

TABLE 4-14

Chemicals Detected in Groundwater at Site LF01
Bellows OU1 EE/CA, Bellows AFS, Hawaii

Location	LF01-001	LF01-008	LF01-013	LF01-020	LF01-030	LF01-040	LF01-048	LF01-050	LF01-MW01	LF01-MW03	LF01-MW05			
Sample ID	LF01-HP001A	SD22-HP008A	LF01-HP013A	LF01-HP020A	LF01-HP030A	LF01-HP040A	LF01-HP048A	LF01-HP050A	LF01-MW001A	LF01-MW003A	LF01-MW005A			
Sampling Date	11/05/98	11/09/98	11/04/98	11/03/98	11/04/98	11/04/98	11/04/98	11/03/98	11/12/98	11/12/98	11/11/98			
Depth (feet)	8.3-11	8-12.1	6.8-12.8	14-24	21.2-23.8	30-40	7.7-14.8	9-19	28.5-34	6.4-15	28-38			
Chemical Group	Analyte	CAS	Units											
TPH	TPH-Diesel	TPH-DIESEL	mg/L	0.04 F	ND	0.03 F	0.05 F	0.03 F	ND	0.14 F	0.1 F	0.06 F	ND	0.035 F
TPH	TPH-Gasoline	TPH-GASOLINE	mg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
PEST	4,4'-DDT	50-29-3	µg/L	1.1 F	0.021 F	ND	ND	ND	ND	ND	ND	ND	ND	ND
PEST	Aldrin	309-00-2	µg/L	0.094 F	0.069 F	ND	ND	ND	ND	ND	0.1 F	0.1 F	0.1 F	0.105 F
PEST	Chlordane (Gamma)	5103-74-2	µg/L	ND	ND	18 J	ND	ND	ND	ND	ND	ND	ND	ND
PEST	Endosulfan II	33213-65-9	µg/L	0.19 F	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
PEST	Endosulfan sulfate	1031-07-8	µg/L	1.1 J	0.033 F	ND	ND	ND	ND	ND	ND	ND	ND	0.034 F
PEST	Endrin	72-20-8	µg/L	0.55 J	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
PEST	Endrin aldehyde	7421-93-4	µg/L	0.2 F	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
PEST	Heptachlor	76-44-8	µg/L	0.16 F	0.029 F	R	ND	R	R	ND	0.047 F	ND	0.052 F	0.052 F
PEST	Heptachlor epoxide	1024-57-3	µg/L	ND	0.037 F	0.11 F	0.17 F	ND	ND	0.026 F	ND	0.043 F	0.06 F	0.038 F
PEST	Methoxychlor	72-43-5	µg/L	0.65 F	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
PEST	delta-BHC	319-86-8	µg/L	ND	ND	ND	ND	ND	ND	0.052 F	ND	ND	ND	ND
PAH	Phenanthrene	85-01-8	µg/L	ND	ND	ND	ND	0.01 F	ND	ND	ND	ND	ND	ND
PAH	Pyrene	129-00-0	µg/L	ND	ND	0.0425 D F	ND	ND	ND	ND	ND	ND	ND	ND
METALS	Aluminum, dissolved	7429-90-5_D	mg/L	0.02 F	0.13 F	0.04 F	0.04 F	0.02 F	ND	0.02 F	0.02 F	0.02 F	0.03 F	0.055 F
METALS	Antimony, dissolved	7440-36-0_D	mg/L	ND	ND	0.000975 D F	0.0017 F	ND	0.0023 F	ND	ND	ND	ND	ND
METALS	Arsenic, dissolved	7440-38-2_D	mg/L	0.0014 F	ND	ND	ND	ND	ND	0.0011 F	ND	ND	ND	ND
METALS	Barium, dissolved	7440-39-3_D	mg/L	0.0897	0.0345	0.0846	0.0712	0.101	0.0354	0.0555	0.107	0.119	0.0465	0.0142
