

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

Hui O Ka Wai Ola

Session No:	Verifiers (pre-sampling):	Pre Date:	Pre Time:	Verifiers (post-sampling):	Post Date:	Post Time:
SM 29	M Brown J. Strickland	3/18/19	8:30am	J. Strickland	3/20/19	10:00AM

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	
					25 °C	24.9 °C	27.0 °C	°C			
	1	1	n/a		25.1		28.24				
	1	2	n/a			25.0					
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	
					0.13	1/1/19 date 33.4 ppt		1/4/19 date 33.4 ppt			
	1	1	2/25/19		0.13	33.5	0.17	33.4			
	1	2	2/25/19		0.13	33.6					
Dissolved Oxygen			1 year	Std Val	100%		100%		± 5 %		
					101.5		101.2				
	1	1	10/1/18		101.5		101.2				
	1	2	10/1/18		101.3						
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	
					7.01	10.01	7.00	10.00			
	1	1	3/18/19		7.01	10.01	7.00	10.00			
	1	2	3/18/19		7.01	10.02					
Turbidity			3 months	Std Val	BLANK <0.1	LOW 1-10	BLANK <0.1	LOW 1-10	+ 0.18 NTU Low 1-10	Compare to Gel LOW 1-10 Std Calibration value	
						6.62 NTU		6.62 NTU			
	1	n/a	2/8/19		0.03	6.43	0.05	6.52			
	2	n/a	2/8/19		0.04	6.09					

QA:

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

Team	Kamaole	Samplers (Last Name, 1st Initial) <i>Harry R. Hecht</i> <i>S. Graves</i> <i>Mitch</i> <i>M. Brown</i>	Meters and Probes ID		
Session	29		HQ40d: 1		2100Q: 1
Date	3/19/19		pH: 1	DO: 1	Salinity: 1

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 NKN190319-N-1	N	8:05	22.9	32.9	6.58	92.2	8.11	1.29	1.66	1.87	0	4	0
Waipuilani Park KWP190319-N-1	NA	8:30	22.8	33.7	6.53	92.2 94.3	8.07	6.19	7.43	7.57	8	4	0
Kihei South KKS190319-N-1	NA	8:50	23.1	32.6	6.62	93.0	8.13	7.99	6.13	8.73	0	9	0
Kalama Park KKP190319-N-1	NA	9:13	23.3	34.4	7.35	104.5	8.17	3.20	3.85	4.43	0	7	0
Cove Park KCP190319-N-1	NA	9:31	23.6 22.5	22.5	7.25	102.6	8.13	3.52	5.28	5.14	50 50	6	0

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

Low tide.
KKS - 4th Reading 9.29
5th 8.21
KKP 4th Read - 3.70
KCP 4th Read - 5.36

TURBIDITY VERIFICATION

	Blank (must be <0.10)	Low	Med	High
Standard	0.03	6.62	58.4	600
Pre-sampling	0.04	6.43	57.9	600
Post-sampling	0.03	6.40	58.5	599

CHAIN OF CUSTODY INFORMATION

	# of samples	Relinquished to	Contact
Sediment	-	-	-
Nutrients	5	NWIS	Mitch
Bacteria	-	-	-

Signature (Team Lead):

Printed Name:

Mitch Brown Mitch Brown

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

Team	Kamaole	Samplers (Last Name, 1st Initial) <i>Harry Hecht</i> <i>S. Graves</i> <i>in Brown</i>
Session	29	
Date	3/19/19	

Sample ID	Location Name	Sample taken?	Storm sample?	Time	Volume	Protocol Notes	Comments
Nutrients							
NKN190319-N-1	Kalepolepo North	<input checked="" type="checkbox"/>	<input type="checkbox"/>	8:05	125 ml	Washed, rinsed syringes; acid washed bottles; 0.2 um disposable filters	
KWP190319-N-1	Waipuilani Park	<input checked="" type="checkbox"/>	<input type="checkbox"/>	8:30	125 ml	Washed, rinsed syringes; acid washed bottles; 0.2 um disposable filters	
KKS190319-N-1	Kihei South	<input checked="" type="checkbox"/>	<input type="checkbox"/>	8:58	125 ml	Washed, rinsed syringes; acid washed bottles; 0.2 um disposable filters	
KKP190319-N-1	Kalama Park	<input checked="" type="checkbox"/>	<input type="checkbox"/>	9:13	125 ml	Washed, rinsed syringes; acid washed bottles; 0.2 um disposable filters	
KCP190319-N-1	Cove Park	<input checked="" type="checkbox"/>	<input type="checkbox"/>	9:31	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:
<i>James Strickland</i>	James Strickland

