

FIELD EQUIPMENT VERIFICATION (PRE/POST A WEEKLY SAMPLING)

| Session No: | Verifiers: | Pre date: | Pre time: | Post Date: | Post time: |
|-------------|--------------------------|-----------|-----------|------------|------------|
| 7 | G. BURENTH/S. DE LA SOTA | 2/5/18 | 10:25 | 01-07-18 | 11:00 |



| QA/QC Check | Inst # | Probe # | Last Cal Date | PRE: Verification Value | POST: Verification Value | Acceptable Range (Check range) | Comments/ Notes | QA? |
|------------------|--------|---------|---------------|-------------------------|--------------------------|--|-----------------|-----|
| Temperature | | | n/a | Std | | ± 1°C of NIST | Within 1°C | |
| | 1 | S-1 | n/a | 22.1 | 28.2 | | | |
| | 1 | S-2 | n/a | 21.7 | — | | | |
| Salinity | | | | Std | | ± 3‰, blank | 33.95 - 36.05 | |
| | 1 | 1 | 12/18/17 | 0.11 | 33.7 | 0.13 | 33.0 | |
| | 1 | 2 | 12/18/17 | 0.11 | 33.8 | — | — | |
| Dissolved Oxygen | | | | Std | | Post-check ± 5 % of pre-check (0-100%) | 80 - 120 % | |
| | 1 | 1 | 9/19/17 | 98.6 % | 100.1 | | | |
| | 1 | 2 | 9/19/17 | 99.9 % | — | | | |
| pH | | | | Std | | ± 3 % of calibration solution (6-8) | 6.79 - 7.21 | |
| | 1 | 1 | 2/5/18 | 7.00 | 7.05 | | | |
| | 1 | 2 | 2/5/18 | 7.00 | 10.01 | | | |

QA:

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

| | | | | | | | |
|---------|---------|---|---|--|----------------------|----------|-------------|
| Team | Kamaole | Samplers (Last Name, 1st Initial) | D Howard A Quinn S Graves S Pasick | | Meters and Probes ID | HQ40d: 1 | 2100Q: 1 |
| Session | 7 | Date | 02/06/18 | | pH: 1 | DO: 1 | Salinity: 1 |

| Location Name Sample ID | Time | Temp (°C) | Salinity (ppt) | Dissolved Oxygen | | pH | Turbidity (NTU) | | | Waves (0-3) | Wind (0-6) | People | | | TSS | Nutrient duplicate |
|----------------------------|------|--------------|-------------------|------------------|------|------|--------------------|------|------|----------------|---------------|--------|-------|------|--------------------------|--------------------------|
| | | | | (mg/L) | (%) | | | | | | | water | beach | camp | | |
| Waipuli Park KWP180206 | 7:55 | 23.7 | 34.9 | 4.43 | 95.9 | 8.11 | 35.0 | 33.1 | 33.7 | 2 | 1 | 0 | 4 | 10 | <input type="checkbox"/> | <input type="checkbox"/> |
| Kihel South KKS180206 | 8:25 | 23.7 | 34.1 | 4.73 | 97.0 | 8.11 | 17.7 | 17.3 | 17.4 | 2 | 0 | 0 | 5 | 0 | <input type="checkbox"/> | <input type="checkbox"/> |
| Kalama Park KKP180206 | 8:33 | 24.2 | 35.2 | 6.46 | 97.5 | 8.11 | 15.4 | 16.5 | 15.7 | 8 | 0 | 18 | 8 | 0 | <input type="checkbox"/> | <input type="checkbox"/> |
| Cove Park KCP180206 | 8:49 | 24.2 | 34.3 | 6.80 | 98.0 | 8.14 | 7.51 | 8.33 | 7.92 | 4 | 0 | 5 | 0 | 1 | <input type="checkbox"/> | <input type="checkbox"/> |
| Kamaole I KKO180206 | 9:10 | 24.8 | 35.4 | 6.72 | 99.6 | 8.18 | 5.79 | 6.3 | 6.17 | 4 | 1 | 5 | 30 | 0 | <input type="checkbox"/> | <input type="checkbox"/> |
| Kamaole III KKT180206 | 9:23 | 24.7 | 35.4 | 6.71 | 99.3 | 8.18 | 2.74 | 3.26 | 3.26 | 3 | 6 | 10 | 47 | 0 | <input type="checkbox"/> | <input type="checkbox"/> |