METALS	Calcium, dissolved	7440-70-2_D	mg/L	452	500 M	504	405	328	236	633	534	687	614	343
METALS	Chromium, dissolved	7440-47-3_D	mg/L	ND	ND	ND	0.023	ND	ND	ND	ND	ND	ND	ND
METALS	Cobalt, dissolved	7440-48-4_D	mg/L	ND	ND	ND	ND	ND	0.004 F	ND	ND	ND	ND	ND
METALS	Copper, dissolved	7440-50-8_D	mg/L	ND	ND	0.003 F	0.002 F	0.004 F	ND	0.001 F	0.002 F	ND	ND	ND
METALS	Iron, dissolved	7439-89-6_D	mg/L	0.005 F	0.213	0.022 F	0.014 F	0.003 F	0.004 F	0.003 F	0.006 F	0.012 F	0.158 F	0.022 F
METALS	Lead, dissolved	7439-92-1_D	mg/L	ND	ND	ND	ND	0.006 F	ND	ND	ND	0.005 F	ND	0.00335 D F
METALS	Magnesium, dissolved	7439-95-4_D	mg/L	271	279 M	259	222	144	163	312	303	312	381	210
METALS	Manganese, dissolved	7439-96-5_D	mg/L	0.329	0.756	1.355	0.613	0.0426	0.0487	0.484	0.498	0.158	1.68	0.02995 J
METALS	Nickel, dissolved	7440-02-0_D	mg/L	0.008 F	0.007 F	0.0155 F	ND	0.007 F	0.007 F	0.018 F	ND	ND	ND	ND
METALS	Potassium, dissolved	7440-09-7_D	mg/L	24.5	34	39.3	35.8	14.2	18.9	42.6	46.2	12.1	25.1	20.15
METALS	Selenium, dissolved	7782-49-2	mg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
METALS	Sodium, dissolved	7440-23-5_D	mg/L	1070	1210 M	1095.04	864	724	730	1232.34	1160	924	1290	930.5
METALS	Thallium, dissolved	7440-28-0_D	mg/L	ND	ND	0.003775 D F	ND	ND	ND	ND	0.0038 F	ND	ND	ND
METALS	Vanadium, dissolved	7440-62-2_D	mg/L	0.009 F	0.005 F	0.007 F	0.005 F	0.005 F	0.004 F	0.006 F	0.008 F	0.006 F	0.008 F	0.0055 F
METALS	Zinc, dissolved	7440-66-6_D	mg/L	0.005 F	0.003 F	0.024	0.006 F	0.153	0.011	0.005 F	0.022	0.008 F	0.005 F	0.0045 D F
HERB	2,4-D	94-75-7	µg/L	ND	ND	ND	ND	ND	ND	R	R	R	R	R
HERB	2,4-DB	94-82-6	µg/L	R	ND	R	R	R	R	R	R	R	R	R
HERB	Dalapon	75-99-0	µg/L	ND	R	ND	ND	ND	ND	ND	830 J	570 J	820 J	820 J
HERB	Dinoseb	88-85-7	µg/L	ND	R	ND	R	ND	ND	1.1 F	R	ND	ND	ND
HERB	MCPP	93-65-2	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
HERB	2,4,5-TP (Silvex)	93-72-1	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	R	R	R
HERB	Dichloroprop	120-36-5	µg/L	R	ND	R	R	R	R	R	R	R	R	R
SVOC	Bis (2-ethylhexyl) phthalat	117-81-7	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
VOC	Bromomethane	74-83-9	µg/L	ND	ND	ND	R	ND	ND	R	R	R	R	R
VOC	Toluene	108-88-3	µg/L	ND	ND	ND	R	ND	ND	R	R	ND	ND	ND
VOC	m, p-Xylene	108-38-3/1	µg/L	ND	ND	ND	R	ND	ND	R	ND	ND	ND	ND

