

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



Session No:	Verifiers (pre-sampling):	Pre Date:	Pre Time:	Verifiers (post-sampling):	Post Date:	Post Time:
40 <del>57</del> d.s.	T. Stark, M. Brown	11/4/19	8:30 am	T. Stark	11/8/19	10:30 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	NIST	NIST	NIST	± 0.6 °C of NIST	Compare to NIST Std value in tap water	
	1	1	n/a		23.6 °C	23.6 °C	— °C	25.4 °C		11/4: pre: 22.8 °C post: 23.1 °C	
	1	2	n/a			24.0		25.3		11/8: pre: 24.5 °C post: 24.5 °C	
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	1	9/23/19		0.13	9/27 date 33.2 ppt	0.13	9/27 date 33.2 ppt			
	1	2	9/23/19		0.15	33.3	—	—			
	1	2	9/23/19		0.15	33.5	0.15	33.3			
Dissolved Oxygen			1 year	Std Val	100%		100%		± 5 %		
	1	1	10/14/19		101.1 %		—				
	1	2	10/18/19		104.9 %		102.6 %				
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	3	10/14/19		6.92	10.02	—	—			
	1	4	10/14/19		7.03	10.00	7.03	10.02		11/8 did not think recalculation was necessary - T.S.	
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	
	1	n/a	9/2/19		0.03	6.58	—	—		gel standard 6.57	
	2	n/a	9/2/19		0.03	6.48	0.03	6.45		" 6.42	

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



Team	Kamaole	Samplers (Last Name, 1st Initial)  Cyr, R. Cyr, M. Houder Hecht/H	Meters and Probes ID	
Session	40		HQ40d: 2	2100Q: 2
Date	11/5/19		pH: 4	DO: 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
Kalepolepo North NKN191105	N	7:53	27.9	34.4	5.49	85.0	8.09	3.63	4.09	5.05	0	0	0
Waipuilani Park KWP191105	N	8:23	26.0	33.5	6.48	96.8	8.06	41.6	47.7	47.6	0	2	0
Kihei South KKS191105	N	8:46	27.6	33.5	6.29	96.2	8.10	9.82	11.2	10.9	3	0	0
Kalama Park KKP191105	N	8:56	27.5	34.3	6.39	97.9	8.08	15.6	15.7	14.8	0	6	0
Cove Park KCP191105	N	9:10	27.9	33.0	6.32	96.8	8.13	2.50	2.70	2.31	0	0	0
Mai Poina Oe Iau NMP191105	N	9:32	28.2	34.3	6.44	100.1	8.12	1.90	1.74	2.43	0	0	0

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

\* 2.05 4th Reading NTU

# TURBIDITY VERIFICATION

	Blank (must be <0.10)	Low	Med	High
Standard	0.03	6.42	57.0	590
Pre-sampling	0.31	6.38	57.0	590
Post-sampling	0.04	6.47	57.6	590

# CHAIN OF CUSTODY INFORMATION

	# of samples	Relinquished to	Contact
Sediment	-	-	-
Nutrients	6	NMS	M Brown
Bacteria	6	NMS	M Brown

Sites with streams/outflows: Kalepolepo North, Kalama Park, Cove Park

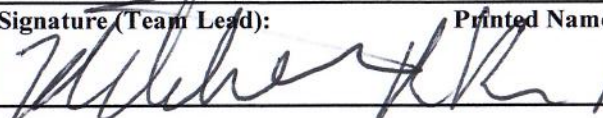
Michael K Brown Michael Brown



Team	Kamaole	Samplers (Last Name, 1st Initial)	Cyril R. Chris M. Howard D. Hecht H.
Session	40		
Date	11/5/19		