Team	Makena	Samplers (Last Name, 1st Initial)	Dunning, J., Fries, A., Sharp, M.		Meters and Probes ID		
Session	29				HQ40d: 1	2100Q: 1	
Date	3/20/19				pH: 1	DO: 1	Salinity: 1

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
Makena Landing MML190320-N-1	N	8:00	24.2	34.7	6.78	98.2	8.14	1.70 2.82 2.84 3.18 3.32 2.21			2	6	0
S Maluaka Beach MMB190320-N-1	N	8:40	23.9	34.9	6.89	99.9	8.15	0.77 0.85 0.81			12	6	0
Oneuli MON190320-N-1	N	9:10	24.1	34.3	6.97	100.9	8.09	3.65 4.00 3.81			0	0	0
Ahihi Kinau North MAN190320-N-1	N	9:31	24.0	34.6	7.10	102.7	8.08	1.50 2.05 2.69			1	10	0
Ahihi Kinau South MAS190320-N-1	N	10:00	24.2	33.9	6.49	93.9	7.98 8.01	1.35 1.64 1.51			32	38	0

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

- Redid MMK first series of turbidity readings because of unusually high initial reading

TURBIDITY VERIFICATION

	Blank (must be <0.10)	Low	Med	High
Standard		6.62	58.4	600
Pre-sampling	0.03	6.43	58.2	600
Post-sampling	0.04	6.49	58.2	600

CHAIN OF CUSTODY INFORMATION

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

Signature (Team Lead):

Printed Name:

J. Strickland

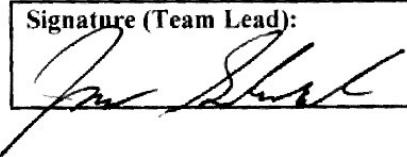
James Strickland

Sites with streams/outflows: Makena Landing

Team	Makena	Samplers (Last Name, 1st Initial) Dunning, J Fries, S Sharp, M
Session	29	
Date	3/20/19	

Sample ID	Location Name	Sample taken?	Storm sample?	Time	Volume	Protocol Notes	Comments
Nutrients							
MML190320-N-1	Makena Landing	<input checked="" type="checkbox"/>	<input type="checkbox"/>	8:00	125 ml	Washed, rinsed syringes; acid washed bottles; 0.2 um disposable filters	
MMB190320-N-1	South Maluaka Beach	<input checked="" type="checkbox"/>	<input type="checkbox"/>	8:40	125 ml	Washed, rinsed syringes; acid washed bottles; 0.2 um disposable filters	
MON190320-N-1	Oneuli	<input checked="" type="checkbox"/>	<input type="checkbox"/>	9:10	125 ml	Washed, rinsed syringes; acid washed bottles; 0.2 um disposable filters	
MAN190320-N-1	Ahihi-Kinau North	<input checked="" type="checkbox"/>	<input type="checkbox"/>	9:31	125 ml	Washed, rinsed syringes; acid washed bottles; 0.2 um disposable filters	
MAS190320-N-1	Ahihi-Kinau South	<input checked="" type="checkbox"/>	<input type="checkbox"/>	10:00	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) <i>Thunholm, K</i> <i>Bahr, F</i> <i>Riley, R</i>	Meters and Probes ID		
Session	29		HQ40d: 1	2100Q: 1	
Date	3/21/19		pH: 1	DO: 1	Salinity: 1

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
Haycraft Park NHP190321-N-1	N	8:15	23.6	33.8	6.70	95.8	8.11	2.97	3.52	3.44	0	4	7
Kealia Pond NKP190321-N-1	N	8:45	23.7	35.2	6.99	100.9	8.19	.83	.88	.78	1	2	0
Sugar Beach NSB190321-N-1	N	9:00	23.6	34.8	6.90	99.1	8.16	1.49	1.50	1.87	1	12	0
Kihei Canoe Club NKC190321-N-1	N	9:20	24.6	33.5	6.88	99.9	8.08	5.08	5.97	5.09	0	15	0
Mai Poina Oe Iau NMP190321-N-1	N	9:35	24.3	32.5	6.75	97.1	8.09	4.03	3.67	3.27	5	9	0

