

Table 4-5
Statistical Summary of Chemicals Detected in Surface Sediment at Waimanalo Stream
Bellows OU1 EE/CA, Bellows AFS, Hawaii

Chemical Group	Analyte	CAS	Units	Number of Detects	Number of Rejects	Number of Samples	Frequency of Detection (a)	Minimum MDL	Maximum MDL	Minimum Detected Value	Maximum Detected Value
TPH	TPH-Diesel	TPH-DIESEL	mg/kg	6	--	7	86%	13.1	13.1	4.8	64
TPH	TPH-Gasoline	TPH-GASOLINE	mg/kg	2	--	7	29%	0.01	0.01	0.0075	0.15
SVOC	Di-n-butylphthalate	84-74-2	mg/kg	2	--	7	29%	0.09	0.18	0.13	0.1325
PEST	4,4'-DDD	72-54-8	mg/kg	6	--	7	86%	0.0011	0.0011	0.0019	0.018
PEST	4,4'-DDE	72-55-9	mg/kg	7	--	7	100%	--	--	0.00087	0.011
PEST	4,4'-DDT	50-29-3	mg/kg	5	2	5	100%	--	--	0.0051	0.019
PEST	Aldrin	309-00-2	mg/kg	6	--	7	86%	0.00033	0.00033	0.00047	0.0038
PEST	alpha-BHC	319-84-6	mg/kg	6	--	7	86%	0.00046	0.00046	0.0007	0.016
PEST	beta-BHC	319-85-7	mg/kg	7	--	7	100%	--	--	0.0027	0.023
PEST	Chlordane (Alpha)	5103-71-9	mg/kg	6	1	6	100%	--	--	0.0009	0.039
PEST	Chlordane (Gamma)	5103-74-2	mg/kg	7	--	7	100%	--	--	0.0014	0.0075
PEST	delta-BHC	319-86-8	mg/kg	4	--	7	57%	0.0003	0.00044	0.00097	0.022
PEST	Dieldrin	60-57-1	mg/kg	6	--	7	86%	0.00065	0.00065	0.0009	0.011
PEST	Endosulfan I	959-98-8	mg/kg	3	--	7	43%	0.00066	0.00098	0.00378	0.0084
PEST	Endosulfan II	33213-65-9	mg/kg	5	1	6	83%	0.0017	0.0017	0.0019	0.024
PEST	Endosulfan sulfate	1031-07-8	mg/kg	7	--	7	100%	--	--	0.00325	0.019
PEST	Endrin	72-20-8	mg/kg	3	--	7	43%	0.0014	0.0021	0.00655	0.031
PEST	Endrin aldehyde	7421-93-4	mg/kg	4	2	5	80%	0.0033	0.0033	0.0041	0.0081
PEST	gamma-BHC (Lindane)	58-89-9	mg/kg	7	--	7	100%	--	--	0.0022	0.47
PEST	Heptachlor	76-44-8	mg/kg	7	--	7	100%	--	--	0.0031	4.4
PEST	Heptachlor epoxide	1024-57-3	mg/kg	7	--	7	100%	--	--	0.00067	0.011
PEST	Methoxychlor	72-43-5	mg/kg	5	2	5	100%	--	--	0.0032	0.025
PEST	Toxaphene	8001-35-2	mg/kg	--	7	--	--	--	--	--	--
PAH	Anthracene	120-12-7	mg/kg	2	--	7	29%	0.002	0.13	0.015	0.029
PAH	Benzo (a) anthracene	56-55-3	mg/kg	4	--	7	57%	0.0019	0.16	0.0047	0.161
PAH	Benzo (a) pyrene	50-32-8	mg/kg	3	--	7	43%	0.0023	0.11	0.02235	0.181
PAH	Benzo (b) fluoranthene	205-99-2	mg/kg	3	--	7	43%	0.0044	0.14	0.02105	0.205
PAH	Benzo (g,h,i) perylene	191-24-2	mg/kg	4	--	7	57%	0.006	0.1	0.008	0.186
PAH	Benzo (k) fluoranthene	207-08-9	mg/kg	3	1	6	50%	0.0022	0.0028	0.00963	0.0973
PAH	Chrysene	218-01-9	mg/kg	4	--	7	57%	0.002	0.14	0.01	0.27