TABLE 4-14

Chemicals Detected in Groundwater at Site LF01
Bellows OU1 EE/CA, Bellows AFS, Hawaii

Location	LF01-065	LF01-066	LF01-067	LF01-MW01	LF01-MW03	LF01-MW05	LF01-MW06	LF01-MW07	LF01-MW08	LF01-MW09	LF01-MW10			
Sample ID	LF01-HP065A	LF01-HP066A	LF01-HP067A	LF01-MW001B	LF01-MW003B	LF01-MW005B	LF01-MW006A	LF01-MW007A	LF01-MW008A	LF01-MW009A	LF01-MW010A			
Sampling Date	11/01/99	11/01/99	11/01/99	11/10/99	11/10/99	11/10/99	11/16/99	11/16/99	11/16/99	11/16/99	04/18/2000			
Depth (feet)	25-34	33.5-42	16-27.5	28.5-34	6.4-15	28-38	10-15	3.5-15	6-14.5	16-24	0-12.5			
Chemical Group	Analyte	CAS	Units											
TPH	TPH-Diesel	TPH-DIESEL	mg/L	.09 F	.04 F	.035 DF	ND	ND	ND	ND	0.08 F			
TPH	TPH-Gasoline	TPH-GASOLINE	mg/L	.01 F	ND	.015 F	ND	ND	R	R	ND			
PEST	4,4'-DDT	50-29-3	µg/L	ND	ND	ND	ND	R	ND	ND	ND			
PEST	Aldrin	309-00-2	µg/L	ND	ND	ND	ND	R	ND	ND	ND			
PEST	Chlordane (Gamma)	5103-74-2	µg/L	ND	ND	ND	ND	R	ND	ND	ND			
PEST	Endosulfan II	33213-65-9	µg/L	ND	ND	ND	ND	R	ND	ND	ND			
PEST	Endosulfan sulfate	1031-07-8	µg/L	ND	ND	ND	ND	R	ND	ND	ND			
PEST	Endrin	72-20-8	µg/L	ND	ND	ND	ND	R	ND	ND	ND			
PEST	Endrin aldehyde	7421-93-4	µg/L	ND	ND	ND	ND	R	ND	ND	ND			
PEST	Heptachlor	76-44-8	µg/L	ND	ND	ND	ND	R	.016 F	ND	ND			
PEST	Heptachlor epoxide	1024-57-3	µg/L	ND	ND	ND	ND	R	ND	ND	ND			
PEST	Methoxychlor	72-43-5	µg/L	ND	ND	ND	ND	R	ND	ND	ND			
PEST	delta-BHC	319-86-8	µg/L	ND	ND	ND	ND	R	ND	ND	ND			
PAH	Phenanthrene	85-01-8	µg/L	ND	.03 F	.0125 DF	ND	ND	ND	ND	ND			
PAH	Pyrene	129-00-0	µg/L	ND	ND	ND	ND	ND	ND	ND	ND			
METALS	Aluminum, dissolved	7429-90-5_D	mg/L	.02 F	.03 F	.025 F	.05 F	.05 F	.14 F	.11 F	.03 F	.025 F	.02 F	0.08 F
METALS	Antimony, dissolved	7440-36-0_D	mg/L	.0021 F	.0013 F	.0024 F	.0016 F	.0009 F	ND	ND	.0006 F	ND	ND	ND
METALS	Arsenic, dissolved	7440-38-2_D	mg/L	ND	ND	ND	ND	ND	.0014 F	.0016 F	.0017 F	.00465 F	ND	ND
METALS	Barium, dissolved	7440-39-3_D	mg/L	.032	.0204	.0312	.127	.0518	.0192	.0155	.0665	.04735	.0401	0.0762 J
METALS	Calcium, dissolved	7440-70-2_D	mg/L	970	376	398.5 DM	710	655	376 M	319	74.3	552.5	577	655.5 DM
METALS	Chromium, dissolved	7440-47-3_D	mg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
METALS	Cobalt, dissolved	7440-48-4_D	mg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.006 F
METALS	Copper, dissolved	7440-50-8_D	mg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
METALS	Iron, dissolved	7439-89-6_D	mg/L	ND	.015 F	ND	.098 F	.083 F	.064 F	.078 F	.029 F	1.02	ND	0.01875 DF
METALS	Lead, dissolved	7439-92-1_D	mg/L	.0058 F	.007 F	.0065 F	ND	.0049 F	.0041 F	.0007 F	.001 F	.000475 DF	.0009 F	ND
METALS	Magnesium, dissolved	7439-95-4_D	mg/L	291	202	209 DM	425	416	241 M	210	62.3	299	297	328.5 DM
METALS	Manganese, dissolved	7439-96-5_D	mg/L	.0492	.0097	.035	.242	2	.103	.146	1.91	.7565	.0526	0.5025
METALS	Nickel, dissolved	7440-02-0_D	mg/L	.009 F	ND	.006 DF	ND	ND	ND	.01 F	ND	ND	.01 F	0.006 DF
METALS	Potassium, dissolved	7440-09-7_D	mg/L	20.2	19.2	19.6	13.2	28	23.1	19.8	22.4	24.35	31.1	31.65
METALS	Selenium, dissolved	7782-49-2	mg/L	ND	ND	ND	ND	ND	ND	.0008 F	.001 F	ND	ND	0.0014 DM
METALS	Sodium, dissolved	7440-23-5_D	mg/L	1060	858	830 DM	952	281	1090 M	800	628	1455	1280	1485 DM
METALS	Thallium, dissolved	7440-28-0_D	mg/L	ND	ND	ND	.0015 F	.0018 F	.0023	.0015 F	.0022	.0025	.0025	0.004325 DM
METALS	Vanadium, dissolved	7440-62-2_D	mg/L	.0051 F	.005 F	.0047 F	.0057 F	.0067 F	.0067 F	.0045 F	ND	.0044 F	.0049 F	0.0061 F
METALS	Zinc, dissolved	7440-66-6_D	mg/L	.0078 F	.0061 F	.0067 F	.0193	.019	.0086 F	.0046 F	.0054 F	.00325 F	.0055 F	0.00535 F
HERB	2,4-D	94-75-7	µg/L	ND	ND	ND	ND	ND	ND	ND	.21 F	ND	ND	ND
HERB	2,4-DB	94-82-6	µg/L	ND	ND	ND	ND	ND	ND	ND	.91 F	ND	ND	0.27 F
HERB	Dalapon	75-99-0	µg/L	2.04 F	2.31 F	3.96 F	ND	ND	ND	ND	ND	ND	ND	ND
HERB	Dinoseb	88-85-7	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
HERB	MCPP	93-65-2	µg/L	ND	ND	53.175 DM	ND	142.7 F	ND	ND	ND	ND	ND	ND
HERB	2,4,5-TP (Silvex)	93-72-1	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.02925 DM
HERB	Dichloroprop	120-36-5	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.21 DF
SVOC	Bis (2-ethylhexyl) phtalate	117-81-7	µg/L	ND	ND	2.86 DF	ND	ND	ND	ND	ND	ND	ND	ND
VOC	Bromomethane	74-83-9	µg/L	ND	.31 F	.2125 DF	ND	ND	ND	ND	ND	ND	ND	ND
VOC	Toluene	108-88-3	µg/L	.14 F	.28 F	ND	ND	ND	ND	ND	ND	ND	ND	ND
VOC	m, p-Xylene	108-38-3/1	µg/L	ND	1.33	ND	ND	ND	ND	ND	ND	ND	ND	ND