Waves: 0ft: no waves; 1ft: small waves; 2ft: knee high; 3ft: waist high
Wind: 0: calm; 3: gentle breeze; 6: strong breeze

| COASTAL AND ENVIRONMENTAL CONDITIONS | |
|---|---------------------------------|
| Most recent tide time (falling or rising) | Low: 5:59am (F) High: 1:14pm |
| Moon day (from new) | 21 |
| Cloud cover (0-8) | 0 |
| Rain conditions (last 24 hrs) | Heavy 12 hours ago |
| Wind direction (Tades/Kona) | Kona |
| Streams flowing? (Y/N) | N |

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

Very strong wind @ Kama III

| TURBIDITY VERIFICATION | | | | |
|------------------------|-------|------|------|------|
| | Blank | Low | Med | High |
| Standard | 0.03 | 5.95 | 56.4 | 590 |
| Pre-sampling | 6.09 | 6.04 | 54.5 | 591 |
| Post-sampling | 0.04 | 5.95 | 56.7 | 590 |

| CHAIN OF CUSTODY INFORMATION | | | |
|------------------------------|-----------------|---------|-------|
| # of samples | Relinquished to | Contact | |
| Sediment | | | |
| Nutrients | 6 | NMS | Sofia |
| Bacteria | | | |

Signature (Team Lead):

Printed Name:

D Howard

Scott Graves

Sofia da la fita

Sofia da la fita

| | | | | |
|---------|----------|---|----------------------|---------------------|
| Team | Kamaole | Samplers (Last Name, 1st Initial) | Howard, J Quinn A | Grass S Pavlik S |
| Session | 7 | | | |
| Date | 02/06/18 | | | |

| Sample ID | Location Name | Sample taken? | Storm sample? | Time | Volume | Protocol Notes | Comments |
|---------------|----------------|-------------------------------------|--------------------------|------|--------|---|----------|
| Nutrients | | | | | | | |
| KWP180206-N-1 | Waipulani Park | <input checked="" type="checkbox"/> | <input type="checkbox"/> | 7:55 | 125 ml | Washed, rinsed syringes; acid washed bottles; 0.2 um disposable filters | |
| KKS180206-N-1 | Kihai South | <input checked="" type="checkbox"/> | <input type="checkbox"/> | 8:15 | 125 ml | Washed, rinsed syringes; acid washed bottles; 0.2 um disposable filters | |
| KKP180206-N-1 | Kalama Park | <input checked="" type="checkbox"/> | <input type="checkbox"/> | 8:33 | 125 ml | Washed, rinsed syringes; acid washed bottles; 0.2 um disposable filters | |
| KCP180206-N-1 | Cove Park | <input checked="" type="checkbox"/> | <input type="checkbox"/> | 8:45 | 125 ml | Washed, rinsed syringes; acid washed bottles; 0.2 um disposable filters | |
| KKO180206-N-1 | Kamaole I | <input checked="" type="checkbox"/> | <input type="checkbox"/> | 9:10 | 125 ml | Washed, rinsed syringes; acid washed bottles; 0.2 um disposable filters | |
| KKT180206-N-1 | Kamaole III | <input checked="" type="checkbox"/> | <input type="checkbox"/> | 9:23 | 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 | | |
| | | <input type="checkbox"/> | <input type="checkbox"/> | | 500 ml | | |
| | | <input type="checkbox"/> | <input type="checkbox"/> | | 500 ml | | |

| | |
|---|---------------------------|
| Signature (Team Lead): <i>Howard</i> | Printed Name: J Howard |
|---|---------------------------|

| | | | | | | |
|---------|----------|---|---|-------|-------|-------------|
| Team | Makana | Samplers (Last Name, 1st Initial) | Meters and Probes ID HQ40d: 1 2100Q: 1 | | | |
| Session | 7 | | | | | |
| Date | 02/07/18 | | | | | |
| | | Tina W, Sheng T, Aloha D. | | pH: 1 | DO: 1 | Salinity: 1 |