Sample ID	Location Name	Sample taken?	Storm sample?	Time	Volume	Protocol Notes	Comments
<b>Nutrients</b>							
NKN191105-N-1	Kalepolepo North	<input checked="" type="checkbox"/>	<input type="checkbox"/>		125 ml	Washed, rinsed syringes; acid washed bottles; 0.2 um disposable filters	
KWP191105-N-1	Waipuilani Park	<input checked="" type="checkbox"/>	<input type="checkbox"/>		125 ml	Washed, rinsed syringes; acid washed bottles; 0.2 um disposable filters	
KKS191105-N-1	Kihei South	<input checked="" type="checkbox"/>	<input type="checkbox"/>		125 ml	Washed, rinsed syringes; acid washed bottles; 0.2 um disposable filters	
KKP191105-N-1	Kalama Park	<input checked="" type="checkbox"/>	<input type="checkbox"/>		125 ml	Washed, rinsed syringes; acid washed bottles; 0.2 um disposable filters	
KCP191105-N-1	Cove Park	<input checked="" type="checkbox"/>	<input type="checkbox"/>		125 ml	Washed, rinsed syringes; acid washed bottles; 0.2 um disposable filters	
NMP191105-N-1	Mai Poina Oe Iau	<input checked="" type="checkbox"/>	<input type="checkbox"/>		125 ml	Washed, rinsed syringes; acid washed bottles; 0.2 um disposable filters	

<b>Sediments</b>							
		<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:
	Mitch Brown



Team	Makena	Samplers (Last Name, 1st Initial)	Bob Sousa, Deep Dunning, M. Sharpe	Meters and Probes ID		
Session	40			HQ40d: 2		2100Q: 2
Date	11/6/19			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)  RS			People (within 100 ft)			
					(mg/L)	(%) 85-105 normal					water	beach	camp	
Makena Landing MML191106	N	7:55	27.3	34.8	6.64	101.7	8.14	2.39	2.43	2.40	1.99	∅	∅	∅
S Maluaka Beach MMB191106	N	8:27	27.4	35.1	6.73	103.6	8.15	2.10	1.16	2.00		∅	1	∅
Oneuli MON191106	N	8:48	27.5	35.4	6.59	101.7	8.12	1.87	1.85	1.87		∅	∅	∅
Ahihi Kinau North MAN191106	N	9:10	27.3	34.9	6.72	103.1	8.02	1.13	1.28	1.20	3	∅	∅	∅
Ahihi Kinau South MAS191106	N	9:33	27.7	35.4	6.35	98.4	8.10	0.56	0.68	0.78	9	7	∅	∅

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

changed Turbidity readings  
as noted.

## TURBIDITY VERIFICATION

	Blank (must be <0.10)	Low	Med	High
Standard	0.04	6.42	57.0	590
Pre-sampling	0.07	6.46	57.3	590
Post-sampling	0.04	6.49	57.4	589

## CHAIN OF CUSTODY INFORMATION

	# of samples	Relinquished to	Contact
Sediment	-	-	-
Nutrients	5	NMS	M Brown
Bacteria	5	NMS	M Brown

Signature (Team Lead):

Printed Name:

*[Signature]* Mitch Brown

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



<b>Team</b>	Makena	<b>Samplers (Last Name, 1st Initial)</b> <i>Sousa B Dunning J. Shope M.</i>
<b>Session</b>	40	
<b>Date</b>	11/6/19	

Sample ID	Location Name	Sample taken?	Storm sample?	Time	Volume	Protocol Notes	Comments
<b>Nutrients</b>							
MML191106-N-1	Makena Landing	<input checked="" type="checkbox"/>	<input type="checkbox"/>		125 ml	Washed, rinsed syringes; acid washed bottles; 0.2 um disposable filters	
MMB191106-N-1	South Maluaka Beach	<input checked="" type="checkbox"/>	<input type="checkbox"/>		125 ml	Washed, rinsed syringes; acid washed bottles; 0.2 um disposable filters	
MON191106-N-1	Oneuli	<input checked="" type="checkbox"/>	<input type="checkbox"/>		125 ml	Washed, rinsed syringes; acid washed bottles; 0.2 um disposable filters	
MAN191106-N-1	Ahihi-Kinau North	<input checked="" type="checkbox"/>	<input type="checkbox"/>		125 ml	Washed, rinsed syringes; acid washed bottles; 0.2 um disposable filters	
MAS191106-N-1	Ahihi-Kinau South	<input checked="" type="checkbox"/>	<input type="checkbox"/>		125 ml	Washed, rinsed syringes; acid washed bottles; 0.2 um disposable filters	