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Chemicals Detected in Groundwater at Site LF01
 Bellows OU1 EE/CA, Bellows AFS, Hawaii

Location	LF01-065	LF01-066	LF01-067	LF01-MW01	LF01-MW03	LF01-MW05	LF01-MW06	LF01-MW07	LF01-MW08	LF01-MW09	LF01-MW10
Sample ID	LF01-HP065A	LF01-HP066A	LF01-HP067A	LF01-MW001B	LF01-MW003B	LF01-MW005B	LF01-MW006A	LF01-MW007A	LF01-MW008A	LF01-MW009A	LF01-MW010A
Sampling Date	11/01/99	11/01/99	11/01/99	11/10/99	11/10/99	11/10/99	11/16/99	11/16/99	11/16/99	11/16/99	04/18/2000
Depth (feet)	25-34	33.5-42	16-27.5	28.5-34	6.4-15	28-38	10-15	3.5-15	6-14.5	16-24	0-12.5

Chemical			
Group	Analyte	CAS	Units

Notes:

Chemical Groups

TPH = total petroleum hydrocarbons
 PEST = pesticides
 PAH = polynuclear aromatic hydrocarbons
 HERB = herbicides
 VOC = volatile organic compounds
 SVOC = semivolatile organic compounds

Abbreviations

mg/L = milligrams per liter
 µg/L = micrograms per liter

Data Qualifiers

F = The analyte was positively identified but the associated numerical value is below the sample-specific reporting limit (RL).
 J = The analyte was positively identified; the quantitation is an estimation.
 M = A matrix effect was present.
 D = Applied to averaged results when non "U" qualifiers are not identical.
 DF = Same as "D", and the analyte was positively identified but the associated numerical value is below the sample-specific reporting limit (RL).
 DM = Same as "D", and a matrix effect was present.
 R = Rejected.
 ND = Not detected.