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

NHP - The syringe leaked & so we didn't get a full amount (no extra syringe)

TURBIDITY VERIFICATION

	Blank (must be <0.10)	Low	Med	High
Standard	0.04	6.62	58.4	600
Pre-sampling	0.05	6.51	58.2	600
Post-sampling	0.04	6.50	58.1	597

CHAIN OF CUSTODY INFORMATION

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

Signature (Team Lead):

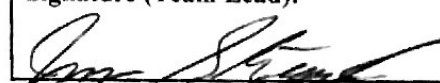
Printed Name:

James Strickland James Strickland

Team	streams/outflows: MAKELA	Samplers (Last Name, 1st Initial) DONNING, J FRIS, S SHARP, M Thunholm K Bahr. F. Riley R.
Session	29	
Date	3/21/19	

Sample ID	Location Name	Sample taken?	Storm sample?	Time	Volume	Protocol Notes	Comments
Nutrients							
NHP190321-N-1	Haycraft Park	<input checked="" type="checkbox"/>	<input type="checkbox"/>	8:15	125 ml	Washed, rinsed syringes; acid washed bottles; 0.2 um disposable filters	
NKP190321-N-1	Kealia Pond	<input checked="" type="checkbox"/>	<input type="checkbox"/>	8:45	125 ml	Washed, rinsed syringes; acid washed bottles; 0.2 um disposable filters	
NSB190321-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	
NKC190321-N-1	Kihehi Canoe Club	<input checked="" type="checkbox"/>	<input type="checkbox"/>	9:20	125 ml	Washed, rinsed syringes; acid washed bottles; 0.2 um disposable filters	
NMP190321-N-1	Mai Poina Oe Iau	<input checked="" type="checkbox"/>	<input type="checkbox"/>	9:35	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	Wailea	Samplers (Last Name, 1st Initial) <i>WOLF, Jarvie, D'Ala</i> <i>A, J, S.</i>	Meters and Probes ID		
Session	29		HQ40d: 1	2100Q: 1	
Date	3/22/19		pH: 1	DO: 1	Salinity: 1

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 WKD190322-N-1	N	7:54	23.4	35.0	7.08	101.0	8.13	1.07	1.16	1.11	0	7	0
Keawakapu Beach WKB190322-N-1	N	8:15	23.9	35.1	6.95	100.2 100.2	8.13	0.69	0.75	0.47	1	4	0
Ulua Beach WUL190322-N-1	N	8:39	23.8	34.5	6.84	98.1	8.11	1.19	1.53	1.46	25	18	0
Palauca WPL190322-N-1	N	9:01	24.3	34.9	6.97	100.9	8.16	0.53	0.91	0.54	0	9	0
Poolenalena WPO190322-N-1	N	9:19	24.3	35.1	6.99	101.2	8.16	0.94	0.85	0.87	3	10	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	6.62	58.4	600
Pre-sampling	0.05	6.52	58.1	599
Post-sampling	0.05	6.52	58.2	600

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

Signature (Team Lead):	Printed Name:
<i>James Strickland</i>	James Strickland

Team	Wailea	Samplers (Last Name, 1st Initial) <i>A. Wolf</i> <i>J. Jarvis</i> <i>S. D'Alencourt</i>
Session	29	
Date	3/22/19	

Sample ID	Location Name	Sample taken?	Storm sample?	Time	Volume	Protocol Notes	Comments
Nutrients							
WKD190322-N-1	Kilohana Dr	<input checked="" type="checkbox"/>	<input type="checkbox"/>	7:54	125 ml	Washed, rinsed syringes; acid washed bottles; 0.2 um disposable filters	
WKB190322-N-1	Keawakapu Beach	<input checked="" type="checkbox"/>	<input type="checkbox"/>	8:15	125 ml	Washed, rinsed syringes; acid washed bottles; 0.2 um disposable filters	
WUL190322-N-1	Ulua Beach	<input checked="" type="checkbox"/>	<input type="checkbox"/>	8:39	125 ml	Washed, rinsed syringes; acid washed bottles; 0.2 um disposable filters	
WPL190322-N-1	Palauea	<input checked="" type="checkbox"/>	<input type="checkbox"/>	9:01	125 ml	Washed, rinsed syringes; acid washed bottles; 0.2 um disposable filters	
WPO190322-N-1	Poolenalena	<input checked="" type="checkbox"/>	<input type="checkbox"/>	9:19	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:
<i>James Strickland</i>	James Strickland