	15	0
Ulua Beach WUL200703	N	8:55	27.1	34.6	6.63	101.4	8.10	2.52 2.32	2.49	2.07	2	12	0
Palauea WPL200703	N	9:26	27.2	34.7	6.76	103.4	8.17	2.08	2.49	2.93	7	→	30
Poolenalena WPO200703	N	9:41	27.4	34.9	6.68	102.7	8.17	1.00	1.36	1.15	17	→	65

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

WKD - dogs on beach

WPL - 5 TENTS / 10 FISHING POLES

WPO - 15 TENTS / 14 FISHING POLES

TURBIDITY VERIFICATION

	Blank (must be <0.10)	Low	Med	High
Standard	0.04	6.45	58.9	602
Pre-sampling	0.07	6.48	58.7	602
Post-sampling	0.05	6.46	59.0	601

CHAIN OF CUSTODY INFORMATION

	# of samples	Relinquished to	Contact
Sediment	-	-	-
Nutrients	5	NMS	T. Stark
Bacteria	-	-	-

Signature (Team Lead):

Tiara Stark

Printed Name:

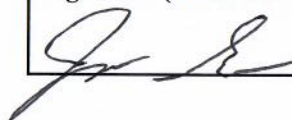
Tiara Stark

Team	Wailea	Samplers (Last Name, 1st Initial) T. Stark J. Strickland
Session	48	
Date	7/03/2020	

Sample ID	Location Name	Sample taken?	Storm sample?	Time	Volume	Protocol Notes	Comments
Nutrients							
WKD200703-N-1	Kilohana Dr	<input checked="" type="checkbox"/>	<input type="checkbox"/>	8:10	125 ml	Washed, rinsed syringes; acid washed bottles; 0.2 um disposable filters	
WKB200703-N-1	Keawakapu Beach	<input checked="" type="checkbox"/>	<input type="checkbox"/>	8:30	125 ml	Washed, rinsed syringes; acid washed bottles; 0.2 um disposable filters	
WUL200703-N-1	Ulua Beach	<input checked="" type="checkbox"/>	<input type="checkbox"/>	8:55	125 ml	Washed, rinsed syringes; acid washed bottles; 0.2 um disposable filters	
WPL200703-N-1	Palauea	<input checked="" type="checkbox"/>	<input type="checkbox"/>	9:20	125 ml	Washed, rinsed syringes; acid washed bottles; 0.2 um disposable filters	
WPO200703-N-1	Poolenalena	<input checked="" type="checkbox"/>	<input type="checkbox"/>	9:41	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