

Table 4-4
Field Data and Observations During Surface Sediment Sampling at Waimanalo Stream

Bellows OU1 EE/CA, Bellows AFS, Hawaii

Station	Date	Time	Water Depth (ft)	Tidal Stage	Penetration Depth (cm)	Grabs	Surface Description	Subsurface Description	Overlying Water Condition	pH	Redox	Comments
Upstream Locations												
WSU-001	11/12/1998	1515	0.4 to 0.4	E	6	2 of 2	Wellgraded gravel with coarse sand, (GW), brown, wet, medium density, rounded, subspherical to subelongated, (max rock = +/- 3 in.) homogenous; Odor - none apparent, slight organic; Redox layer - none apparent; Biological - none observed, no sheen.	Material was homogenous.	Clear - minor amount.	7.53	-85.8	Epibenthic fauna present. After sediment set in bowl following sample collection, tracks were present on top of sediment.
WSU-002	11/12/1998	1430	0.6 to 0.5	E	10	1 of 1	Silty sand (SP) wet; brown with some pea gravel (10%); Odor - none apparent; Redox layer - none observed; Biological - shell fragments, no structures in soil, no sheen, no debris.	Material was homogenous.	Minimal - not disturbed.	7.23	-132	Epibenthic fauna present; shell fragments in soil (lots of snails (1"+ size) attached to grass at/in edge of stream.
Downstream Locations												
WS-001	11/13/1998	900	10 to 1.2	F	5 to 8	2 of 2	Homogeneous material; Fine Organic Sandy Silt (ML), black with particles of calcareous material, very soft (unconsolidated), trace amounts of leaves and twigs, trace amount of gravel, max on shore/water edge. 1 ft to 5" in samples.	gravel 1" (very soupy), no apparent biological structures, no sheen, organic odor, no apparent redox layer, very faint H ₂ S odor.	Present somewhat cloudy.	7.43	-161	Epibenthic fauna present.
WS-002	11/12/1998	1215	1.2 to 1.0	S	5 to 6	2 of 3	Debris - leaves, twigs, rocks, slight H ₂ S odor, sandy silt (ML), with fine sand, wet, black, with gravel max; pea to coarse.	Material was homogenous.	Black - no clarity; Turbidity - fines.	7.07	-130	Epibenthic fauna present.
WS-003	11/12/1998	1615	0.2 to 0.01	E	6	2 of 2	Silty organic sand (fine sand), yellowish brown, pieces of coral present; Debris - leaves; Odor - none apparent; Biological structures - none apparent; redox layer = +/- 2 cm b. sediment surface; no sheen.	Sandy organic silt, black, white particles (shell fragments) trace pea gravel max size 1"; Odors - none apparent, no sheen; no apparent biological structure.	Slightly cloudy.	7.2	-193	Duplicate sample - same as the original sample with the exception of the subsurface soil has more clay-type material and a bit more wood/twig debris.
WS-004	11/12/1998	1130	1.3 to 1.1	S	10	1 of 3	No debris, yellow-brown fine calcareous sands; redox layer ~ 1 cm; no sheen.	Black with gray and white flecks.	Clear - no disturbance or turbidity.	7.54	-127	Epibenthic fauna present.

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Station	Date	Water		Tidal Penetration		Grabs	Surface Description	Subsurface Description	Overlying Water		Redox	Comments
		Time	Depth (ft)	Stage	on Depth (cm)				Condition	pH		
WS-005	11/12/1998	1030	1.4	S	10	1 of 1	First cm yellow brown, calcareous fine sand, no apparent odor, no apparent debris; no sheen; redox layer ~ 1 cm down from surface.	Fine to medium calcareous sand, black and white particles, faint H ₂ S odor, no sheen, no debris, no apparent biological activity.	Clear	7.84	-112	Epibenthic fauna present.

Notes:

F = flood tide E = ebb tide H₂S = hydrogen sulfide cm = centimeter
 S = slack tide kts = knots ft = feet