<b>Sediments</b>							
		<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):

*Mitch Brown*

Printed Name:

Mitch Brown



Team	North Kihei	Samplers (Last Name, 1st Initial)	Thornton, K Bahr, F Riley, R	Rybak, Deborah Rybak, Michael	Meters and Probes ID		
Session	40				HQ40d: 2	2100Q: 2	
Date	11/07/19				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
Maalaea Harbor NMH191107	N	7:20	26.3	34.5	6.39	96.2	8.11	0.73	0.79	0.79	0	0	0
Maalaea Condos NMC191107	N	7:45	26.7	33.4	6.80	102.3	8.05	0.80	0.70	0.67	0	1	0
Haycraft Park NHP191107	N	8:10	27.0	34.5	6.37	97.1	8.12	2.47	2.98	2.75	2	5	1
Kealia Pond NKP191107	N	8:35	26.8	35.4	6.70	102.3	8.19	1.11 0.65	1.09 0.93	1.28 2.12	0	1	0
Sugar Beach NSB191107	N	9:00	27.4	35.3	6.65	102.4	8.17	1.00	1.23	1.09	4	8	0
Kihei Canoe Club NKC191107	N	9:25	28.2	34.9	6.57	102.6	8.15	1.05	0.92 0.30	1.03	0	5	0

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

NKP: very different first 3 readings, then cleared  
w/ oil & blade, 4th reading: 1.11, 1.09, 1.28 (2.5.)  
NSB SUGAR BEACH = 1 DOG

NKC: man living in van said got staph from  
water & his friend got a rare  
bacterial infection from a "water source" -  
consumed drinking water - friend in hospice.  
- windy - move car a little  
Sites with streams/outflows: Kealia Pond

## TURBIDITY VERIFICATION

	Blank (must be <0.10)	Low	Med	High
Standard	0.04	6.42	57.0	590
Pre-sampling	0.07	6.53	57.1	590
Post-sampling	0.03	6.44	57.5	589

## CHAIN OF CUSTODY INFORMATION

	# of samples	Relinquished to	Contact
Sediment	-	-	-
Nutrients	6	NMS	T. Starke
Bacteria	6	NMC	T. Starke

Signature (Team Lead):



Printed Name:

Tiara Starke

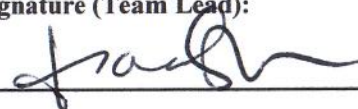


Team	North Kihei	Samplers (Last Name, 1st Initial)	Thomton, K. Rybak, D. Bahr, F. Rybak, M. Riley, R.
Session	40		
Date	11/07/19		

Sample ID	Location Name	Sample taken?	Storm sample?	Time	Volume	Protocol Notes	Comments
<b>Nutrients</b>							
NMH191017-N-1	Maalaea Harbor	<input checked="" type="checkbox"/>	<input type="checkbox"/>	7:20	125 ml	Washed, rinsed syringes; acid washed bottles; 0.2 um disposable filters	
NMC191017-N-1	Maalaea Condos	<input checked="" type="checkbox"/>	<input type="checkbox"/>	7:45	125 ml	Washed, rinsed syringes; acid washed bottles; 0.2 um disposable filters	
NHP1901017-N-1	Haycraft Park	<input checked="" type="checkbox"/>	<input type="checkbox"/>	8:10	125 ml	Washed, rinsed syringes; acid washed bottles; 0.2 um disposable filters	
NKP191017-N-1	Kealia Pond	<input checked="" type="checkbox"/>	<input type="checkbox"/>	8:35	125 ml	Washed, rinsed syringes; acid washed bottles; 0.2 um disposable filters	
NSB191017-N-1	Sugar Beach	<input checked="" type="checkbox"/>	<input type="checkbox"/>	9:00	125 ml	Washed, rinsed syringes; acid washed bottles; 0.2 um disposable filters	
NKC191017-N-1	Kihei Canoe Club	<input checked="" type="checkbox"/>	<input type="checkbox"/>	9:25	125 ml	Washed, rinsed syringes; acid washed bottles; 0.2 um disposable filters	