| Location Name Sample ID | Time | Temp (°C) | Salinity (ppt) | Dissolved Oxygen | | pH | Turbidity (NTU) | | | Waves (0-3) | Wind (0-6) | People | | | TSS | Nutrient duplicate |
|--------------------------------|------|--------------|-------------------|------------------|-------|------|--------------------|------|------|----------------|---------------|--------|-------|------|-----|-----------------------|
| | | | | (mg/L) | (%) | | | | | | | water | beach | camp | | |
| Makena Landing MML180207 | 8:00 | 24.4 | 34.4 | 6.72 | 98.1 | 8.14 | 1.13 | 1.22 | 1.15 | 1 | 0 | 1 | 5 | 0 | □ | □ |
| S Maluaka Beach MMB180207 | 8:25 | 24.4 | 35.0 | 6.82 | 100.1 | 8.16 | 3.39 | 3.05 | 1.77 | 2 | 0 | 2 | 0 | 0 | □ | □ |
| Onculi MON180206 | 8:45 | 24.5 | 35.1 | 6.85 | 100.7 | 8.14 | 5.78 | 6.35 | 5.61 | 2 | 0 | 0 | 0 | 0 | □ | □ |
| Makena Beach MMB180206 | 9:05 | 24.9 | 35.4 | 6.74 | 99.8 | 8.20 | 0.39 | 0.45 | 0.42 | 1 | 1 | 0 | 4 | 0 | □ | □ |
| Ahiki Kinau North MAN180206 | 9:25 | 24.6 | 35.1 | 6.95 | 102.3 | 8.10 | 1.41 | 1.31 | 1.43 | 0 | 0 | 0 | 0 | 0 | □ | □ |
| Ahiki Kinau South MAS180206 | 9:35 | 25.0 | 35.1 | 6.68 | 99.1 | 8.13 | 1.41 | 1.44 | 1.57 | 0 | 0 | 10 | 6 | 0 | □ | □ |

Waves: 0ft: no waves; 1ft: small waves; 2ft: knee high; 3ft: waist high
Wind: 0: calm; 3: gentle breeze; 6: strong breeze

| COASTAL AND ENVIRONMENTAL CONDITIONS | |
|---|---------------------------------|
| Most recent tide time (falling or rising) | Low: 6:10am (F) High: 2:12pm |
| Moon day (from new) | 22 |
| Cloud cover (0-8) | 1 |
| Rain conditions (last 24 hrs) | terrestrial rain |
| Wind direction (Trades/Kona) | O, SSE |
| Streams flowing? (Y/N) | no (see notes) |

| TURBIDITY VERIFICATION | | | | |
|------------------------|-------|------|------|------|
| | Blank | Low | Med | High |
| Standard | 0.04 | 5.95 | 56.6 | 590 |
| Pre-sampling | 0.05 | 6.02 | 56.8 | 589 |
| Post-sampling | 0.03 | 5.96 | 56.8 | 591 |

| CHAIN OF CUSTODY INFORMATION | | |
|------------------------------|-----------------|---------|
| # of samples | Relinquished to | Contact |

| | | | |
|-----------|---|-----|--------|
| Sediment | - | | |
| Nutrients | C | NMS | So far |
| Bacteria | - | | |

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

None - signs of runoff (on land)

Signature (Team Lead):

Printed Name:

Aloha

So far as far

| | | | |
|---------|----------|---|------------------------|
| Team | Makana | Samplers (Last Name, 1st Initial) | Willaderson T fms 5 |
| Session | 7 | | |
| Date | 02/07/18 | | |

| Sample ID | Location Name | Sample taken? | Storm sample? | Time | Volume | Protocol Notes | Comments |
|----------------|------------------------|-------------------------------------|-------------------------------------|------|--------|---|----------|
| Nutrients | | | | | | | |
| MMML180207-N-1 | Makana Landing | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | 8:00 | 125 ml | Washed, rinsed syringes; acid washed bottles; 0.2 um disposable filters | |
| MMMB180207-N-1 | South Makuaka Beach | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | 8:25 | 125 ml | Washed, rinsed syringes; acid washed bottles; 0.2 um disposable filters | |
| MON180207-N-1 | Oreuti | <input checked="" type="checkbox"/> | <input type="checkbox"/> | 8:45 | 125 ml | Washed, rinsed syringes; acid washed bottles; 0.2 um disposable filters | |
| MBS180207-N-1 | Makana Beach Shoreline | <input checked="" type="checkbox"/> | <input type="checkbox"/> | 9:05 | 125 ml | Washed, rinsed syringes; acid washed bottles; 0.2 um disposable filters | |
| MAN180207-N-1 | Ahihi-Kinau North | <input checked="" type="checkbox"/> | <input type="checkbox"/> | 9:25 | 125 ml | Washed, rinsed syringes; acid washed bottles; 0.2 um disposable filters | |
| MAS180207-N-1 | Ahihi-Kinau South | <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 | | |
| | | <input type="checkbox"/> | <input type="checkbox"/> | | 500 ml | | |

Signature (Team Lead):

Printed Name:

J. M. M. L.

P. M. d. a. C. H.