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PAH	Fluoranthene	206-44-0	mg/kg	3	--	7	43%	0.003	0.11	0.0225	0.377
PAH	Indeno (1,2,3-c,d) pyr	193-39-5	mg/kg	4	--	7	57%	0.008	0.09	0.014	0.342
PAH	Phenanthrene	85-01-8	mg/kg	4	--	7	57%	0.002	0.1	0.004	0.272
PAH	Pyrene	129-00-0	mg/kg	4	--	7	57%	0.002	0.11	0.008	0.331
METALS	Aluminum	7429-90-5	mg/kg	7	--	7	100%	--	--	907	48200
METALS	Arsenic	7440-38-2	mg/kg	7	--	7	100%	--	--	1.6	7.05
METALS	Barium	7440-39-3	mg/kg	7	--	7	100%	--	--	3.6	103
METALS	Beryllium	7440-41-7	mg/kg	5	--	7	71%	0.16	0.16	0.39	0.72
METALS	Cadmium	7440-43-9	mg/kg	5	--	7	71%	0.157	0.164	0.71	1.4
METALS	Calcium	7440-70-2	mg/kg	7	--	7	100%	--	--	8650	278000
METALS	Chromium	7440-47-3	mg/kg	7	--	7	100%	--	--	5.4	220
METALS	Cobalt	7440-48-4	mg/kg	5	--	7	71%	0.47	0.49	19.85	35.9
METALS	Copper	7440-50-8	mg/kg	7	--	7	100%	--	--	0.88	85.2
METALS	Iron	7439-89-6	mg/kg	7	--	7	100%	--	--	1290	70500
METALS	Lead	7439-92-1	mg/kg	6	--	7	86%	1.41	1.41	3.1	11.3
METALS	Magnesium	7439-95-4	mg/kg	7	--	7	100%	--	--	6000	13300
METALS	Manganese	7439-96-5	mg/kg	7	--	7	100%	--	--	43.9	1390
METALS	Nickel	7440-02-0	mg/kg	7	--	7	100%	--	--	2	151
METALS	Potassium	7440-09-7	mg/kg	7	--	7	100%	--	--	153	2080
METALS	Silver	7440-22-4	mg/kg	3	--	7	43%	0.47	0.79	0.62	0.85
METALS	Sodium	7440-23-5	mg/kg	7	--	7	100%	--	--	684	19500
METALS	Vanadium	7440-62-2	mg/kg	7	--	7	100%	--	--	4.1	166
METALS	Zinc	7440-66-6	mg/kg	7	--	7	100%	--	--	3.4	122
HERB	2,4,5-TP (Silvex)	93-72-1	mg/kg	1	--	7	14%	0.0056	0.012	0.04	0.04
HERB	2,4-D	94-75-7	mg/kg	1	--	7	14%	0.024	0.052	0.54	0.54
HERB	Dalapon	75-99-0	mg/kg	1	--	7	14%	0.026	0.058	110	110
HERB	Dicamba	1918-00-9	mg/kg	1	--	7	14%	0.012	0.027	0.14	0.14
HERB	MCPA	94-74-6	mg/kg	1	--	7	14%	4.3	9.5	7.7	7.7
HERB	MCPP	93-65-2	mg/kg	2	--	7	29%	2.2	4.9	8	24
CONV	Ammonia-N	13767-16-3	mg/kg	5	--	7	71%	10.2	10.7	20	151

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CONV	Cyanide	5955-70-0	mg/kg	4	--	7	57%	0.25	0.27	0.88	5.75
CONV	Total Organic Carbon	TOC	mg/kg	6	--	7	86%	13	13	65.1	504
AVS/SEM	AVS	AVS	umoles/g	6	--	7	86%	0.1	0.1	0.34	66.5
AVS/SEM	Copper,AVS/SEM	7440-50-8-AVS/SE	µg/L	5	--	7	71%	21.7	21.7	93.3	376
AVS/SEM	Lead,AVS/SEM	7439-92-1-AVS/SE	µg/L	5	--	7	71%	11.8	11.8	7.49	87.8
AVS/SEM	Nickel,AVS/SEM	7440-02-0-AVS/SE	µg/L	7	--	7	100%	--	--	44.7	653
AVS/SEM	Total SEM	Total SEM	umoles/g	7	--	7	100%	--	--	0.693	2.79
AVS/SEM	Zinc,AVS/SEM	7440-66-6-AVS/SE	µg/L	7	--	7	100%	--	--	75.5	467

Notes:

(a) Frequency of detection is based on number of detections divided by [total number of samples minus number of rejections].

Chemical Groups

TPH = total petroleum hydrocarbons

SVOC = semivolatile organic compounds

PEST = pesticides

PAH = polynuclear aromatic hydrocarbons

HERB = herbicides

CONV = conventionals

AVS/SEM = acid-volatile sulfides/simultaneously extracted metals

Abbreviations

mg/kg = milligrams per kilogram

umoles/g = micromoles per gram

µg/L = micrograms per liter

MDL = method detection limit

Values are for processed data: i.e., (1) multiple results for naphthalene from different analytical methods (SW8260A and SW8310) have been resolved into a single result for each sample, and (2) field duplicates have been resolved into a single result for each location.