<b>Sediments</b>							
		<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:

Tiara Stam



Team	Wailea	Samplers (Last Name, 1st Initial)	WOLF, A Allison, A Jarvve, J	Meters and Probes ID		
Session	40			HQ40d: 2		2100Q: 2
Date	11/08/19			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 WKD191108	N	8:05	26.8	35.2	6.38	97.6	8.13	0.83	0.88	0.86	3	3	0
Keawakapu Beach WKB191108	N	8:25	27.1	35.3	6.50	99	8.10	0.74	0.60	0.69	10	8	0
Ulua Beach WUL191108	N	8:45	27.5	<del>27.3</del> 35.3	6.47	100	8.14	0.51	0.43	0.39	4	7	0
Palaua WPL191108	N	9:10	27.7	35.1	6.48	100.4	8.13	0.76	0.65	<del>0.79</del> 0.90	5	8	0
Poolenalena WPO191108	N	9:30	21.9	35.3	6.64	103.6	8.19	0.27	0.39	0.31	5	4	0

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

WKB 2 people walked right in front of water collector  
Ulua - lady in water right in front of water sampling  
Ulua - salinity - gave false reading for incorrect  
WPL - car bumped on 3rd turbidity reading

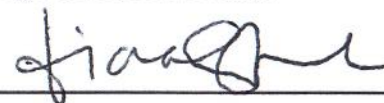
## TURBIDITY VERIFICATION

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Standard	0.03	6.42	57.0	590
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Post-sampling	0.03	6.45	57.2	589

## CHAIN OF CUSTODY INFORMATION

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

Signature (Team Lead):



Printed Name:

Tiara Stark



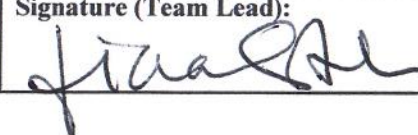
Team	Wailea	Samplers (Last Name, 1st Initial)	Wolf, A. Allison, A. Jarvie, J.
Session	40		
Date	11/08/19		

Sample ID	Location Name	Sample taken?	Storm sample?	Time	Volume	Protocol Notes	Comments
<b>Nutrients</b>							
WKD191018-N-1	Kilohana Dr	<input checked="" type="checkbox"/>	<input type="checkbox"/>	8:05	125 ml	Washed, rinsed syringes; acid washed bottles; 0.2 um disposable filters	
WKB191018-N-1	Keawakapu Beach	<input checked="" type="checkbox"/>	<input type="checkbox"/>	8:25	125 ml	Washed, rinsed syringes; acid washed bottles; 0.2 um disposable filters	
WUL191018-N-1	Ulua Beach	<input checked="" type="checkbox"/>	<input type="checkbox"/>	8:45	125 ml	Washed, rinsed syringes; acid washed bottles; 0.2 um disposable filters	
WPL191018-N-1	Palauea	<input checked="" type="checkbox"/>	<input type="checkbox"/>	9:10	125 ml	Washed, rinsed syringes; acid washed bottles; 0.2 um disposable filters	
WPO191018-N-1	Poolenalena	<input checked="" type="checkbox"/>	<input type="checkbox"/>	9:30	125 ml	Washed, rinsed syringes; acid washed bottles; 0.2 um disposable filters	

<b>Sediments</b>							
		<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:


 Tiara Starb