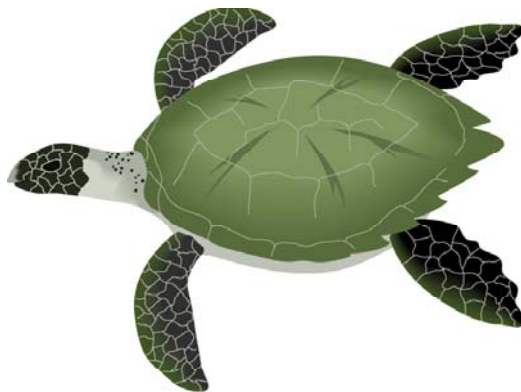




**United States Air Force
15th Air Base Wing
Environmental Restoration Program**

***Final*
WORK PLAN
FOR REMOVAL SITE EVALUATION
AT PIER DUMP SITE (LF24)
Bellows Air Force Station
Oahu, Hawaii**



APPENDIX C

**Supplemental Quality Assurance Project Plan
Information**

Appendix C

Supplemental Project-Specific Quality Assurance Project Plan Information

The *Installation-Wide Quality Assurance Project Plan for Multiple Projects at 15 ABW Installations in Hawaii, Version 2.0 (IWQAPP)* (CH2M HILL, November 19, 2002), together with the *Air Force Center for Environmental Excellence Quality Assurance Project Plan, Version 3.1 (AFCEE QAPP, Version 3.1)* (AFCEE, August 2001), establishes the quality assurance/quality control (QA/QC) protocols and procedures that govern sampling and analytical activities for projects at 15th Air Base Wing (15 ABW) installations. Unless otherwise noted below, all field staff and subcontractors participating in the Removal Site Evaluation (RSE) at Bellows Pier Dump Site (Pier Dump) will be expected to comply with the procedures specified in the IWQAPP. In addition, unless otherwise noted below, all samples will be preserved and analyzed in accordance with the AFCEE QAPP, Version 3.1.

The subsections in this appendix contain the following project-specific information that supplements the IWQAPP:

- **Section C.1:** The analytical methods required for each medium, including sample counts by individual site
- **Section C.2:** References

C.1 Media- and Site-Specific Analytical Methods

A summary of the analytical methods by media that will be used during the Bellows Pier Dump RSE project, and the approximate number of samples to be collected, are provided in Table C-1. QA/QC specifications are provided in the IWQAPP. Planned QC samples are discussed in the project-specific FSP (Appendix B).

C.2 References

- CH2MHILL. November 19, 2002. *Installation-Wide Quality Assurance Project Plan for Multiple Projects at 15 ABW Installations in Hawaii, Version 2.0 (IWQAPP)*. Prepared for the Air Force Center for Environmental Excellence, Environmental Services Office, Environmental Restoration Division (AFCEE/ERD), Brooks City-Base, Texas and for the 15th Air Base Wing CES/CEVR, Hickam Air Force Base, Honolulu, Hawaii. [Online:] http://projects.ch2m.com/hnl_afcee/General/IWQAPP2_Version2.pdf (November 19, 2002).
- U.S. Department of the Air Force, HQ Air Force Center for Environmental Excellence (AFCEE). Technical Services Quality Assurance Program. August 2001. Quality Assurance Project Plan, Version 3.1 (AFCEE QAPP, Version 3.1). Appendix C in *Guidance for Contract Deliverables (GCD)*. [Online:] <http://www.afcee.brooks.af.mil/er/qfw.htm> (November 13, 2001).

¹ These containers may be unique to a laboratory's instrumentation. Use only those containers specified by the subcontract laboratory.

² Care must be taken when extruding the sample into a liquid, so that no liquid splashes out of the container. Care must be taken so that no sample is left on the container or the cap threads, as this will prevent proper sealing of the container and cause possible leakage of the liquid.

³ Three representative labels will be sent to the laboratory with the first shipment of samples. The laboratory will weigh them and use the average weight to correct the mass of the sample for the additional mass of the attached label on each vial.

⁴ Only these specific samples should be shipped frozen. All others require shipping conditions of 4 °C, as specified in the AFCEE QAPP, Version 3.1 (AFCEE, August 2001).

TABLE C-1
 Approximate Sample Counts by Medium and Analytical Method
 Pier Dump Site RSE, Bellows AFS

	Analytical Methods					
	PAHs (SW8270SIM)	Organochlorine Pesticides (SW8081A)	Chlorinated Herbicides (SW8151A)	PCBs (SW8082)	Priority Pollutant Metals (SW7000/ SW6010B)	Dioxins/ Furans (SW8290A)
Pier Dump						
Surface Soil		18	18	18	18	
Subsurface Soil	18	18	18	18	18	18 ^c
Groundwater		7	7	7	7 ^b	
TOTAL^a						
Soil	18	36	36	36	36	18^c
Groundwater	0	7	7	7	7^b	0

Notes:

- ^a Totals include normal samples, field duplicates, and MS/MSD samples
- ^b Dissolved (field filtered)
- ^c To be analyzed if evidence of burning encountered during trenching investigation

PAHs = polynuclear aromatic hydrocarbons
 PCBs = polychlorinated biphenyls